

LOG NO: 1216	RD.
ACTION:	
FILE NO: 87-892-16631	

11/88

NTS 92F/2E  
 Lat 49° 11' N 7"  
 Long 124° 43' W 42' 9"

GEOCHEMICAL ASSESSMENT  
 REPORT ON THE  
LYNN CLAIM GROUP  
 VANCOUVER ISLAND, BRITISH COLUMBIA  
 ALBERNI MINING DIVISION

Owner:  
 CLIVE ASHWORTH

SUB-RECORDER  
 RECEIVED  
 DEC 11 1987  
 M.R. # \_\_\_\_\_ \$ \_\_\_\_\_  
 VANCOUVER, B.C.

Operator:  
 ASHWORTH EXPLORATIONS LIMITED

Written by:  
 PETER LERICHE, GEOLOGIST  
 ASHWORTH EXPLORATIONS LIMITED

Submitted:  
 December 3, 1987

GEOLOGICAL BRANCH  
 ASSESSMENT REPORT  
 16,631

**SUMMARY**

The Lynn Group consists of 5 contiguous claims; Lynn, Bain 1-4, totalling 84 units. It is located on China Creek approximately 6 km southeast of Port Alberni, Vancouver Island.

The claims were staked in late 1985 to cover the old "Ruby Silver" showing at China Creek, as well as an airborne magnetic anomaly, some geochemical anomalies, and other small mineralized occurrences in the area discovered during an exploration program in the 1960's by Gunnex Limited on the E & N Railway Land Grant.

Placer mining for gold on China Creek during the 1800's led to the discovery of numerous lode deposits in the area. Some of these ex-producers include Vancouver Island Gold Mines (2 km east of Lynn Group), Regina (2 km southeast), and the Thistle Mine (8 km southeast).

The Debbie claims, owned by Westmin Resources Ltd., Nexus Resource Corp., and Angle Resources Ltd., lie just east of and contiguous with the Lynn Group. Diamond drilling in 1986 and 1987 has delineated three zones containing economic values in gold. The most recent discovery has been a drill intersection of 4.078 oz/ton Au over 47.1 feet on the 900 zone.

The eastern part of the Lynn claims is underlain by Myra Formation of Paleozoic Sicker Group rocks, which hosts a number of base and precious metal deposits in the China Creek - Mount McQuillan

area as well as elsewhere on the Island. A north trending fault

through the property forms the contact between the Sicker Group, the oldest unit, and younger rocks to the west on the property. These include the Triassic volcanics of Vancouver Group, Jurassic Island Intrusions, Cretaceous Nanaimo Sediments, and Tertiary Intrusions, mostly feldspar - porphyry sills, intruding all older rocks. Dykes of these later intrusions are known to be associated with precious metal (Au, Ag) deposits, such as auriferous quartz veins, in the China Creek area and elsewhere. The presence of both Myra Formation and Tertiary Intrusions in the claims area is considered to be a favourable geological environment for base and precious metal deposition.

The property was visited three times in 1987 by Ashworth Explorations Limited. The results have outlined an area (Zone 1) that is enriched in gold and copper in soil and rock samples. Zone 1 corresponds with a large soil geochemistry anomaly (copper) found by Western Mines Ltd. in 1980.

A two phase exploration program has been recommended. Phase 1 will consist of geological mapping, rock sampling, hand trenching, soil sampling, magnetometer and VLF-EM geophysics at a cost of \$160,000.

If results from this program are favourable, a Phase 2 diamond drilling program is recommended.

**TABLE OF CONTENTS**

	<u>Page No.</u>
1. INTRODUCTION .....	1
2. PROPERTY .....	1
3. LOCATION, TERRAIN AND ACCESS .....	4
4. AREA HISTORY .....	4
5. PREVIOUS WORK .....	7
6. GEOLOGY .....	11
6.1 REGIONAL GEOLOGY .....	11
6.2 PROPERTY GEOLOGY .....	14
7. 1987 FIELD PROGRAMS .....	15
7.1 SCOPE AND PURPOSE .....	15
7.1.1 Field Visit 1 .....	15
7.1.2 Field Visit 2 .....	15
7.1.3 Field Visit 3 .....	16
7.2 METHODS AND PROCEDURES .....	16
7.2.1 Field Visit 1 .....	16
7.2.2 Field Visit 2 .....	16
7.2.3 Field Visit 3 .....	17
8. RESULTS .....	17
8.1 FIELD VISIT 1 .....	17
8.2 FIELD VISIT 2 .....	18
8.3 FIELD VISIT 3 .....	19
8.4 DISCUSSION OF RESULTS .....	19
9. CONCLUSIONS .....	20
REFERENCES .....	24
CERTIFICATE .....	26
ITEMIZED COST STATEMENT .....	27

TABLE OF CONTENTS (continued)

APPENDICES

Appendix A: Geochemical Lab Results  
Appendix B: Rock Sample Descriptions  
Appendix C: Analytical Techniques

LIST OF FIGURES

	<u>Page No.</u>
Figure 1: General Location Map .....	2
Figure 2: Claim Location Map .....	3
Figure 3: Regional Geology .....	12
Figure 4: Property Geology .....	In Pocket
Figure 5: Geochemistry and Sample Locations .....	In Pocket

## 1. INTRODUCTION

This report summarizes geochemical work done by Ashworth Explorations Limited. The surveys were carried out during three periods; February 22-27, 1987 by Eric Grill (geologist) and Paul Lepine (geotechnician); July 25-27, 1987 by Frank Renaudat (prospector) and November 13-14, 1987 by Fayz Yacoub (geologist) and Paul Lepine (geotechnician).

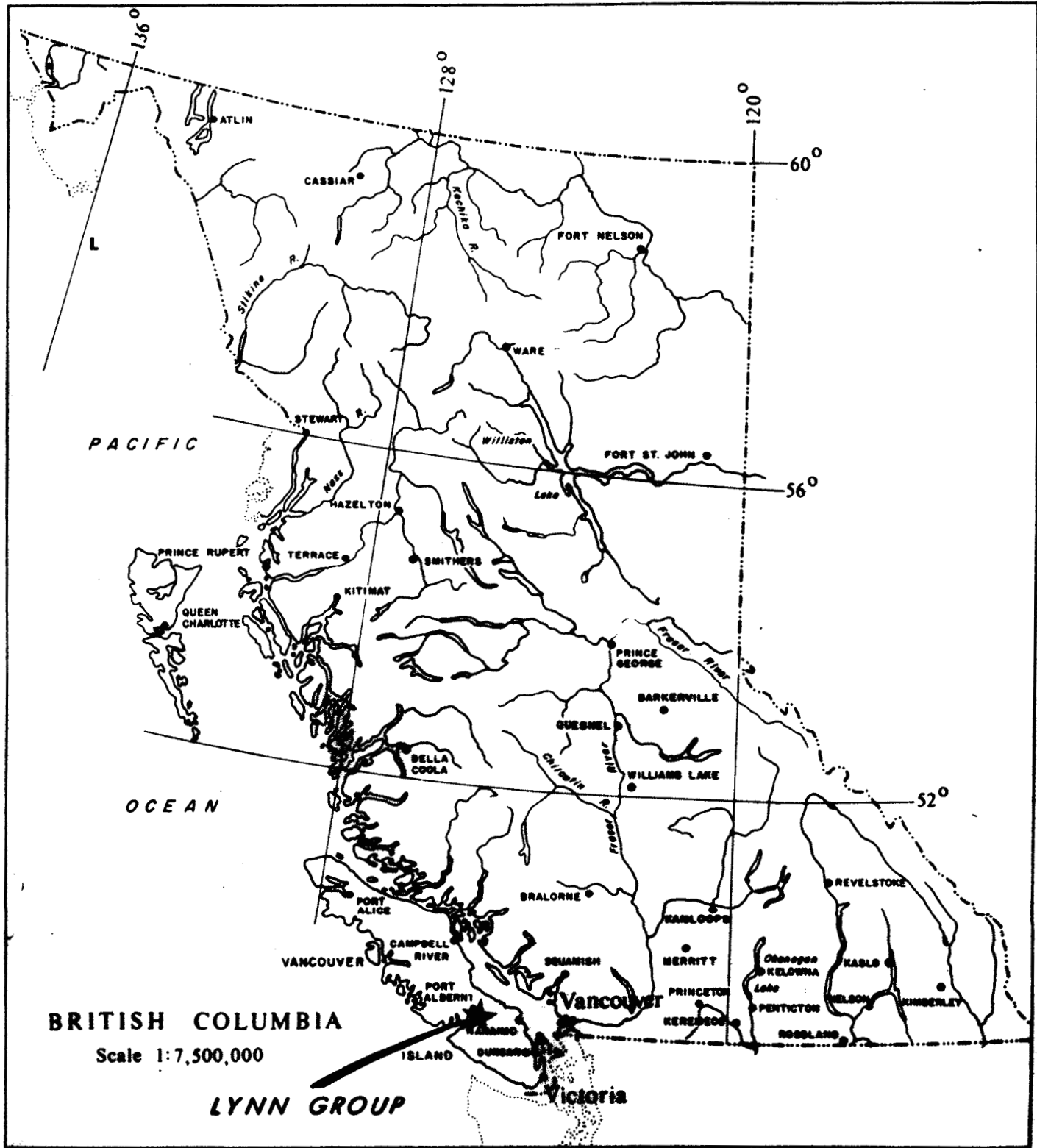
The writer was not on the property in 1987, but did supervise the field programs. The writer has been on the property and prospected it in 1985.

## 2. PROPERTY

The property is wholly owned by Mr. Clive Ashworth and operated by Ashworth Explorations Limited. The Lynn Group consists of five contiguous mineral claims totalling 84 units, all of which are located in the Alberni Mining Division, B.C. Details of the claims are listed below:

<u>CLAIM</u>	<u>UNITS</u>	<u>RECORD #</u>	<u>EXPIRY DATE</u>
Bain 1	16	2777	Nov. 29, 1989 *
Bain 2	20	2776	Nov. 29, 1989 *
Bain 3	20	2775	Nov. 29, 1989 *
Bain 4	20	2774	Nov. 29, 1989 *
Lynn	8	3169	Mar. 26, 1989 *

\* Expiry date after 1987 work is accepted.  
The claims were grouped on November 24, 1987, as the Lynn Group.



BRITISH COLUMBIA

Scale 1:7,500,000

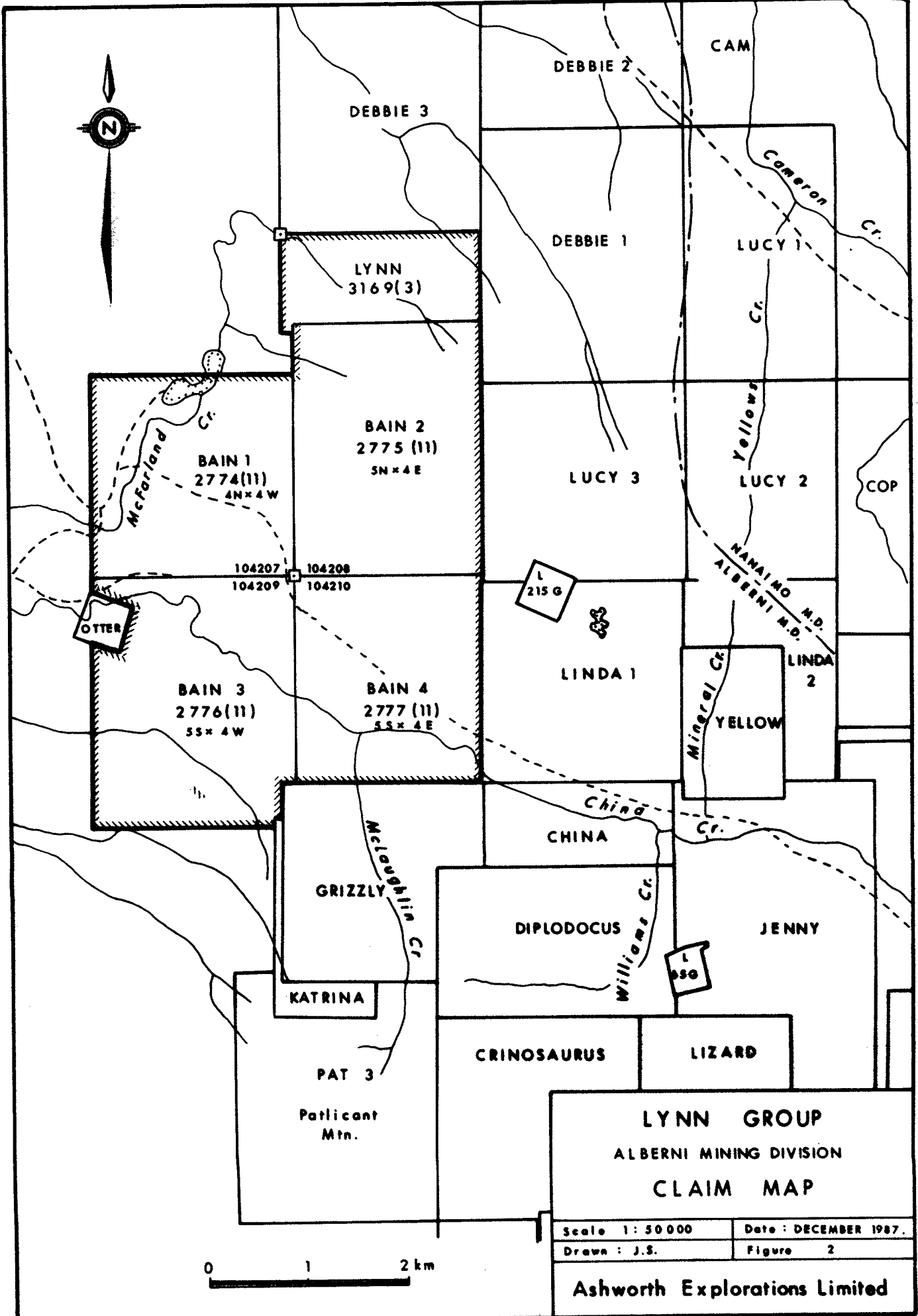
LYNN GROUP



**LYNN GROUP**  
ALBERNI MINING DIVISION  
**GENERAL LOCATION MAP**

Scale 1:7,500,000	Date: DECEMBER 1987.
Drawn: J. S.	Figure 1

**Ashworth Explorations Limited**



**LYNN GROUP**  
ALBERNI MINING DIVISION  
**CLAIM MAP**

Scale 1: 50 000	Date: DECEMBER 1987.
Drawn: J.S.	Figure 2

Ashworth Explorations Limited





### 3. LOCATION, TERRAIN AND ACCESS

The centre of the claims is approximately 6 km SE of Port Alberni, Vancouver Island, B.C. The claim group straddles China Creek and its tributary, McFarland Creek. Bainbridge Lake is located on the northern boundary of the Bain 1 claim.

The main access is by the China Creek logging road from Port Alberni and then by a branch road to Cameron River. A water pipeline, which supplies Port Alberni, follows China Creek, with the intake valve near the common boundary of the Bain 3 and Bain 4 claims.

The area is covered by thick second growth timber, mostly Douglas fir, hemlock and cedar. Topographic relief ranges from 120 metres above "mean sea level" at China Creek to about 1,000 metres along the eastern boundary of the property. Most of the steeper slopes occur on the eastern part of the Bain 2 and 4 claims.

### 4. AREA HISTORY

Placer gold was found in China Creek in the 1860's, followed by a period of placer mining which eventually led to discovery of the lode deposits in the China Creek and Rift Creek headwaters area around Mount McQuillan. A number of placer claims were worked in the area now covered by the Bain claims, including the "Cataract"

claim in this section of China Creek, "Balley" west of it, and "Duke of York", east of "Cataract" (see miscellaneous references to China Creek placers in B.C.M.M. reports, 1893 and later).

J.S. Stevenson (B.C.M.M. report, 1945) summarizes the history and geology of the China Creek camp, particularly the lode mines and prospects in the Mount McQuillan area at the headwaters of China Creek. Several of these old mines and prospects are located close to the Lynn property, eg:

- Vancouver Island Gold Mines on Mineral Creek, about 2 km to east, a past producer;
- "Regina" Group, an Au-Ag prospect with old underground workings, about 2 km to SE;
- "Grizzly" Arsenic Showing on McLaughlin Creek just south of Bain 4 claim;
- "Thistle Mine" (Au, Cu, etc), now actively explored by Westmin, about 8 miles SE, at headwaters of Museum Creek, and others within a few km east of "Thistle" (Black Panther, Black Lion, Golden Eagle, Havilah, Middle Vein, High Grade Vein and B & K).

Farther to the south, some 13 km to SSE, on Mount Spencer, is the "Mary" Cu-Zn-Mo-Ag-Au prospect, discovered in 1964 by Gunnex Limited (Laanela, 1964-66).

The most significant discovery in recent times has been the Debbie property, owned by Westmin Resources Ltd. (50%), Nexus Resource Corp. (25%) and Angle Resources Ltd. (25%). This property lies east of and is contiguous with the Bain 2 and Bain 4 claims.

The 1986 drill program on the Debbie property delineated three zones of gold mineralization: (Northwest Prospector, 1987)

- 1) The Mineral Creek Gold Zone: A fault controlled alteration zone with mafic volcanic rocks altered to carbonate, sericite, pyrite and quartz. The zone has been outlined for a strike length of 1,000 feet. The best intersection from 1986 drilling was .246 oz/ton gold over 13.7 feet.
  
- 2) The Linda Gold Zone: Consists of at least two east dipping quartz vein structures. Two holes tested this structure in 1986, and the best result was .578 oz/ton Au over 9.8 feet.
  
- 3) The 900 Gold Zone: Consists of mineralized magnetite, jasper, sulphide bearing chert, quartz vein stockwork and a carbonate altered fault zone. This zone showed the most potential with a 1986 drill intersection of 1.137 oz/ton gold over 44.3 feet. Westmin/Nexus/Angle have reported (News Release, November 30, 1987) a new

intersection on the 900 zone of 4.078 oz/ton Au over 47.1 feet, including 9.782 oz/ton Au over 19.0 feet.

The Yellow claims, owned by Angle Resources Ltd. (75.5%) and Reward Resources Ltd. (24.5%), are located just south of the Debbie property. A exploration program in 1986 delineated two gold-enriched quartz-filled fault structures. The best drill intersections include 14.9 ft of .551 oz/ton Au, 68.4 ft of .103 oz/ton Au, 10.4 ft of .116 oz/ton Au, 17.29 ft of .131 oz/ton Au and 45.5 ft of .104 oz/ton Au (Northwest Prospector, September, 1987). The Yellow claims overlie the past producing Vancouver Island Gold Mine.

##### 5. PREVIOUS WORK

No known work was done on the Bain claims prior to 1962.

In 1962, a helicopter-borne aeromagnetic survey was flown over the area by Hunting Survey Corporation Limited on behalf of Canadian Pacific Oil & Gas (CPOG), during which a number of magnetic anomalies were discovered (including one on the present Bain 3 Claim, Figure 4).

Regional sampling, prospecting and mapping were carried out by Gunnex Limited in the mid-1960's. The following is a summary of mineral occurrences and anomalies on the Bain claims (from Laanela, 1964-66):

1. "Ruby Silver" Showing (on Bain 3 claim):

This showing (a short adit?) is 6,500 feet (1,980 metres) downstream from the pipeline intake, on south bank of China Creek, at low water level and a few hundred feet below an old sluice dam of early placer mining days. Apparently there are no official reports. No work was done by Gunnex Limited, except for a short visit in August, 1964. Two assay samples, taken from the adit and a pit above it assayed traces of Au.

Workings consisted of a caved-in cut (or short inclined adit?) at water level, on the SW side of the creek and below the bank. It was filled with gravel and water. There was an old cabin, and an old pit on the hill above the adit.

The country rock was diorite, diabasic-looking near the adit. A sheared rusty vein, at NE/60 NW, was seen in the adit, with quartz stringers; a rusty shear was also seen on the opposite bank, north of the dam. No mineralization was seen, aside from some rust and minor pyrite, and the showing was not thought to be important.

2. Copper Stain North of Bainbridge Lake:

In the fall of 1965, some blue and green copper stain was observed in freshly bulldozed road cuts 3/4 miles north of the east end of Bainbridge Lake, surrounded by much rust and alteration of volcanic rocks.

The geology of the area was mapped as "Vancouver Volcanics" intruded by deeply weathered dioritic rocks by the lake. The volcanics in the road cuts appeared to be soft and quite altered, with much shearing and epidote present, and with possible diorite contact not too far below.

Diorite was exposed all along the south side of the lake. Toward the north it was covered by patches of Nanaimo Sediments and volcanics, grading into volcanics north of the Bain 1 claim; contact appeared to be gently dipping near the showings.

Tertiary (?) feldspar porphyry intrusions, possibly a sill, were exposed north of the west end of Bainbridge Lake; much overburden present here, covering the flat terrain. A fault contact with Sicker volcanics occurs east of here.

In one showing, copper occurred in a 2' x 10' patch of quartz-rich material, probably pegmatitic; no sulphides were seen. The prospector reported more copper stain and magnetite farther north along the road; much shearing and minor specks of copper were seen in road cuts.

Mr Harry Brown, a "local" used as a guide, reported finding a "high grade gold float" near the lake some time ago, prior to the 1965 visit.

Although the showings were considered to be "insignificant" it was recommended that more prospecting and soil sampling be carried out in the area (Laanela, 1966).

3. Soil Geochemical Anomalies (1965 sampling):

Soil sampling by Gunnex Limited personnel during 1965 along the road 3/4 miles north of the east end of Bainbridge Lake revealed several "soil highs", eg. up to 750 ppm Cu; some of these were related to the copper showings north of the present Bain 1 claim.

Geochemical copper and Total Heavy Metal anomalies were also found in China Creek, below the Ruby Silver Showing and in a gully, north of the China Creek road opposite McLaughlin Creek, on the Bain 3 and 4 claims, respectively.

In 1980, Western Mines Ltd. (now Westmin Resources Ltd.), carried out a detailed geochemical soil survey program on the Lily 1 and Lily 2 claims. The Bain 2 claim now covers the southern half of the Lily 1 and northern one-third of the Lily 2 claim. The Bain 4 claim covers the remainder of the old Lily 2 claim, and is extended further south over China and McLaughlin Creek. The survey covered a 50 metre by 200 metre grid over which 721 soil and 18 silt samples were collected, and analysed for Cu, Pb, and Zn. This survey indicated a NNW-trending zone which contains two series of thin (50 m) to broad (400 m) en echelon NW-trending

"belts". These belts contain anomalous (greater than 200 ppm) concentrations of copper (Benvenuto, 1980), (Figure 5).

In 1986, Ashworth Explorations Limited performed a rock sampling program around the "Ruby-Silver" showing. Altogether 8 rock samples were taken from the showing and 3 rock samples were taken 400 m north of the showing. The best sample returned a 275 ppm value in copper. One sample was weakly anomalous in gold (15 ppb).

## 6. GEOLOGY (from Laanela, 1986)

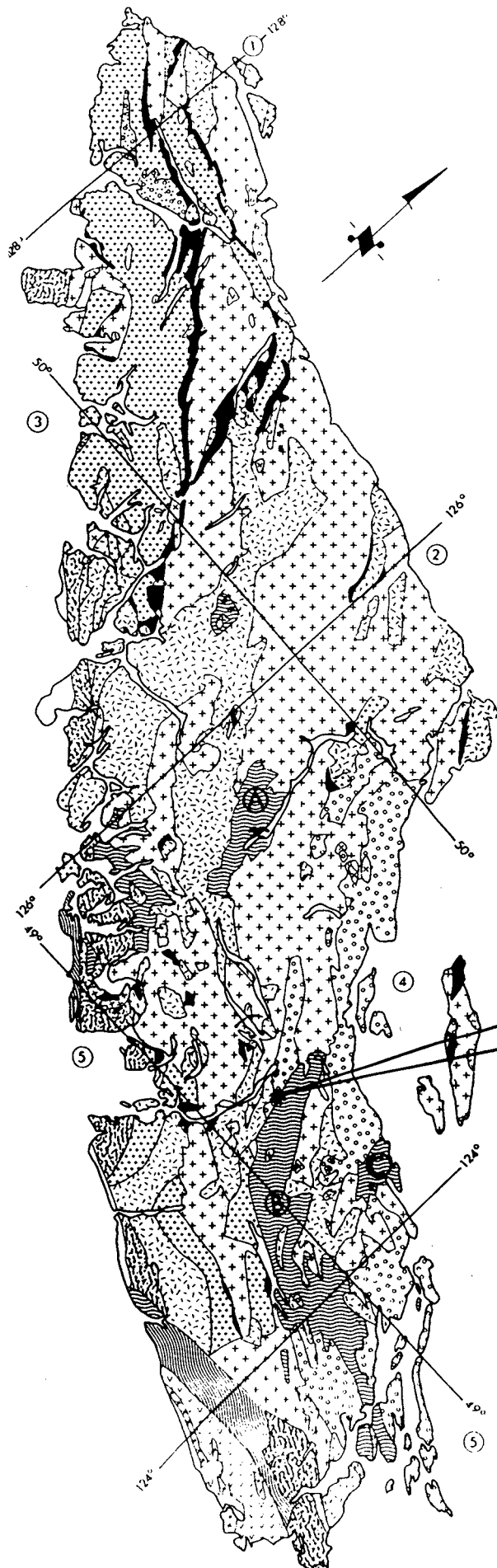
### 6.1 REGIONAL GEOLOGY (see Figure 3)

The oldest rocks on the property, and on Vancouver Island, are those of Paleozoic Sicker Group. Muller (GSC, 1980) has divided this group, oldest to youngest, as the Nitinat Formation, an informal sediment-sill unit, Myra Formation, and Buttle Lake Formation. These Sicker Group rocks are generally overlain by Triassic Vancouver Group, here represented mainly by the Karmutsen Formation volcanics. Both groups are intruded by the Jurassic Island Intrusions, mainly dioritic stocks, and more locally by sills and dykes of Tertiary age (correlated with Catface Intrusions on west coast of Island). Along the east side of Island, and also in Port Alberni area, the Late Cretaceous Nanaimo Group sediments overlie extensively the older rocks. In places, such as at Patlicant Mountain and Bainbridge Lake here, these sediments are intruded by extensive sills of the above
















REGIONAL GEOLOGY (MULLER, 1980)

Figure 3  
Geological sketch map of Vancouver Island.



LEGEND

	CARMANAH GROUP	MIDDLE TERTIARY
	CATFACE INTRUSIONS	EARLY TO MIDDLE TERTIARY
	METCHOSIN VOLCANICS	EARLY TERTIARY
	NANAIMO GROUP	LATE CRETACEOUS
	QUEEN CHARLOTTE GROUP KYUQUOT GROUP	LATE JURASSIC TO EARLY CRETACEOUS
	LEECH RIVER FORMATION PACIFIC RIM COMPLEX	
	ISLAND INTRUSIONS	EARLY AND (?) MIDDLE JURASSIC
	BONANZA GROUP	EARLY JURASSIC
	VANCOUVER GROUP	LATE AND (?) MIDDLE TRIASSIC
	PARSON BAY FORMATION QUATSINO FORMATION	
	KARMUTSEN FORMATION	
	SICKER GROUP	PALEOZOIC
	METAMORPHIC COMPLEXES	JURASSIC AND OLDER

LYNN GROUP

- ① ALERT BAY - CAPE SCOTT, 92 L - 102 I (G.S.C. PAPER 74-8)
- ② BUTE INLET, 92 K (IN PREPARATION), O.P. MAP 345
- ③ NOOTKA SOUND, 92 E (IN PREPARATION)
- ④ ALBERNI 92 F (G.S.C. PAPER 68-50)
- ⑤ VICTORIA, 92 B, C (FIELD WORK IN PROGRESS: SEE G.S.C. PAPERS 75-1A, p. 21-26; 76-1A, p. 107-111, 77-1A, p. 287-294.)

- A - BUTTLE LAKE UPLIFT
- B - COWICHAN - HORNE LAKE UPLIFT
- C - NANOOSE UPLIFT



### Tertiary Intrusions.

The most dominant regional structures on Island are series of long NNW to north trending systems of steep faults, affecting Sicker and Vancouver Group rocks and giving a "patchwork" appearance to the geological maps. There have been several periods of faulting, intrusion and volcanic activity.

The oldest, Sicker Group rocks, have been generally buried under a thick Mesozoic cover, except where they have now been exposed in three major (and some smaller) "uplift" areas or arches. These are: The Buttle Lake Uplift, toward north, the extensive Cowichan - Horne Lake Uplift, toward south, and the smaller Nanoose Uplift, north of Nanaimo. The Bain claims are situated along the western edge of the northern end of the Cowichan - Horne Lake Uplift.

These uplifted belts of Sicker Group, particularly where they contain the sedimentary rocks of Myra Formation, are considered to be the geologically most favourable and economically most promising areas for base and precious metal exploration on the Island. The Buttle Lake Uplift contains the Westmin's volcanogenic Kuroko - type massive sulphide deposits, which also carry gold and silver. Here, the Cowichan - Horne Lake belt contains the past producers of Mount Sicker area (including the recently discovered Abermin's Lara prospect and others), as well as the

old Mount McQuillan -- China Creek camp containing numerous vein type Au - Ag deposits and prospects (eg. Mineral Creek, Black Panther, Havilah, Golden Eagle, Regina, Etc.) and also massive sulphide deposits (eg. old Thistle Mine).

## 6.2 LOCAL GEOLOGY (see Figure 4)

The following major geological units are present on the Bain Group and immediate area:

The Sicker Group rocks underlie the eastern part of the claims, forming the western edge of the Cowichan - Horne Lake Uplift along a north - trending fault contact. On the property, the Sicker Group is represented by the Lower Devonian (or older) Myra Formation which includes basic to rhyodacitic volcanics (tuffs, breccia and flows), and thinly bedded to massive argillite, siltstone and chert. The older, Nitinat Formation rocks occur a few km east of here.

The western part of claim group is underlain by the basaltic Karmutsen Formation of Vancouver Group. In the SW corner of the property and near Bainbridge Lake, these volcanics have been intruded by the dioritic Island Intrusions. The contact between the volcanics and intrusives is overlain by relatively flat-lying Cretaceous Nanaimo sediments, here represented by the Comox Formation (older, toward west of Bainbridge Lake), consisting of sandstone, conglomerate and shale, and the Haslam Formation (younger, toward east) consisting of shale, siltstone and some

sandstone.

North of Bainbridge Lake, along the north boundary of Bain 1 claim, and in the Mount Patlicant area south of the property, the Nanaimo sediments have been intruded by large sills of Tertiary "feldspar porphyry". The dykes of similar porphyry are known to occur some 10 or more km southeast of here in the Mount McQuillan area where they appear to be associated with mineralized (Au - Ag) quartz veins, eg. at Golden Eagle, Havilah, the Middle Vein and other old prospects.

## 7. 1987 FIELD PROGRAMS

### 7.1 SCOPE AND PURPOSE

#### 7.1.1 Field Visit 1

In February 1987, a project geologist and a geotechnician spent 5 days rock chip sampling and silt sampling. The purpose of this visit was to sample target areas delineated from Gunnex's mapping (1964-1966) and Western Mines (now Westmin) 1980 soil survey.

#### 7.1.2 Field Visit 2

In July 1987 a prospector spent 3 days taking soil, rock and silt samples on a flagged grid at the boundary between Bain 2 and Bain 4. The purpose of this visit was to follow-up on an anomalous rock sample (sample R-103, 1800 ppb Au) found in February, 1987.

### 7.1.3 Field Visit 3

In November 1987 a geologist and geotechnician spent 2 days rock chip sampling. The purpose of this visit was to locate anomalous sample R-103 and to prospect the immediate area.

## 7.2 METHODS AND PROCEDURES

### 7.2.1 Field Visit 1

A total of 8 rock grab samples and 1 silt sample were taken. Acme Analytical Labs were retained to perform the analysis. The survey control was established using creeks, topographic features and blazed claim lines. An altimeter and hipchain were used for pinpointing location. See Appendix C for Analytical Techniques.

### 7.2.2 Field Visit 2

A total of 16 soil samples, 8 rock grab samples and 1 silt sample were taken. Control was established using the legal corner post and traversing east along the blazed claim line between Bain 2 and Bain 4.

A small grid was established 1000m east of the legal corner post using compass and hipchain. Three lines, 300 meters long, were put in at 50 meter line spacings and soil sampled at 50 meter intervals. Soil samples were taken using a grub hoe at a 30 cm depth in the B-horizon. Samples were placed in Kraft gusset envelopes and sent to Vangeochem Labs Ltd. for analysis. The

grid was used as control for prospecting and sampling.

### 7.2.3 Field Visit 3

Five rock samples were taken. Control was established using the blazed claim lines, road and topography. A hipchain and compass was used for traverses. Acme Analytical Labs, Vancouver, B.C. performed the analysis.

## 8. RESULTS (Figure 5)

Refer to Appendix A for analytical results and Appendix B for rock sample descriptions.

### 8.1 FIELD VISIT 1

Sampling from this program yielded one significant result. Sample R-103 had values of 1800 ppb Au and 2660 ppm Cu. The field geologist, Eric Grill, described it as a mafic intrusive rock with a trace of malachite staining. The sample was taken within a northwest trending copper soil anomaly (Western Mines, 1980). The sample initially assayed 390 ppb gold. Mr. Grill had the sample re-run for platinum, palladium and gold. The platinum and palladium values were not significant. The gold, however assayed 1800 ppb. Mr. Dean Toye (certified B.C. Assayer) thought this was due to the presence of fine free gold in the sample.

Sample R-108 was taken from the "Grizzly" Arsenic Showing approx. 500 meters south of the Bain 4 claim boundary. This was taken for comparison with the Bain samples. Grill, 1987, described it as quartz/carbonate vein material with abundant fine grain pyrite and arsenopyrite. Results were highly anomalous in arsenic (24817 ppm) and weakly anomalous in silver (5.7 ppm Ag).

## 8.2 FIELD VISIT 2 (Figure 5)

### Soil Survey

Altogether, 13 out of 16 samples assayed above the detection limit in gold, ranging from 5 ppb to 25 ppb. Silver values ranged from 0.1 ppm to 0.7 ppm.

Base metal results: Six samples were above 100 ppm copper with the highest values of 239 ppm Cu (L1E 0+50N), 260 ppm Cu (L1E 1+00N) and 436 ppm Cu (LO+50E 1+00N). The highest copper values (260 and 436 ppm) correlate with the highest gold assays (20 and 25 ppb).

Four samples were anomalous in zinc (above 100 ppm). None of these showed a direct correlation with copper or gold.

### Rock Sampling

One sample detected gold (FR002) and assayed 10 ppb.

Copper values were significant. Five out of eight samples were above 100 ppm, ranging from 127 to 241 ppm.

Three anomalous samples in zinc gave values of 106, 118 and 123 ppm.

Significant results were also encountered in bismuth. Five samples were above 10 ppm, ranging from 11 to 17 ppm.

#### Silt Samples

The one silt sample taken 100 metres west of the soil grid yielded anomalies in copper (210 ppm) and zinc (123 ppm).

#### 8.3 FIELD VISIT 3 (Figure 5)

The most significant result was from rock sample B87-R22 (73 ppb Au, 130 ppm Cu). The field geologist described this rock as being quartz stringers in a silicified andesite, with 5% disseminated pyrite and trace chalcopyrite.

One other rock was anomalous in copper (B87-R23 = 146 ppm Cu).

#### 8.4 DISCUSSION OF RESULTS

Field visit 1 was successful in finding a rock that was highly anomalous in gold (sample R103, 1800 ppb = .05 oz/ton). This coincides with a northwest trending soil geochemistry anomaly (copper) discovered by Western Mines in 1980. The focus of field



trips 2 and 3 was to re-locate sample site R103 and to prospect the area (Zone 1).

Sample site R103 was not located, but samples from a small soil grid put over Zone 1 yielded significant anomalies in copper and gold. The highest two gold values were coincident with the highest copper values. Eight rock samples and one silt sample from Zone 1 were enriched in copper and one rock sample was anomalous in gold.

#### 9. CONCLUSIONS

The author believes the Lynn Group has the potential for hosting a volcanogenic massive sulphide deposit or an epithermal precious metal deposit for the following reasons:

- 1) The subject property is underlain by rocks of the Sicker Group in fault contact with Karmutsen volcanic rocks. The Sicker Group is known to host producing mines, past producing mines and base metal-precious metal prospects on Vancouver Island.
- 2) One of the most significant discoveries in the past year has been on the Westmin-Nexus-Angle owned Debbie prospect, located approximately 1.0 km east of the Lynn Group. Three zones of economic mineralization have been found and drill results continue to be encouraging. The Debbie property and Lynn property are both underlain by rocks of the Sicker

Group.

- 3) The subject property has seen only work done in small programs since the early 1960's. Prior to 1985, the claims were explored for their base metal potential. Since 1985, sampling programs have shown that gold is present on the property.

For these reasons the Lynn Claim Group warrants an aggressive multi-phase exploration program to properly evaluate the economic potential of the property.

REFERENCES

- Benvenuto, G., 1980: 1980 Geochemical Soil Survey Program on Lily 1 and Lily 2 Claims, Assessment report #8249, for Western Mines Limited.
- Carson, D.J.T., 1973: The Plutonic Rocks of Vancouver Island, Geol. Survey of Canada Paper 72-44.
- Grill, E., 1987: The Bain Claims; A Short Discussion, Summary, and Conclusion; internal company report for Ashworth Explorations Limited.
- Laanela, H., 1964-66: Geological maps of E & N Land Grant between 40 00' and 40 20' latitudes, 1":1/2 mile; for Gunnex Limited.
- Laanela, H., 1965-66: Mineral Occurrences on E & N Land Grant, Vancouver Island, B.C.; summarized internal company reports for Gunnex Limited.
- Laanela, H., 1963-65; Air-Borne Magnetic Anomalies on E & N Land Grant, Vancouver Island, B.C.; summarized internal company reports for Gunnex Limited.
- Laanela, H., 1986: Preliminary Report on the Bain 1-4 Claims; for Ashworth Explorations Limited.
- Muller, J.E., 1980: The Paleozoic Sicker Group of Vancouver Island, B.C.; Geol. Survey of Canada Paper 79-80.
- The Northern Miner, 1987; High Grade or Debbie Property Excites Westmin Resources; March 19, 1987.
- Northwest Prospector, 1987; Gold Potential Expands on Debbie Property/Yellow Claims, August/September 1987, pg 27-28.
- Scroggins, L., 1986; Geological and Geochemical Assessment Report on the Bain Claim Group.

REFERENCES (continued)

Stevenson, J.S., 1945: Geology and Ore Deposits of the China Creek Area, Vancouver Island, B.C.; in Annual Report of B.C.M.M., 1944, pp. A143-A161.

Vancouver Stockwatch, 1987; News Releases on Debbie/Yellow Claims, January 27, February 26, June 23, July 16, August 12, October 14.


Westmin Resources Ltd., 1987; Company News Release on Debbie Project; November 30, 1987.

CERTIFICATE

I, PETER D. LERICHE, of 3612 West 12th Avenue, Vancouver B.C., V6K 2R7, do hereby state that:

1. I am a graduate of McMaster University, Hamilton, Ontario, with a Bachelor of Science Degree in Geology, 1980.
2. I have actively pursued my career as a geologist for nine years in British Columbia, Ontario, Yukon and Northwest Territories, Arizona, Nevada and California.
3. I have examined the Lynn Claims during a visit on October 31 and November 1, 1985.
4. That the information opinions and recommendations in this report are based on the field work carried out under my direction and on published and unpublished literature.

Peter D. Leriche, B.Sc.  
ASHWORTH EXPLORATIONS LIMITED

  
Dated at Vancouver, B.C.  
December 8, 1987

ITEMIZED COST STATEMENTField Trip 1 - February 22-27, 1987

## Field Crew

Geologist (Feb. 22-27) 5 days @ \$325/day	\$ 1,625	
Geotechnician (Feb. 22-27) 5 days @ \$210/day	1,050	
Mob/Demob	<u>500</u>	\$ 3,175

## Field Costs

4x4 Truck Rental 5 days @ \$110/day	\$ 550	
Food and Accommodation 10 mandays x \$180/day	800	
Supplies	<u>350</u>	\$ 1,700

## Lab Analysis

1 silt sample - fire assay Au and multi-element ICP \$11/sample	\$ 11.00	
8 rock samples - fire assay Au and multi-element ICP \$14.50/sample	115.75	
1 rock sample - geochem Pt, Pd by Fa-MS \$13.25/sample	<u>13.25</u>	\$ 140

## Total

\$ 5,015

Field Trip 2 - July 25,26,27, 1987**Field Crew**

Prospector (July 25,26,27)

3 days @ \$210/day

\$ 620

Mob/Demob

300

\$ 920

**Field Costs**

4x4 Truck Rental 3 days @ \$110/day

\$ 330

Food and Accommodation 3 days @ \$80/day

240

Supplies

150

\$ 720

**Lab Analysis**1 silt sample - fire assay Au and  
multi-element ICP \$14.85/sample

\$ 14.85

16 soil samples - geochem Au by aqua regia  
ext. and AAS det., ICP \$12.85/sample

205.60

8 rock samples - fire assay Au and  
multi-element ICP \$17/sample136.00\$ 356.45**Total**\$ 1,996.45

Field Trip 3 - November 13 & 14, 1987

## Field Crew

Geologist (Nov.12,13, 1987)		
2 days @ \$325/day	\$ 650	
Geotechnician (Nov. 12,13, 1987)		
2 days @\$210/day	420	
Mob/Demob	<u>500</u>	
		\$ 1,570

## Field Costs

4x4 Truck Rental 2 days @ \$110/day	\$ 220	
Food and Accommodation 4 mandays x \$80/day	320	
Supplies	<u>200</u>	
		\$ 740

## Lab Analysis

5 rock samples - fire assay Au and multi-element ICP \$18/sample		<u>\$ 90</u>
---	--	--------------

Total		\$ 2,400
-------	--	----------

Total - Field Trips 1, 2, & 3		\$ 9,411.45
-------------------------------	--	-------------

Report Costs		1,600.00
--------------	--	----------

Management		<u>1,651.70</u>
------------	--	-----------------

Total		\$ 12,663.15
-------	--	--------------

Withdraw from PAC account		<u>3,736.85</u>
---------------------------	--	-----------------

TOTAL		<u>\$ 16,400.00</u>
-------	--	---------------------



APPENDIX A

ANALYTICAL RESULTS

**GEOCHEMICAL ICP ANALYSIS**

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR NI, FE, CA, P, CR, MG, BA, TI, V, AL, NA, K, N, BI, ZR, CE, SM, Y, ND AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: SILT/ROCK AND ANALYSIS BY AA FROM 10 GRAM SAMPLE. AUSS ANALYSIS BY FAHM FROM 10 GRAM SAMPLE.

DATE RECEIVED: FEB 25 1987 DATE REPORT MAILED: *Feb 28/87* ASSAYER... *D. J. J.* DEAN TOYE, CERTIFIED B.C. ASSAYER.

ASHNORTH EXPLORATION PROJECT - BAIN FILE # 87-0530

PAGE 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	M	AuT	AuSS
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPM	PPM
SILT-107	1	68	11	121	.1	46	20	876	4.73	195	5	ND	1	66	1	2	2	75	.64	.056	8	63	1.47	122	.09	5	2.84	.02	.06	1	1	-
R-100	1	5	5	49	.1	2	6	801	2.94	5	6	ND	5	75	1	2	2	19	8.39	.038	4	3	.96	54	.01	5	.25	.01	.06	2	-	1
R-101	1	10	7	42	.1	2	4	912	1.27	4	3	ND	7	77	1	2	2	11	15.85	.027	8	2	.16	30	.01	3	.22	.01	.11	2	-	1
R-102	1	5	3	18	.1	1	2	353	.88	6	6	ND	5	29	1	2	2	7	6.89	.034	8	1	.06	79	.01	4	.35	.01	.14	1	-	1
R-103	1	2660	12	82	.9	9	26	1010	6.74	8	3	ND	1	45	1	2	2	175	1.11	.169	5	8	3.27	39	.20	2	2.96	.03	.14	1	-	390
R-105	1	42	3	11	.2	10	5	178	1.19	7	5	ND	1	12	1	2	2	30	1.98	.006	2	21	.45	5	.08	2	1.43	.01	.01	1	-	3
R-106	1	151	9	30	.1	36	23	335	2.97	2	5	ND	1	15	1	2	2	41	1.30	.021	2	73	.95	6	.26	2	1.55	.01	.01	1	-	1
R-108	55	101	29	68	5.7	7	9	1570	5.95	24817	5	ND	6	139	2	412	2	20	18.83	.013	4	5	2.46	32	.01	2	.18	.01	.03	1	-	1
R-109	2	86	4	49	.1	15	8	1153	4.84	361	5	ND	6	296	1	2	2	32	16.04	.020	5	17	3.37	141	.01	6	.58	.02	.09	1	-	1
STD C/AU-R	20	58	37	133	7.1	64	27	943	3.93	40	17	7	31	46	17	16	20	58	.48	.096	34	54	.88	171	.08	37	1.72	.07	.14	13	-	520

FIELD VISIT 1

FIELD VISIT 1

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: DEC 4 1987  
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6  
PHONE (604) 253-3158 FAX (604) 253-1716 DATE REPORT MAILED: Dec. 4/87...

ASSAY CERTIFICATE

AU\*\* PD\*\* PT\*\* BY FA-MS.  
- SAMPLE TYPE: Pulp

ASSAYER: *D. Toye*. DEAN TOYE, CERTIFIED B.C. ASSAYER

ASHWORTH EXPLORATION PROJECT-BAIN File # 87-0530 R

SAMPLE#	AU**	PT**	PD**
	ppb	ppb	ppb
R-103	1800	2	20



**VANGEOCHEM LAB LIMITED**

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-6211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

**GEOCHEMICAL ANALYTICAL REPORT**

CLIENT: **ASHWORTH EXPLORATION LTD.**  
ADDRESS: Mez. Flr. 744 W. Hastings  
: Vancouver, B.C.  
: V6C 1A5

DATE: August 10 1987

REPORT#: **870878 GA**  
JOB#: **870878**

PROJECT#: **87-109**  
SAMPLES ARRIVED: **July 29 1987**  
REPORT COMPLETED: **August 10 1987**  
ANALYSED FOR: **Au ICP**

INVOICE#: **870878 NA**  
TOTAL SAMPLES: **16**  
SAMPLE TYPE: **16 Soil**  
REJECTS: **DISCARDED**

SAMPLES FROM: **ASHWORTH EXPLORATION LTD.**  
COPY SENT TO: **ASHWORTH EXPLORATION LTD.**

**PREPARED FOR: ASHWORTH EXPLORATION LTD.**

ANALYSED BY: **VGC Staff**

SIGNED: \_\_\_\_\_

GENERAL REMARK: **None**



**VANGEOCHEM LAB LIMITED**

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-6211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-6666

REPORT NUMBER: 870878 GA

JOB NUMBER: 870878

ASHNORTH EXPLORATION LTD.

PAGE 1 OF 1

SAMPLE #	Au ppb
L0+00 0+00	15
L0+00 0+50N	10
L0+00 1+00N	nd
L0+00 1+00S	nd
L0+00 1+50S	10
L0+50E 0+00	5
L0+50E 0+50N	20
L0+50E 1+00N	20
L0+50E 1+00S	nd
L0+50E 1+50S	10
L0+50E 2+00S	10
L1+00E 0+00	20
L1+00E 0+50N	10
L1+00E 1+00N	25
L1+00E 0+50S	20
L1+00E 1+00S	10

DETECTION LIMIT  
nd = none detected

5  
-- = not analysed

is = insufficient sample

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR SN, MN, FE, CA, P, CR, MG, BA, PD, AL, NA, K, V, PT AND SR. AU AND PD DETECTION IS 3 PPM.  
 IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -= NOT ANALYZED

COMPANY: ASHWORTH  
 ATTENTION:  
 PROJECT: 87-109

REPORT#: PA  
 JOB#: 870878  
 INVOICE#: NA

DATE RECEIVED: 87/07/29  
 DATE COMPLETED: 87/08/11  
 COPY SENT TO:

ANALYST *W. Jones*

PAGE 1 OF 1

FIELD VISIT 2

SAMPLE NAME	AG PPH	AL %	AS PPH	AU PPH	BA PPH	BI PPH	CA %	CO PPH	CR PPH	CU PPH	FE %	K %	MG %	MN PPH	MO PPH	NA %	NI PPH	P %	PB PPH	PD PPH	PT PPH	SB PPH	SN PPH	SR PPH	U PPH	V PPH	ZN PPH	
L0+00-0+00	.1	2.77	10	ND	129	ND	.38	.1	25	23	62	5.23	.03	.98	1835	2	.14	17	.23	6	ND	ND	ND	3	27	ND	ND	104
L0+00-0+50N	.1	3.49	8	ND	106	ND	.89	.1	32	21	176	5.55	.04	2.06	1747	1	.16	18	.16	2	ND	ND	ND	ND	55	ND	ND	85
L0+00-1+00N	.6	3.13	7	ND	66	ND	.57	.1	27	20	63	6.24	.04	1.49	830	2	.15	14	.04	4	ND	ND	3	3	56	ND	ND	56
L0+00-1+00S	.4	3.81	ND	ND	194	ND	.50	.1	20	34	49	4.84	.05	.96	941	2	.12	36	.18	4	ND	ND	3	ND	21	ND	ND	80
L0+00-1+50S	.6	3.12	9	ND	34	ND	.26	.1	17	28	56	3.86	.06	.92	346	2	.08	26	.04	6	ND	ND	ND	ND	15	ND	ND	47
L0+50E-0+00	.6	2.84	10	ND	186	ND	.46	.1	22	27	56	4.29	.06	.75	2112	1	.11	23	.28	11	ND	ND	4	2	28	ND	ND	99
L0+50E-0+50N	.7	3.92	15	ND	103	3	.49	.1	25	25	153	5.01	.06	1.53	1421	2	.13	24	.19	6	ND	ND	ND	2	32	ND	ND	87
L0+50E-1+00N	.5	4.72	12	ND	134	ND	.53	.1	31	33	436	6.37	.06	1.40	1289	3	.14	26	.05	4	ND	ND	ND	ND	34	ND	ND	60
L0+50E-1+00S	.6	3.31	7	ND	126	3	.41	.1	23	19	60	4.40	.05	1.04	1104	1	.12	17	.15	3	ND	ND	ND	ND	37	ND	ND	102
L0+50E-1+50S	.5	3.11	5	ND	54	ND	.30	.1	15	24	77	4.43	.05	.79	624	2	.11	17	.10	7	ND	ND	ND	1	31	ND	ND	72
L0+50E-2+00S	.4	2.82	5	ND	215	ND	.38	.1	20	26	20	4.09	.04	.63	4303	1	.11	21	.19	10	ND	ND	ND	ND	22	ND	ND	110
L1E-0+00	.6	3.29	6	ND	151	ND	.42	.1	22	30	83	4.04	.05	.99	1474	1	.10	26	.17	6	ND	ND	ND	ND	27	ND	ND	72
L1E-0+50N	.1	4.05	8	ND	134	ND	.58	.1	32	14	239	6.23	.04	2.17	2294	2	.19	16	.23	2	ND	ND	ND	ND	44	ND	ND	121
L1E-1+00N	.4	4.39	8	ND	62	5	.63	.1	38	19	260	6.28	.04	2.44	1274	2	.18	18	.06	4	ND	ND	ND	ND	54	ND	ND	83
L1E-0+50S	.4	4.22	10	ND	108	ND	.35	.1	20	14	131	5.18	.05	1.44	764	3	.14	14	.10	7	ND	ND	3	ND	38	ND	ND	87
L1E-1+00S	.7	5.03	17	ND	125	3	.40	.1	31	44	262	5.74	.06	1.83	953	3	.15	41	.15	5	ND	ND	ND	ND	32	ND	ND	77
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1



**VANGEOCHEM LAB LIMITED**

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 966-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

**GEOCHEMICAL ANALYTICAL REPORT**

-----

**CLIENT:** ASHWORTH EXPLORATION LTD.  
**ADDRESS:** Mez. Flr. 744 W. Hastings  
: Vancouver, B.C.  
: V6C 1A5

**DATE:** August 4 1987

**REPORT#:** 870882 GA  
**JOB#:** 870882

**PROJECT#:** None Given  
**SAMPLES ARRIVED:** July 29 1987  
**REPORT COMPLETED:** August 4 1987  
**ANALYSED FOR:** Au (FA/AAS) ICP

**INVOICE#:** 870882 NA  
**TOTAL SAMPLES:** 9  
**SAMPLE TYPE:** 8 ROCK 1 SILT  
**REJECTS:** SAVED

**SAMPLES FROM:** ASHWORTH EXPLORATION LTD.  
**COPY SENT TO:** ASHWORTH EXPLORATION LTD.

**PREPARED FOR:** ASHWORTH EXPLORATION LTD.

**ANALYSED BY:** VGC Staff

**SIGNED:** \_\_\_\_\_

**GENERAL REMARK:** None

FIELD VISIT 2



# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 966-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-6856

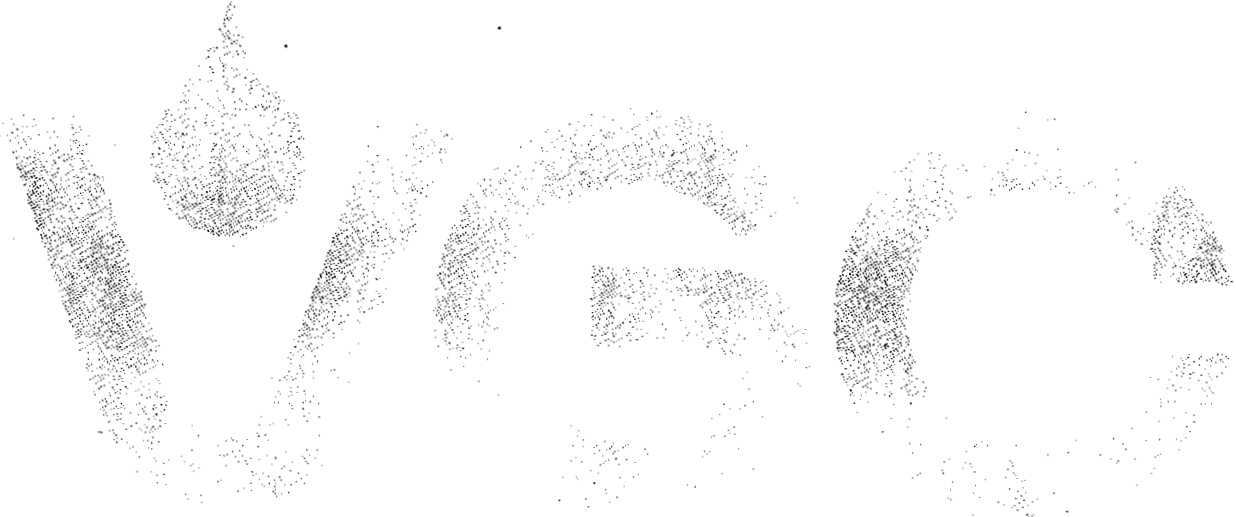
REPORT NUMBER: 870882 GA

JOB NUMBER: 870882

ADMORTH EXPLORATION LTD.

PAGE 1 OF 1

SAMPLE #	Au
87109 FR001(ROCK)	nd
87109 FR002(ROCK)	10
87109 FR003(ROCK)	nd
87109 FR004(ROCK)	nd
87109 FR005(ROCK)	nd
87109 FR006(SILT)	nd
87109 FR007(ROCK)	nd
87109 FR008(ROCK)	nd
87109 FR009(ROCK)	nd



DETECTION LIMIT

nd = none detected

5

-- = not analysed

is = insufficient sample



VANGEOCHEM LAB LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N. VANCOUVER B.C. V7P 2G3 PH: (604)986-5211 TELEX: 04-352578  
 BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH: (604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 NCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR SR, MN, FE, CA, P, CK, NG, BA, PD, AL, NA, K, W, PI AND SK. AU AND PD DETECTION IS 3 PPM.  
 IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -- NOT ANALYZED

COMPANY: ASHWORTH  
 ATTENTION:  
 PROJECT:

REPORT#: PA  
 JOB#: 870882  
 INVOICE#: NA

DATE RECEIVED: 87/07/29  
 DATE COMPLETED: 87/08/06  
 COPY SENT TO:

ANALYST W. Keen

PAGE 1 OF 1

FIELD VISIT 2

SAMPLE NAME	AG PPM	AL %	AS PPM	AU PPM	BA PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MN PPM	MO PPM	NA %	NI PPM	P %	PB PPM	PD PPM	PI PPM	SB PPM	SN PPM	SR PPM	U PPM	W PPM	ZN PPM
87109 FR001 ROCK	.1	2.75	6	ND	54	11	1.04	.1	26	32	127	5.47	.01	2.66	966	3	.14	10	.20	5	ND	ND	ND	3	54	ND	ND	79
87109 FR002 ROCK	.1	4.28	14	ND	60	9	.53	.1	27	44	241	7.17	.01	3.95	1362	4	.21	22	.12	5	ND	ND	3	ND	14	ND	ND	118
87109 FR003 ROCK	.1	2.87	9	ND	206	13	.55	.3	23	66	214	4.33	.07	1.93	724	3	.11	21	.05	9	ND	ND	3	3	28	ND	ND	70
87109 FR004 ROCK	.1	2.39	6	ND	32	7	1.26	.1	24	32	160	4.39	.01	2.25	749	2	.11	16	.17	7	ND	ND	3	1	66	ND	ND	55
87109 FR005 ROCK	.1	2.36	9	ND	53	11	.80	.1	11	48	37	3.09	.01	1.82	831	3	.09	12	.09	11	ND	ND	4	1	23	ND	4	91
87109 FR006 SILT	.1	3.52	8	ND	149	6	1.53	.1	30	32	210	5.73	.01	2.53	1280	3	.16	16	.15	20	ND	ND	3	2	66	ND	ND	123
87109 FR007 ROCK	1.2	2.54	8	ND	113	17	1.55	.1	40	21	39	6.28	.02	1.90	674	2	.14	13	.11	12	ND	ND	ND	12	52	ND	ND	106
87109 FR008 ROCK	.2	2.95	5	ND	149	10	1.10	.1	30	25	19	7.33	.05	1.79	1126	4	.16	2	.16	14	ND	ND	5	8	56	ND	ND	141
87109 FR009 ROCK	.1	3.06	ND	ND	296	8	1.22	.1	23	17	155	4.93	.19	2.35	1049	2	.12	5	.17	4	ND	ND	ND	ND	52	ND	ND	53
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1

## GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEC. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MM FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: Rock Chips AU ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: NOV 16 1987

DATE REPORT MAILED: *Nov 27/87*ASSAYER: *D. J. J. DEAN TOYE*, CERTIFIED B.C. ASSAYER

ASHWORTH EXPLORATION PROJECT-109 File # 87-5721

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU# PPB
B87-R20	1	89	10	56	.2	23	12	425	2.10	4	5	ND	1	12	1	2	2	9	.16	.020	4	2	.35	431	.01	6	.52	.02	.09	1	1
B87-R21	1	6	2	14	.2	5	2	360	.49	6	5	ND	1	31	1	2	2	7	4.45	.011	3	5	.34	22	.01	2	.30	.02	.02	1	1
B87-R22	1	130	4	62	.2	2	13	796	4.64	2	5	ND	3	18	1	2	2	56	.68	.126	7	1	2.48	58	.10	2	2.66	.04	.07	1	73
B87-R23	1	146	4	46	.2	2	10	732	3.22	3	5	ND	3	46	1	2	2	43	1.37	.095	5	1	1.72	41	.10	2	1.99	.05	.04	2	1
B87-R24	1	90	4	53	.2	4	12	620	3.38	2	5	ND	2	109	1	2	2	95	.83	.099	5	2	1.56	16	.14	3	1.87	.04	.06	1	1
STD C/AU-R	18	58	37	125	7.0	66	26	992	3.93	43	26	7	37	47	17	15	20	53	.46	.082	36	57	.87	162	.07	38	1.79	.07	.14	13	485

FIELD VISIT 3

**APPENDIX B**

**ROCK SAMPLE DESCRIPTIONS**

## ROCK SAMPLE DESCRIPTIONS

### Field Visit 1 (February 22-27, 1987)

- R100 - calcite vein 1.0 cm wide in limonite stained fracture zone; host diorite.
- R101 - quartz - calcite vein 1.0 metres wide from "Ruby Silver" showing.
- R102 - diorite wallrock from "Ruby Silver" showing; contains a few silica veinlets and trace pyrite.
- R103 - mafic intrusive with malachite staining.
- R105 and 106  
- volcanic rocks, intense silicification, drusy quartz, limonite within and on the fracture surfaces.
- R108 - quartz/carbonate vein material intruded into feldspar porphyry intrusive; pyrite and arsenopyrite; from Grizzly Arsenic showing.
- R109 - barren quartz vein 1 cm thick within an argillite host; strikes approximately E-W.

### Field Visit 2 (July 25-27, 1987)

- FR001 - silicified diorite or granodiorite, 1%-2% pyrite dissemination.
- FR002 - andesite volcanic, iron stained, visible sulphide <5%, mainly pyrite.
- FR003 - the same rock type as FR002-sulphide dissemination, rusty on surface.
- FR004 - coarse - grained dark gabbroid rock with 2%-5% pyrite.
- FR005 - silicified andesitic volcanic disseminated with pyrite 3%, iron-stained.
- FR007 - volcanic andesite, pyrite dissemination 3% rusty; with iron stained on surface.
- FR008 - the same rock type as R007, 2-5% pyrite dissemination, no silicification.

FR009 - hybrid rock may be (dioritic) at contact with volcanic andesite, the rock is highly altered, 5% pyrite dissemination.

Field Visit 3 (November 13,14, 1987)

- R-20 - a chip sample taken over 1 metre of silicified volcanic outcrop, rusty on surface, hematite, no obvious mineralization.
- R-21 - silicified volcanic, grey-white, same rock type as R20, contains much more hematite rusty, no sulphides, taken over 1 metre.
- R-22 - silicified volcanic (andesite), disseminated with 5% pyrite and chalcopyrite, quartz stringers were also observed, sample taken over 5 metres.
- R-23 - is taken from the same location as sample R-22, at elevation 620 metres, the same rock type, but more dissemination with pyrite and chalcopyrite than R22.
- R-24 - is float sample taken from quartz vein material (float) vuggy quartz with a lot of cavities filled with oxides, no obvious sulphides elevation 710 metres.

APPENDIX C

ANALYTICAL TECHNIQUES



# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

December 1st, 1987

TO: Peter Leriche  
ASHWORTH EXPLORATION LTD.  
Mezz Fir - 744 W. Hastings St.  
Vancouver, B.C. V6C 1A5

FROM: Vangeochem Lab Limited  
1521 Pemberton Avenue  
North Vancouver, British Columbia  
V7P 2S3

SUBJECT: Analytical procedure used to determine gold by fire assay method and detect by atomic absorption spectrophotometry in geological samples.

## 1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

## 2. Method of Extraction

- (a) 20.0 to 30.0 grams of the pulp samples were used. Samples were weighed out using a top-loading balance and deposited into individual fusion pots.
- (b) A flux of litharge, soda ash, silica, borax, and, either flour or potassium nitrite is added. The samples are then fused at 1900 degrees Fahrenheit to form a lead "button".
- (c) The gold is extracted by cupellation and parted with diluted nitric acid.



## VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

(d) The gold bead is retained for subsequent measurement.

### 3. Method of Detection

(a) The gold bead is dissolved by boiling with sodium cyanide, hydrogen peroxide and ammonium hydroxide.

(b) The detection of gold was performed with a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out on a strip chart recorder. The gold values, in parts per billion, were calculated by comparing them with a set of known gold standards.

### 4. Analysts

The analyses were supervised or determined by Mr. Conway Chun or Mr. David Chiu and his laboratory staff.

A handwritten signature in black ink, appearing to read 'D. Chiu', written over a horizontal line.

David Chiu  
VANGEOCHEM LAB LIMITED





## VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

December 1st, 1987

TO: Peter Leriche  
ASHWORTH EXPLORATION LTD.  
Mezz Fir - 744 W. Hastings St.  
Vancouver, B.C. V6C 1A5

FROM: Vangeochem Lab Limited  
1521 Pemberton Avenue  
North Vancouver, British Columbia  
V7P 2B3

SUBJECT: Analytical procedure used to determine hot acid soluble for 28 element scan by inductively coupled plasma spectrophotometry in geochemical silt and soil samples.

### 1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

### 2. Method of Digestion

- (a) 0.50 gram portions of the minus 80-mesh samples were used. Samples were weighed out using an electronic balance.
- (b) Samples were digested with a 5 ml solution of HCL:HN03:H2O in the ratio of 3:1:2 in a 95 degree Celsius water bath for 90 minutes.
- (c) The digested samples are then removed from the bath and bulked up to 10 ml total volume with demineralized water and thoroughly mixed.



## VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX: 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

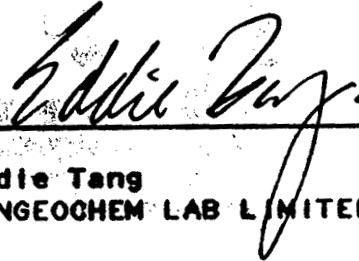
---

### 3. Method of Analyses

The ICP analyses elements were determined by using a Jarrel-Ash ICAP model 9090 directly reading the spectrophotometric emissions. All major matrix and trace elements are interelement corrected. All data are subsequently stored onto disk.

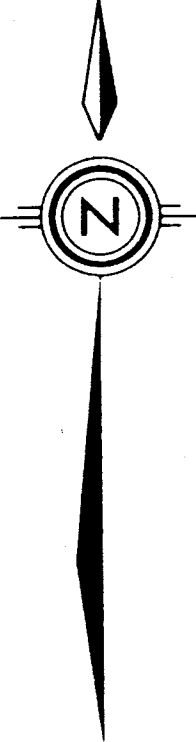
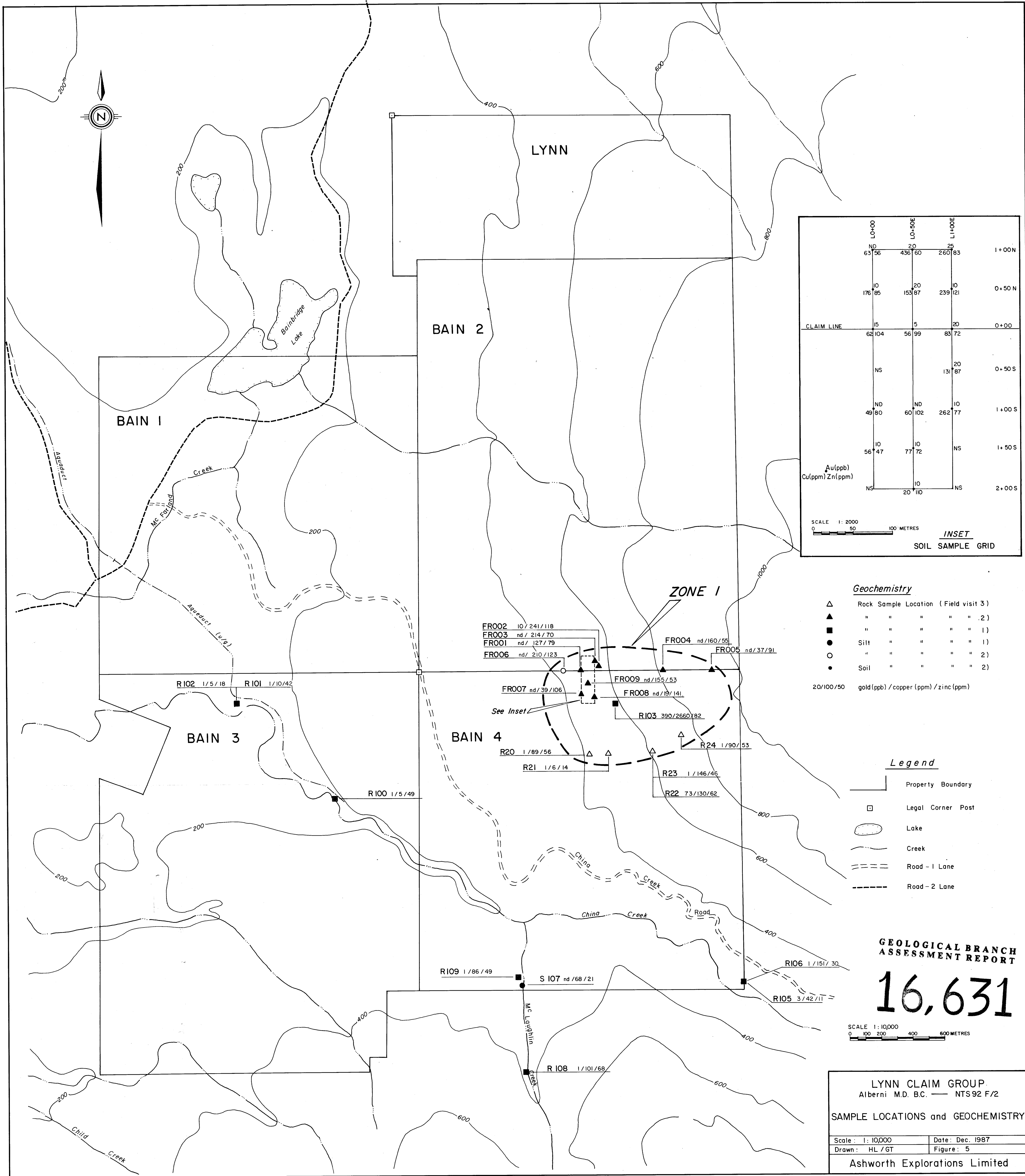
### 4. Analysts

The analyses were supervised or determined by either Mr. Eddie Tang, and, the laboratory staff.



\_\_\_\_\_

Eddie Tang  
VANGEOCHEM LAB LIMITED



**INSET SOIL SAMPLE GRID**

	LO+00	LO-50E	LI+00E	
	ND 63/56	20 436/60	25 260/83	1+00N
	10 176/85	20 153/87	10 239/121	0+50N
CLAIM LINE	15 62/104	5 56/99	20 83/72	0+00
	NS		20 131/87	0+50S
	ND 49/80	ND 60/102	10 262/77	1+00S
	10 56/47	10 77/72	NS	1+50S
	NS	10 20/110	NS	2+00S

Au(ppb)  
Cu(ppm) Zn(ppm)

SCALE 1: 2000  
0 50 100 METRES

- Geochemistry**
- △ Rock Sample Location (Field visit 3)
  - ▲ " " " " " 2)
  - " " " " " 1)
  - Silt " " " " " 1)
  - " " " " " 2)
  - Soil " " " " " 2)
- 20/100/50 gold (ppb) / copper (ppm) / zinc (ppm)

- Legend**
- Property Boundary
  - Legal Corner Post
  - Lake
  - Creek
  - - - Road - 1 Lane
  - - - - Road - 2 Lane

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**16,631**

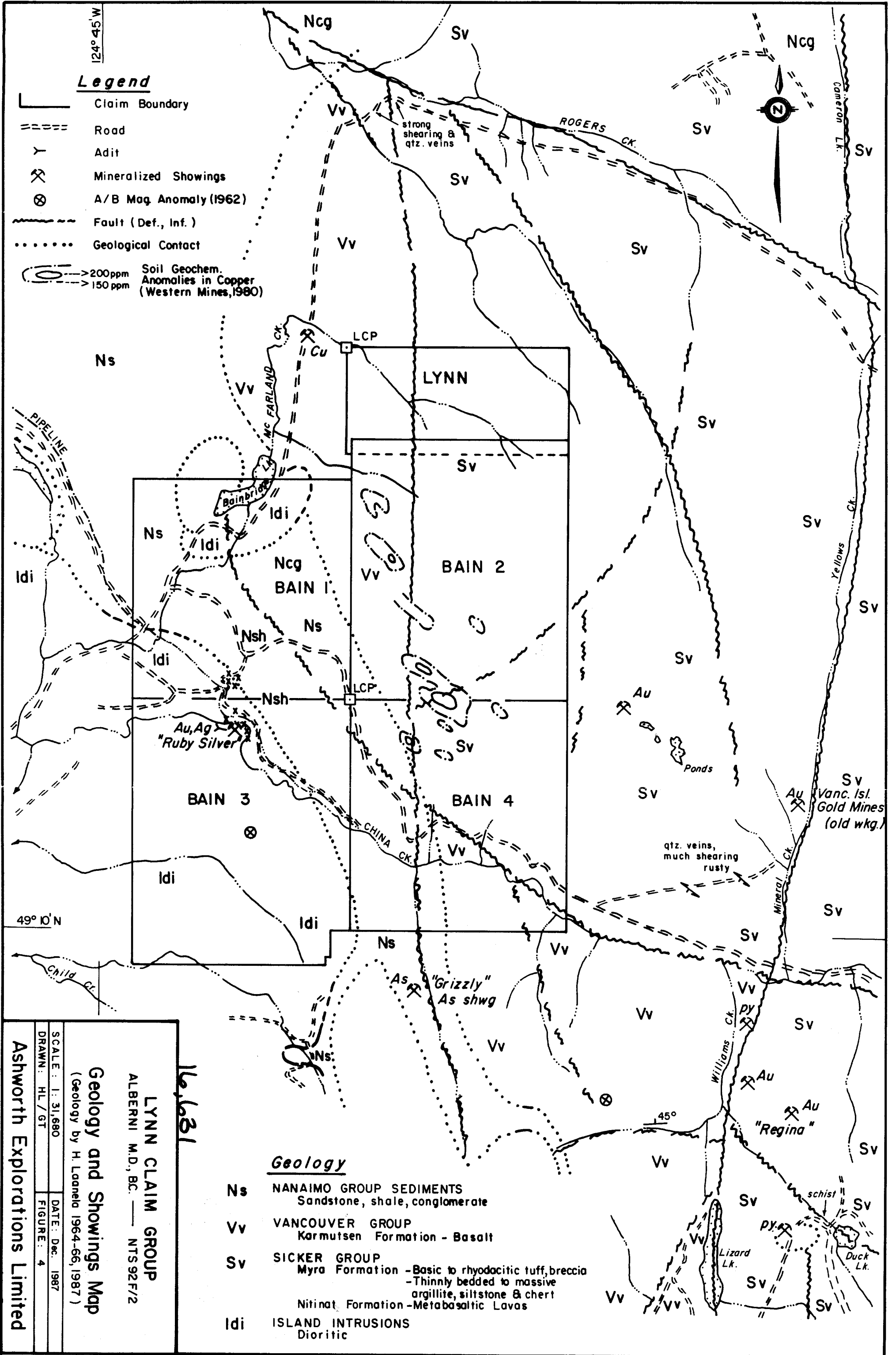
SCALE 1: 10,000  
0 100 200 400 600 METRES

LYNN CLAIM GROUP  
Alberni M.D. BC. — NTS92 F/2

SAMPLE LOCATIONS and GEOCHEMISTRY

Scale: 1: 10,000 Date: Dec. 1987  
Drawn: HL/GT Figure: 5

Ashworth Explorations Limited



**Legend**

- Claim Boundary
- Road
- Adit
- Mineralized Showings
- A/B Mag. Anomaly (1962)
- Fault (Def., Inf.)
- Geological Contact
- Soil Geochem. Anomalies in Copper (Western Mines, 1980)

124° 45' W

49° 10' N

**Geology**

- Ns** NANAIMO GROUP SEDIMENTS  
Sandstone, shale, conglomerate
- Vv** VANCOUVER GROUP  
Karmutsen Formation - Basalt
- Sv** SICKER GROUP  
Myra Formation - Basic to rhyodacitic tuff, breccia  
- Thinly bedded to massive argillite, siltstone & chert  
Nitinat Formation - Metabasaltic Lavas
- Idi** ISLAND INTRUSIONS  
Dioritic

**LYNN CLAIM GROUP**  
ALBERNI M.D., BC. — NTS 92F/2

**Geology and Showings Map**  
(Geology by H. Laanala 1964-66, 1987)

SCALE: 1:31,680  
DRAWN: HL/GT  
DATE: Dec. 1987  
FIGURE: 4

**Ashworth Explorations Limited**