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**ASSESSMENT REPORT**

**DIADEM MINERAL CLAIMS  
VANCOUVER MINING DIVISION  
S.W. BRITISH COLUMBIA**

NTS 92-K-1 E & F-16  
LATITUDE 49° 59' NORTH  
LONGITUDE 124° 06' WEST

Prepared for

**COVENANT RESOURCES LTD.**  
543 Beatty Street  
Vancouver, British Columbia  
V6B 1L3

Prepared by

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Consulting Geologist

October, 1989

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**19,502**

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## SUMMARY

The Diadem claims numbered 1, 2, 3 and 4 were staked in October 1987 and are located west of Mount Diadem about 35 kilometres east of Powell River and 100 kilometres northwest of Vancouver. Central to the claims are the southerly flowing headwaters of the Lois River which empties into Khartoum Lake.

The claims envelop previously staked claims held by Fury Explorations and Mr. R. Schmidt.

Exploration activity in the region commenced during the 1920's and has been carried out intermittently ever since. The most notable recent effort was made by Anaconda Canada Exploration Ltd. during 1983 and 1984 on the Fury-Schmidt Claims.

The Diadem claims cover part of a belt of Jurassic volcanic and sedimentary rocks which locally contain precious and base metal values in quantity and widths sufficient to indicate mining potential.

Additional exploration is recommended on the claims now held by Covenant Resources for a cost of approximately \$34,100. This work would cover the mineralized extension of the favourable northwest, southeast trending Argillite unit (No. 3 on Figure 4). This unit contains the sulphide occurrences drilled on the adjoining Fury claims.

## INTRODUCTION

The author visited the claims on September 5, 1989 at the request of Covenant Resources. Later, on September 20th and 21st samples were collected. The property was virtually free of snow and numerous gossanous outcrops provide locations for additional work.

Much pertinent data were provided by an Assessment Report by J.T. Shearer, M.Sc., F.G.A.C., dated November 30, 1988. The field work discussed occurred between October 20, 1987 and February 19, 1988.

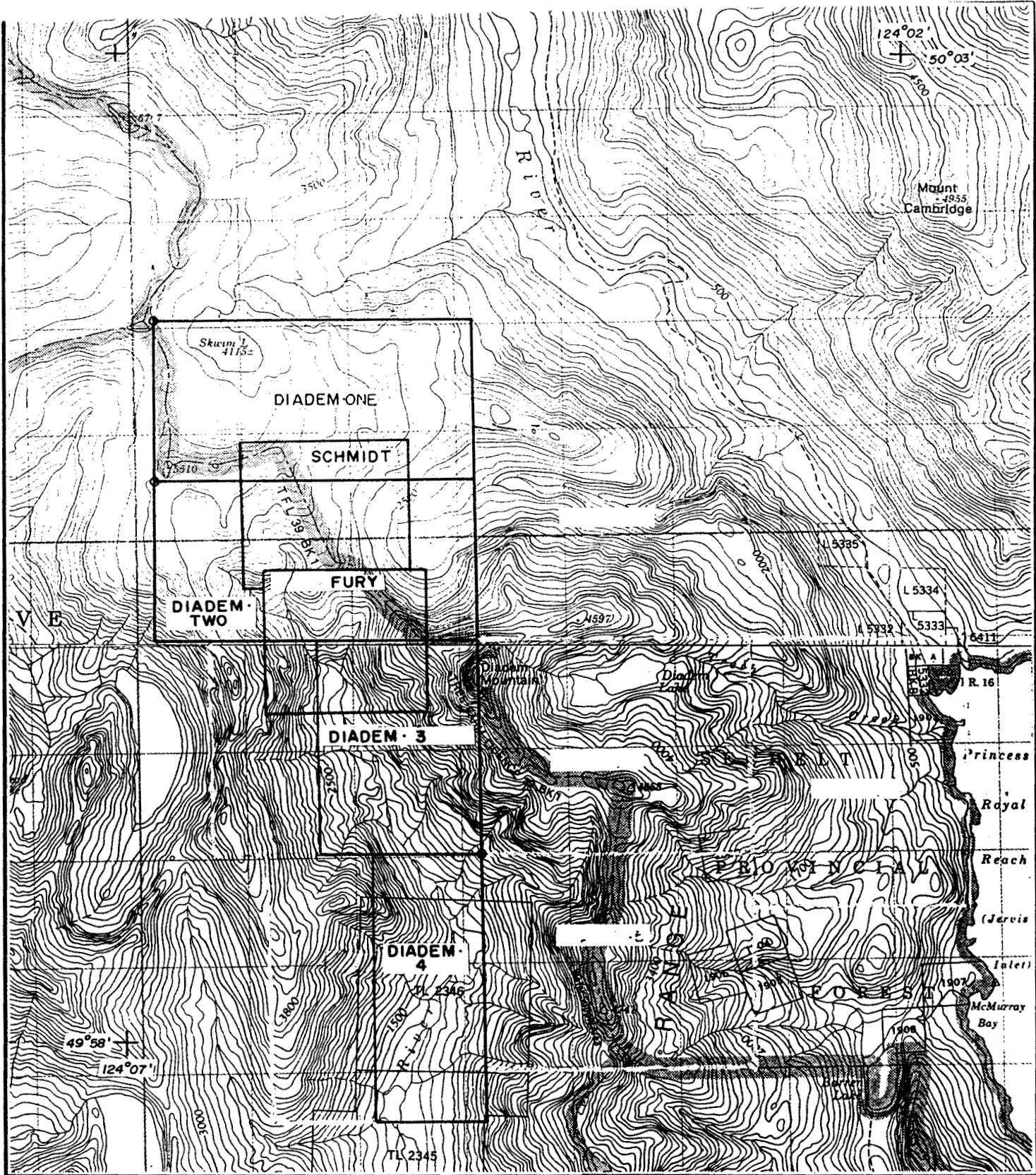
## PROPERTY

The contiguous Diadem claims are wholly owned by Covenant Resources Ltd. through Bill of Sale recorded on September 1, 1988 as listed below.

**TABLE 1**  
**List of Claims**

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Size</u>	<u>Date Recorded</u>	<u>Anniversary Date</u>
Diadem One	2191	18	2N6E	1 Oct 1987	1 Oct 1990
Diadem Two	2192	18	2S6E	1 Oct 1987	1 Oct 1990
Diadem 3	2196	12	4N3W	20 Oct 1987	29 Oct 1990
Diadem 4	2197	<u>10</u>	5S2W	29 Oct 1987	29 Oct 1990
	Total	<u>58</u>			

Parts of Diadem One, Two and Three overlap pre-existing claims owned by Fury Exploration and R. Schmidt. In other respects the claims are contiguous. Coverage as held by Covenant Resources is approximately 1,100 hectares exclusive of approximately 200 hectares (8 units) on each of the Fury and Schmidt claims.



Legal Corner Post



*W.H. Thorpe*



0 0.5 1 2 3 kilometres

COVENANT RESOURCES LTD.

DIADEM GROUP  
Diadem One, Two, 3 & 4

CLAIM MAP



NEW GLOBAL RESOURCES LTD.

By: \_\_\_\_\_  
Date: Sept. 1989  
Scale: 1 : 50,000

N.T.S. 92-F/16 K/1

Figure: 2

Work and cash have been used to extend the Anniversary Dates to October 1990.

In order to drop ground with unfavourable geology Diadem 3, Record number 2196 and Diadem 4, Record Number 2197 have been reduced under Section 21 of the Mineral Tenure Act to 12 and 10 units respectively. These changes do not affect the recommendations in this report.

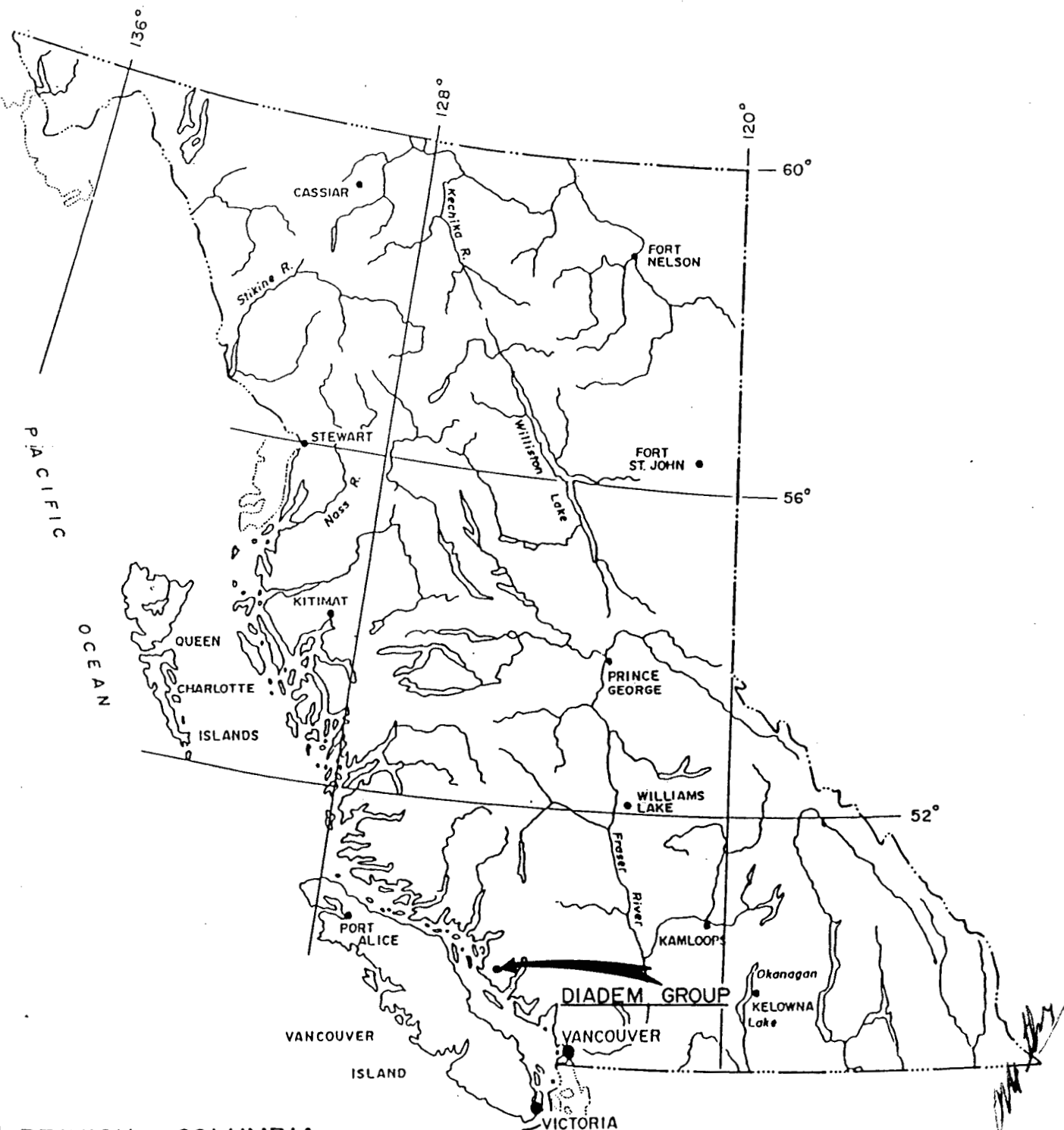
### LOCATION AND ACCESS

The Diadem claims are located approximately 35 kilometres east-northeast of Powell River, B.C., just west of Jervis Inlet, at latitude  $49^{\circ} 59'$  N and longitude  $124^{\circ} 06'$  W. The terrain is extremely rugged and precipitous with elevations up to 1,700 metres. Exploration is mainly restricted to densely vegetated and talus covered portions of Lois and No Man's Creek valleys and to open alpine meadows above 1,200 metres. Snow cover at the highest elevations does not usually permit exploration until mid-July.

The lower, southern portion of the property is serviced by logging roads on each side of the Lois River valley, the eastern one going the furthest north. Helicopter support is needed for access to the northern part of the claims. Part of the property has been cut for timber and should not present problems too great for mineral production. Local magnetic declination is approximately  $N25^{\circ}E$ .

### HISTORY OF AREA (Including Fury - Schmidt Claims)


1928            Massive sulphides discovered near the headwaters of No Man's Creek, north of Diadem Mountain. Britain River Mining Co. Ltd. and Mount Diadem Mines Ltd. staked claims north and west of Mt. Diadem. Later, trenching and adit work exposed mineralization consisting of pyrite, chalcopyrite, sphalerite and galena up to 19 feet in width, but usually less than 5 feet with considerable variations in the type of sulphides along short strike lengths.



**BRITISH COLUMBIA**

Scale 1:7,500,000 approx.



COVENANT RESOURCES LTD.		
DIADEM GROUP Diadem One, Two, 3 & 4		
LOCATION MAP		
 NEW GLOBAL RESOURCES LTD.	By	N.T.S. 92F/16, K/1
	Date	Sept. 1989.
	Scale	see above
		Figure 1

Sampling of the upper quartz vein on No Man's Creek is recorded as yielding 1.07 ounces gold per ton over an average width of 3.4" uncut. (Report of the Minister of Mines, 1950)

- 1947 Claims restaked by International Nickel Company and optioned to Bralorne Mines Ltd. in 1949.
- 1967 Geological mapping and limited diamond drilling by Sphere Development Corp.
- 1970 Tiger Silver Mines Ltd. performed magnetometer and geochemical soil surveys. No relation between magnetics and known mineralization. (Bullis, 1970)
- 1971 Britain River Syndicate conducted geological, electromagnetic, magnetic and soil geochemical surveys. New anomalous areas were found.
- 1980 Fury Explorations Ltd. and R. Schmidt acquired claims later optioned by Anaconda. Nine holes were drilled in 1983, 899 metres. Silver assays were interesting. The best intersection obtained by drilling was 4 metres averaging 10.5 oz/tonne Ag, 2.1% Cu, 7.9% Pb and 2.5% Zn. Metal ratios apparently support a volcanogenic origin as similar ratios occur in deposits, such as Britannia and Westmin's Buttle Lake deposits.
- 1987 After a study of the local history and geology, Covenant Resources obtained claims surrounding the much reduced Anaconda holdings; that is, the ground now held by Fury Exploration Ltd. and R. Schmidt. Later, in 1987 and 1988, limited prospecting, geological mapping and geochemical sampling were carried out by Covenant.

It is obvious from the work to date that an orebody has not been found. However, sulphide occurrences are fairly frequent along the favourable Jurassic volcanic-sedimentary belt. Many of these have not been adequately prospected, blasted, sampled and mapped. With such basic work one would hope to establish a better understanding of the geological and structural controls. Geophysical methods have been tried but are difficult to interpret. Graphite is present in the mineralized areas and the higher magnetics are not necessarily related to sulphides.

### REGIONAL GEOLOGY (Figure 3)

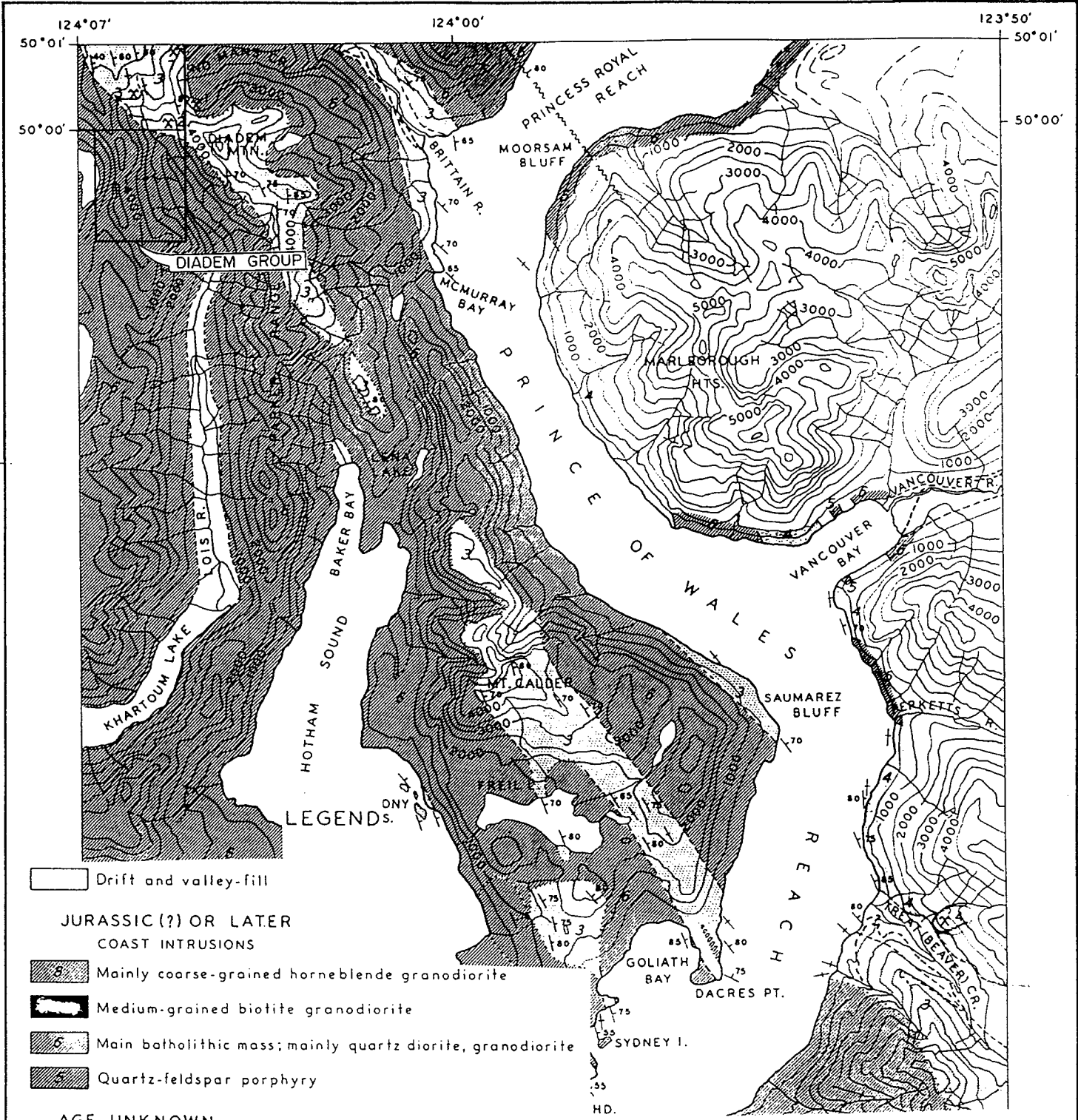
The property lies within the Coast Plutonic Complex along its western boundary with the insular belt. The Coast Complex consists mainly of quartz diorites, granodiorites, gneisses and migmatites enclosing numerous elongated NW trending belts of volcanics and sediments.

The age of the intrusives in the southern part of the Coast Mountains ranges from 75 to 158 my (Price et. al., 1981) whereas pendant rocks are generally referred to as Jurassic.

The Skwim Lake pendant, lying within the Coast Plutonic Complex, is dominated by weakly metamorphosed clastic sediments and tuffs with lesser amounts of volcanic flows and/or intrusives occupying the eastern (basal?) portion of the section (see Bacon (1957), Figure 3.

The pendant rocks are believed to be in part at least, Lower Jurassic in age, based on the presence of ammonites identified as *Arnioceras Kwakiutiarus* by H.W. Tipper of the G.S.C. Faunal evidence suggests the Skwim Pendant stratigraphy to be time equivalent to the Bonanza Group of Vancouver Island (Ricchio, et.al., 1983).

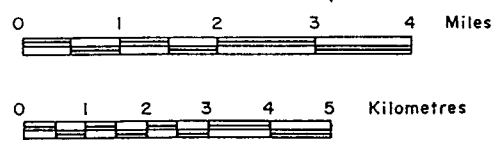
All rock units are near vertical and strike in a north to northwest direction. Structural deformation has been intense with the early development of tight steeply to moderately ( $60^{\circ}$  -  $20^{\circ}$ ) north-plunging folds. Locally developed isoclinal



- Drift and valley-fill
- JURASSIC (?) OR LATER COAST INTRUSIONS**
- 8. Mainly coarse-grained hornblende granodiorite
- 7. Medium-grained biotite granodiorite
- 6. Main batholithic mass; mainly quartz diorite, granodiorite
- 5. Quartz-feldspar porphyry

- AGE UNKNOWN**
- JARVIS GROUP**
- 4. Basalt, andesite and associated pyroclastic rocks; minor limestone, dolomitic limestone, chert, argillite
- 3. Mainly conglomerate, greywacke, sandstone, argillite; green stone
- 2. Metavolcanic rocks; metasedimentary rocks; metadiabase
- 1. Gneiss

From: B.C. Department of Mines Bulletin 39  
 "Geology of Lower Jarvis Inlet" by W.R. Bacon.



<b>COVENANT RESOURCES LTD.</b>	
<b>DIADEM</b>	
<b>REGIONAL GEOLOGY</b>	
	Scale 1:125,000 Date Sept. '89 By JTS / ACF
<b>Figure 3</b>	

folds may indicate an earlier period of folding. Late open style folds disrupt earlier phase folds and cleavages. Two shear directions predominate. One is sub-parallel to regional banding and is generally parallel to the penetrative foliation while a second set of shearing strikes 060° to 100° and is steeply dipping. Both appear to locally control zones of massive sulphide mineralization in the vicinities of the Upper and Lower Adits on the Fury claims (Ricchio et.al., 1983).

The degree of structural deformation and the lack of continuous marker horizons has led to difficulties in correlating and/or distinguishing between units of similar lithologies. Apparent rapid facies changes along strike also add to the complexity.

#### LOCAL GEOLOGY (Figure 4)

The following rock units were recognized by the Anaconda crew (Ricchio et.al., 1983) and shown on Figure 4:

##### Tuffaceous Sediments, Volcanic Flows and Intrusives (Unit 1)

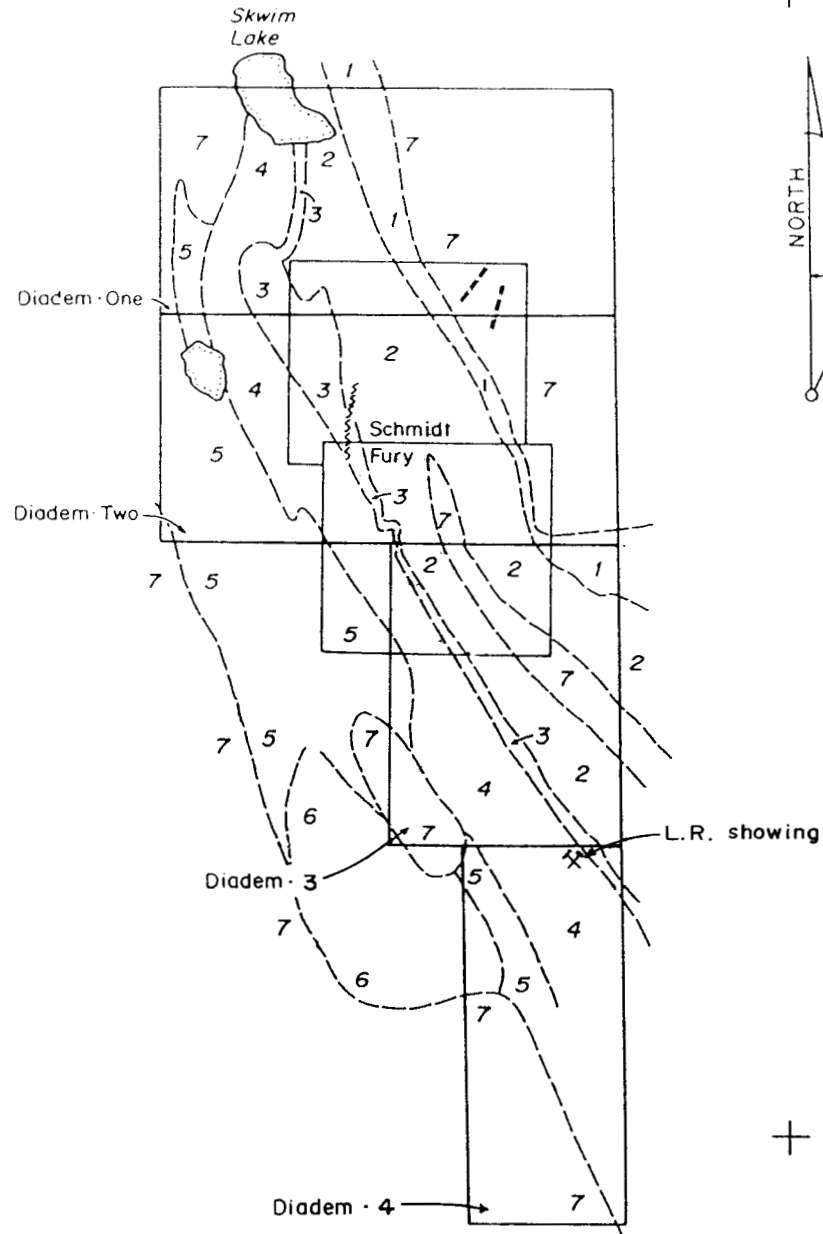
The most easterly contact of the pendant is defined by a series of tuffaceous sandstones and siltstones and minor argillite (Unit 1). Andesitic flows, lapilli tuff and chlorite schist plus massive diorite-andesite flows and/or intrusives are also noted within this sequence.

##### Intermediate Volcanic Tuffs, Flows and/or Intrusives (Unit 2)

Grey-green weathering chloritic-rich tuff and tuffaceous sandstone-siltstone, coarse lapilli tuff and chlorite-feldspar gneiss dominate the eastern portion of the property. The chlorite-rich lapilli tuffs and felsic fragments (1 mm - 2 cm) and rounded scoriaceous lapilli with chlorite-rich rims, stretched out parallel to a pervasive mineral foliation defined by chlorite and chlorite-feldspar aggregates. The coarse lapilli units grade in a banded, fine grained tuffaceous siltstone-sandstone sequence indicating a fining to the west.

124°08'  
50°02' +

124°04'  
+

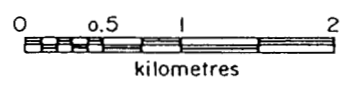


49°58' +

LEGEND

- Fault
- Geological contact
- Quartz vein

- 7 Coast plutonic
- 6 Andesitic breccia
- 5 Sil. argillite, tuff. siltstone, chert, lapilli tuff
- 4 Well-banded sediments and tuffs
- 3 Argillite
- 2 Volcanic tuffs, flows, intrusives
- 1 Tuffaceous sediments, volcanic flows, intrusives



<b>COVENANT RESOURCES LTD.</b>		
<b>DIADEM GROUP</b> Diadem One, Two, 3 & 4		
<b>GEOLOGY</b> (after Riccio, 1983)		
	By:	N.T.S. 92-F/16, K/1
	Date:	Sept. 1989
	Scale:	1 : 50,000
		<b>4</b>

To the east of unit 2, massive diorite-andesite flows and intrusives form prominent cliff exposures and locally have well developed volcanic features such as flow top breccias and vesicles, possibly indicating tops to the west.

In the southern portion of the property, felsic flows (rhyolite to dacite) and breccias crop out but are poorly exposed.

### Argillite (Unit 3)

Rusty to black weathering, thin bedded to finely laminated argillite defines one of the key marker horizons on the property. It is locally graphitic and contains some carbonate and lapilli tuff interbeds. Shearing is abundant within this sequence and is characterized by graphite-coated slickensides. Andesite-basalt vesicular flows and diorite-andesite flows and/or sills are also present. Ammonites of possible Lower Jurassic age occur within this succession.

This unit contains the sulphide occurrences which were diamond drilled by Anaconda in 1984 (see Figure 4).

### Well Banded Sediments and Tuffs (Unit 4)

This unit is notable for a steeply-dipping package of grey-green weathering very well banded ( 1-5 cm) and interbedded argillite, siltstone, sandstone and black chert. Lesser amounts of lapilli tuff and carbonate interbeds, vesicular andesitic-basaltic flows and/or sills are also present. Where observed, graded bedding indicates a top to the east. It is not known if the beds are overturned.

Unit 4 successions grade into those of units 3 and 5.

### Siliceous Argillite, Tuffaceous Siltstone, Chert and Lapilli Tuff (Unit 5)

This moderately bedded ( 1-10 cm) sequence consists of siliceous argillite, tuffaceous siltstone-sandstone, black chert and minor lapilli tuff. Weathering gives

it a tan to grey appearance and locally it has a well-banded appearance. Some sections of siliceous mudstone-tuff have a more massive appearance, but may contain wispy laminations defined by thin discontinuous pyrrhotite and/or pyrite bands. Interbedded flows are represented by well-foliated chlorite schists and less deformed diorite-andesite with fine grained vesicular tops and flow banded bases. More massive diorite bodies may represent sills and/or dykes which locally cross-cut stratigraphy.

#### Andesitic Breccia (Unit 6)

This unit is characterized by light green to white felsic fragments up to 1-2 cm within a dark green andesitic groundmass. The fragments are locally surrounded by chlorite-rich rims. Fragments of argillite and/or mudstone have also been noted. This unit crops out in the southwest part of the property. Poorly exposed outcrops of massive, medium-grained diorite within this package appears to conform to the regional trend and may represent flows and/or sill-like bodies.

#### Coast Plutonic (Unit 7)

Although the Coast Range Intrusives have been mapped as one single unit, distinctive rock types have been recognized. These include a feldspar-rich diorite, quartz diorite and granite as determined by field observation. Textures range from fine grained and porphyritic near the pendant to massive, coarse grained bodies farther off. A detailed study of the Coast Plutonics is presented by Bacon (1957).

#### **MINERALIZATION FURY CLAIMS**

The most extensive recent exploration was carried out by Anaconda in 1983 and 1984 as follows:

Both the upper and lower adits were sampled; the upper one giving 0.82% copper, 0.72% lead, 15.52% zinc, 156.9 g/t Ag and 1.53 g/t Au across 3.0 metres. The

lower adit returned 0.21% copper, 0.39% lead, 9.46% zinc, 86.1 g/t Ag and 1.37 g/t Au across 2.5 metres.

Twenty-six kilometres of grid lines were chained and flagged, but not cut on the Fury and Schmidt ground (see Figure 5). Total field magnetometer surveys were performed over 22 kilometres. Geological mapping, prospecting and the collection of 346 rock samples, 165 drainage samples and 110 soil samples were completed.

In 1984, Anaconda drilled nine holes totalling 899 metres southeasterly from the upper adit for a distance of 200 metres. As a result of this work, three sulphide zones were intersected but grades and widths were erratically distributed (Figure 7).

#### Central Zone

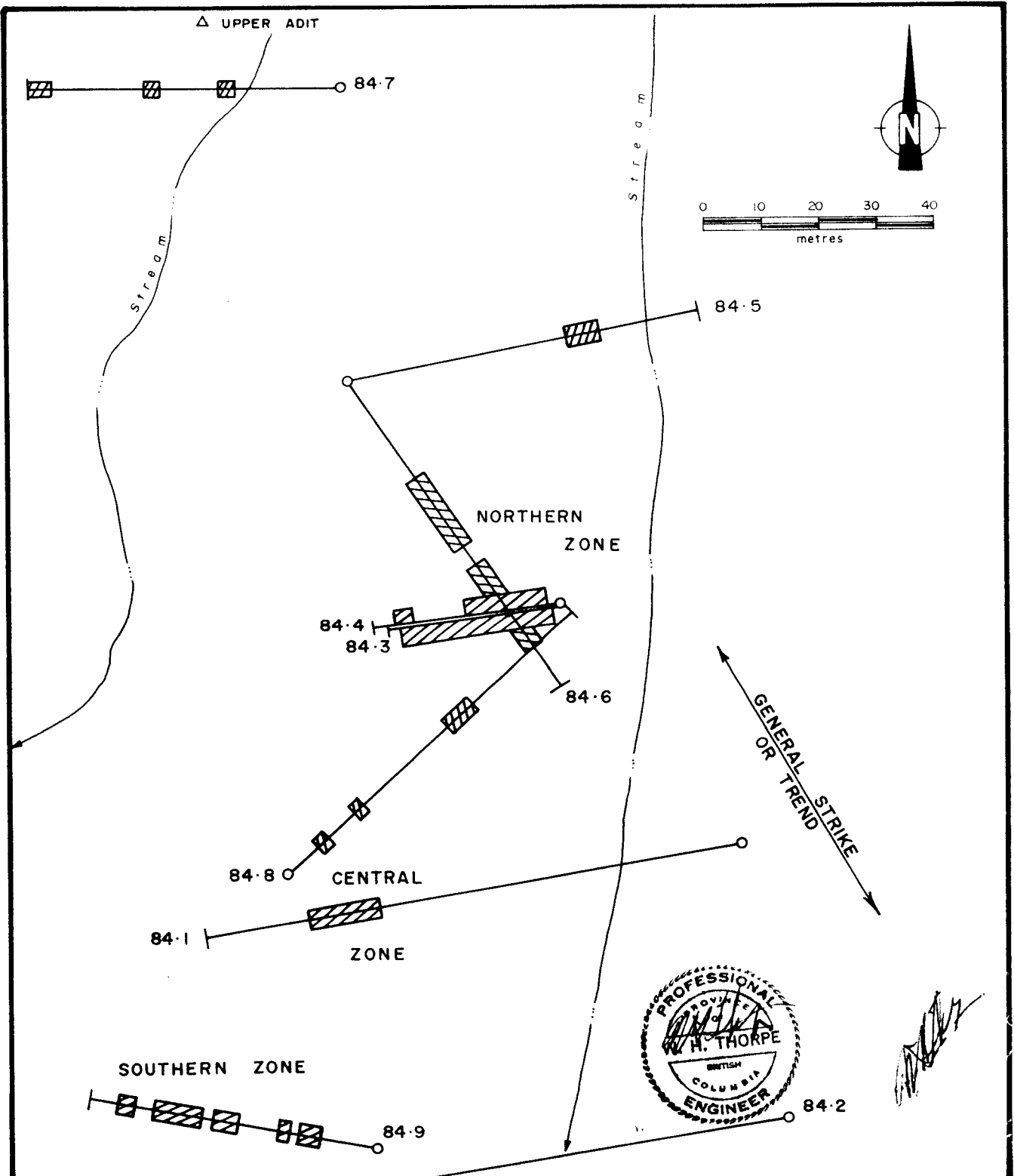
The best drilling results were from the Central zone as follows:

#### **DDH 84-3**

<u>Width Metres</u>	<u>Cu %</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Ag opt</u>
4.0 m	2.14	7.92	2.45	11.56
or 12.0 m	0.79	2.74	1.61	4.34

Diamond drill hole 84-4 which was drilled 20 metres down-dip of the previous hole intersected only low grade mineralization.

Diamond drill holes 84-8 and 1 tested the zone 25 metres and 50 metres to the south respectively. DDH 84-1 was drilled almost down-dip of the structure and consequently intersected widely-spaced intersections. DDH 84-1 obtained the following intersection:



**LEGEND**

- | Diamond Drill Hole
- | Sulphide Zone >1000ppm Base metals

**NOTE:** Host rock is argillite with minor andesite, andesitic tuff, chert, diorite. Chlorite, epidote, graphite common.

<b>COVENANT RESOURCES LTD.</b>		
FURY CLAIMS		
<b>ANACONDA DIAMOND DRILL HOLES</b> (after Riccio, Kikauka, 1984)		
	By:	NTS 92F/16, K1
	Date: Nov. 1989	Figure:
	Scale: 1 : 1000	<b>7</b>

<u>Width Metres</u>	<u>Cu %</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Ag opt</u>
10.9 m	0.60	0.39	0.84	0.75

DDH 84-9 may have intersected the Central Structure 100 metres south of intersections in 84-3 and 4. The best intersection in 84-9 gave 1.6% Cu and 0.64 opt Ag over 0.8 metres.

DDH 84-5 intersected the Central Zone 25 metres north of the high grade in 84-3. The intersection was narrow and uneconomic.

DDH 84-6 obtained uneconomic intersections.

The South Zone contains low grade intersections (84-9) and the low grade intersections in the most northerly hole (84-7) may represent a new zone.

### Conclusions Fury Claims

Although no ore bodies were indicated, the drilling showed that the mineralization may extend for long lateral distances and to depth. All the intersections occurred within the argillite unit. Structural/deformation is intense. Magnetics indicate that the Coast Crystalline Complex contact is close to the mineralized horizon. Unfortunately, the controls for the sulphide lenses have not been determined.

### **MINERALIZATION SCHMIDT CLAIMS**

Riccio has shown (Figure 4) that the Argillite host rock containing sulphide mineralization continues to the northwest across the Schmidt claims and on to the Covenant Diadem One holding.

Quartz veins along and north of No Man's Creek are reported to be auriferous (B.C. Minister of Mines Report, 1950, p. A-177) but due to the rugged topography these

have not been thoroughly prospected and sampled. The locations and attitudes have not been confirmed by the author and have not, as yet, been traced on to the Covenant ground to the north.

### MINERALIZATION COVENANT RESOURCES PROPERTY

Approximately 250 metres southwest of the Legal Post of Diadem 3 and 4 claims is the L.R. Showing (Figures 4, 5 and 6) which is a gossanous showing of sulphides in Argillite. The exposed sulphides consist mainly of 5% to 10% pyrite with traces of pyrrhotite and sphalerite. The prevailing schistosity seems to conform to the bedding and dips approximately 75° easterly. Cross fracturing is common in places.

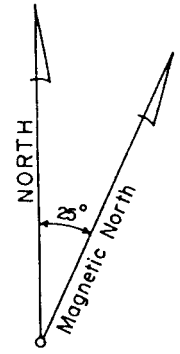
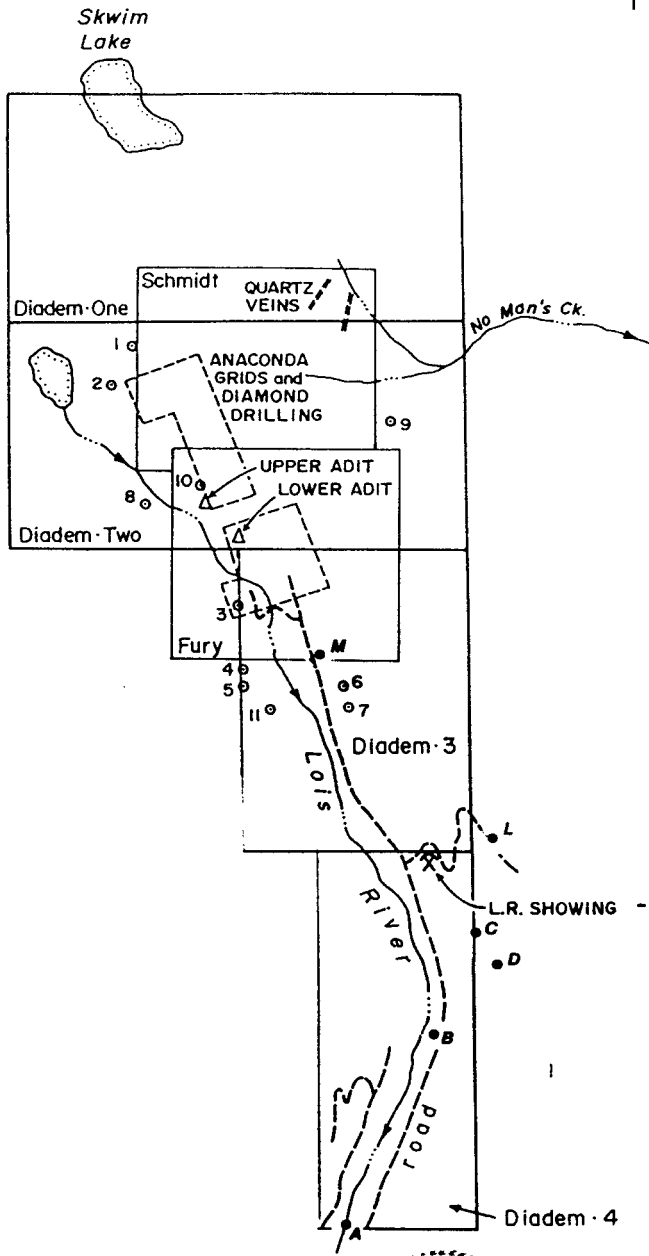
A 2.0 metre sample taken here by Anaconda (Riccio, 1983, p. 13) averaged 2590 ppm (parts per million) copper, 12 ppm lead, greater than 10,000 ppm zinc and 2.2 ppm silver. The author took seven chip samples (Figure 6) across the mineralization on September 21, 1989 but the base metal values obtained were low, the highest value being in sample "J" with 289 ppm zinc. However, the hanging wall and foot wall of the mineralized zone are not presently exposed.

A summary of the samples taken by the author on the 20th and 21st September with regard to the Covenant Diadem 3 and 4 claims follows with geochemical results reported by Bondar-Clegg (For location see Figure 5):

<u>Sample</u>	<u>Tag No.</u>	<u>Remarks</u>
A	74 165 H	Argillite float in Lois River
B	74 166 H	Cherty quartz float, 5% pyrite
C	74 167 H	Large outcrop, argillite, 5% pyrite
D	74 168 H	Large outcrop, argillite, 150 feet south of previous sample
E	74 169 H	L.R. Showing. Chip sample 0-5' west to east, poor mineralization

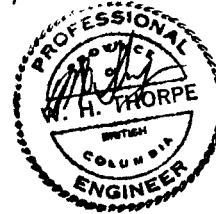
124°08'  
50°02' +

124°04'  
+



49°57' +

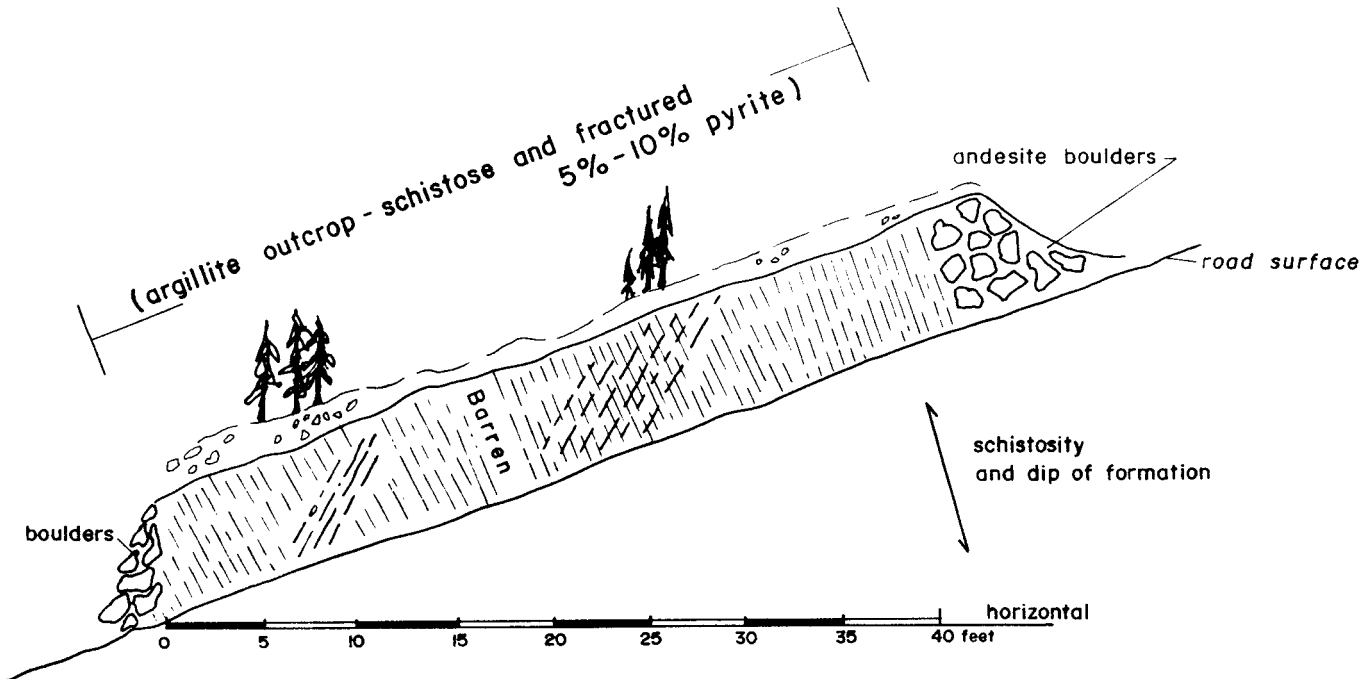
- 4 Sample Location and I.D. (Freeze, 1988)
- D " " " " (Thorpe, 1989)



*[Handwritten signature]*



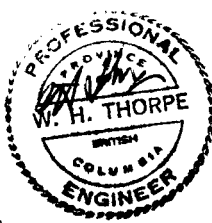
<b>COVENANT RESOURCES LTD.</b>		
<b>DIADEM GROUP</b> Diadem · One , Two , 3 & 4		
<b>SAMPLE LOCATIONS</b>		
	By:	NTS. 92-F/16, K/1
	Date: Sept. 1989	Figure:
	Scale: 1 : 50,000	<b>5</b>



E F G H I J K

74169 H 74170 H 74171 H NOT SAMPLED 74172 H 74173 H 74174 H 74175 H

*[Handwritten signature]*



COVENANT RESOURCES LTD.	
DIADEM GROUP L. R. Showing	
VERTICAL SECTION (LOOKING NORTH)	
By: NEW GLOBAL RESOURCES LTD.	NTS 92F/16, K1
Date: Nov. 1989	Figure: 6
Scale: 1" : 10'	

<u>Sample</u>	<u>Tag No.</u>	<u>Remarks</u>
F	74170 H	L.R. Showing chip sample 5'-10' 10% pyrite
G	74171 H	L.R. Showing chip sample 10'-15'
H	74172 H	L.R. Showing chip sample 20'-25'
I	74173 H	L.R. Showing chip sample 25'-30'
J	74174 H	L.R. Showing chip sample 30'-35'
K	74175 H	L.R. Showing chip sample 35'-40'
L	74176 H	Float sample cherty quartz, 10% pyrite
M	74177 H	Road cut at Fury - Diadem - 3 boundary. Gossanous andesite, 10%-20% pyrite, pyrrhotite. Outcrop grab sample.
N	74178 H	Composite sample from L.R. showing

Geochemical results were as follows:

<u>Sample</u>	<u>Tab Number</u>	<u>Au PPB</u>	<u>Ag PPM</u>	<u>Cu PPM</u>	<u>Pb PPM</u>	<u>Zn PPM</u>
A	74165 H	5	0.1	44	7	25
B	74166 H	5	1.8	118	172	649
C	74167 H	5	0.1	53	7	228
D	74168 H	5	0.1	28	7	85
E	74169 H	5	0.1	29	11	171
F	74170 H	5	0.1	30	8	134
G	74171 H	5	0.1	25	10	83
H	74172 H	5	0.2	22	13	80
I	74173 H	5	0.3	57	15	85
J	74174 H	5	0.4	29	19	289
K	74175 H	5	0.3	23	20	101
L	74176 H	5	0.3	83	21	158
M	74177 H	5	0.3	46	7	58
N	74178 H	7	0.3	18	23	79

## COVENANT RESOURCES FIELD WORK

In 1987 and 1988, personnel employed by Covenant Resources prospected the claims and collected the following samples (locations 1 to 11 on Figure 5):

### SAMPLES COLLECTED BY A.C. FREEZE DURING OCTOBER 1988

#### Sample

- |      |        |   |
|------|--------|---|
| (1)  | 31033F | - grab qtz vein striking NW                     |
|      |        | - erratic thickness generally greater than 2 mm |
|      |        | - NNW strike                                    |
|      |        | - some leached sulfides                         |
| (2)  | 31034F | - grab rusty qtz vein                           |
|      |        | - NE strike, 1 foot wide                        |
| (3)  | 31035F | - float   |
|      |        | - Cu Zn in metavolcanic                         |
| (4)  | 31036F | - float   |
|      |        | - Cu in metavolcanic                            |
| (5)  | 31037F | - float   |
|      |        | - Cu Zn in metavolcanic                         |
| (6)  | 31038F | - float   |
|      |        | - Cu Zn pyrite in epidotized qtz vein float     |
| (7)  | 31039F | - float   |
|      |        | - barren qtz sample                             |
| (8)  | 31040F | - float   |
|      |        | - qtz, graphite zinc sample                     |
| (9)  | 31041F | - float   |
|      |        | - arsenopyrite in metasediment                  |
| (10) | 31042F | - outcrop                                       |
|      |        | - upper portal near old drill camp              |
|      |        | - Cu Zn pyrite mineralization                   |
| (11) | 31043F | - float   |
|      |        | - pyrrhotite, arsenopyrite in metasediment      |

Laboratory results gave the following geochemical results:

<u>Sample No.</u>	<u>Tag No.</u>	<u>Cu ppm</u>	<u>Pb ppm</u>	<u>Zn ppm</u>	<u>Au ppb</u>	<u>Ag ppm</u>
1	31033F	82	2	4	5	0.2
2	31034F	28	2	28	5	0.2
3	31035F	10,000	86	843	15	39.2
4	31036F	2,000	96	186	5	6.0
5	31037F	4,280	2	2,190	10	6.8
6	31038F	2,380	636	> 10,000	10	5.4
7	31039F	77	2	111	5	0.2
8	31040F	25	6	2,120	5	0.2
9	31041E	160	72	2,850	1,320	0.8
10*						
11	31042F	398	5	408	60	2.0

**Note:** 1000 ppm = 0.1% = 2 lbs. per short ton

\* Sample 10, tag 31042E was treated separately to the foregoing since it came from outcrop close to the upper adit and needed for comparison results. Laboratory findings gave 1.15% Cu, 0.24% Pb, 22.2% Zn and, by fire assay 7.28 ounces per ton silver and 0.024 ounces gold per ton.

## SUMMARY AND CONCLUSIONS

A period of two days, September 20th and 21st, 1989, was spent in field examination and prospecting. Fourteen rock samples were collected from float and outcrops and taken to Bondar-Clegg for geochemical analyses with regard to gold, silver, copper, lead and zinc.

Gossanous float and rock outcrops are present in several places on the property with pyrite content up to 20% and traces of pyrrhotite, chalcopyrite, galena and sphalerite.

Samples "B" and "L", (for location see Figure 5), both cherty quartz (rhyolite) float containing 5% to 10% pyrite respectively were particularly anomalous in base metal values. This rock was not seen in place and may lie considerably above the hanging wall, that is to the east of the Argillite band as the "L" sample was taken much above the elevation of the L.R. Showing.

Float samples 3 to 6, 8 and 9 appear to confirm the possibility of bedrock sulphide mineralization both latterly and along strike to the south of the former Anaconda work.

The L.R. Showing (for location see Figure 5), is a mineralized area where additional prospecting is required both across and along the strike of the formation. At present the hanging wall and foot wall of the mineralization is not exposed. Sample "C", taken from bedrock about 500 metres southeast of the L.R. Showing near the eastern claim boundary gave 228 ppm zinc. The L.R. Showing contains base metal values within the Argillite unit which is at least 40 feet wide at this point and additional work is justified to evaluate this showing.

On the road at the south boundary of the Fury claims gossanous andesite outcrops which contains from 10% to 20% pyrite and pyrrhotite (Sample "M" - for location see Figure 5). Between the L.R. Showing and this boundary, a distance of approximately 1,500 metres, would be an excellent area for exploration. Results of the diamond drilling on the Fury ground illustrate the importance of prospecting across the strike of the favourable formation (Figure 7) as well as along strike.

Helicopter assistance is required to prospect the Argillite sequence on the Diadem One and Diadem Two holdings of Covenant. At this time prospecting should also be carried out for the possible continuation of quartz veining from the Schmidt claims on to the Diadem One Covenant ground.

More prospecting is required, particularly on that area between the L.R. Showing and the gossanous area along the main road to the north to within 100 metres of the bridge spanning to Lois River.

#### RECOMMENDATIONS

- 1) I recommend that an attempt be made to option the Fury and Schmidt properties but only on very favourable terms.
- 2) A sound prospecting effort should be undertaken by three personnel consisting of one field geologist and two good prospectors capable of plugger drilling and blasting. A period of 21 days should be adequate to determine if a major exploration venture is warranted.

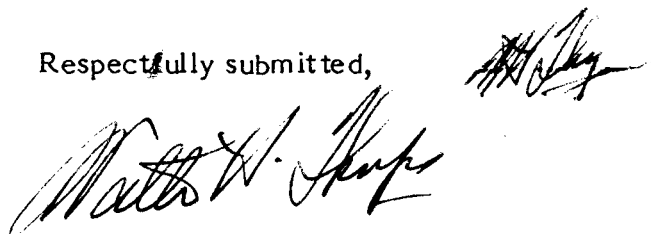
- 3) The program should commence with prospecting alone in order that targets may be set up in order of priority. During the later stages, some work with a bulldozer will almost certainly be required and in some cases may have to precede the blasting.
- 4) Detailed mapping is required to establish the structural and/or stratigraphic controls of the mineralization.
- 5) The work must be carried out while a minimum amount of snow is present, probably during July and/or August.

**PROPOSED COST ESTIMATE FOR 1990**

Salaries, 21 days, geologists and 2 prospectors (\$800 x 21)	\$ 16,800
Helicopter (in difficult topography), 8 hrs at \$500	4,000
Food	2,000
Dynamite	300
Bulldozing	5,000
Lodging	400
Fuel	400
Blasting equipment rental	300
Plugger rental	400
Assays	500
Transportation	500
Prints, maps, reports, drafting	1,000
Field supplies	<u>500</u>
	32,100
Optioning Fury and/or Schmidt claims	<u>2,000</u>
<b>GRAND TOTAL</b>	<b><u><u>\$ 34,100</u></u></b>

Respectfully submitted,



  
Walter H. Thorpe, F.G.A.C.

## REFERENCES

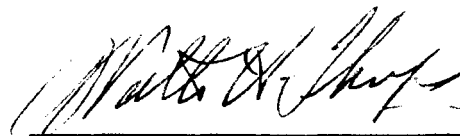
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- Shearer, J.T., Prospecting, Geological and Geochemical Assessment Report on the Diadem One, Two, 3 and 4 Mineral Claims for Covenant Resources Ltd., 30 Nov., 1988.

CERTIFICATE

I, WALTER H. THORPE, of White Rock, British Columbia, do hereby certify that:

1. I am a consulting geologist residing at 14234 Magdalen Avenue, White Rock, British Columbia.
2. I am a graduate of the University of New Brunswick (B.Sc., 1951) and have been engaged continuously in the practice of geology as related to economic deposits ever since.
3. I am a Fellow of the Geological Society of Canada and a member of the Association of Professional Engineers of the Province of Ontario. I am a member of the Association of Professional Engineers of British Columbia.
4. This report is based on personal observations and visits to the property on September 5th, 20th and 21st in addition to the references mentioned.

Dated at White Rock, British Columbia, this 6th day of November, 1989.

  
\_\_\_\_\_  
Walter H. Thorpe, F.G.A.C.





APPENDIX I

COST ESTIMATE

COVENANT RESOURCES LTD.

DIADEM CLAIMS

1989

STATEMENT OF COSTS

Professional Geological Services

W.H. Thorpe, P.Eng (4 days @ \$300)	1,200.00
M. McClaren, B.Sc (1 day @ \$300)	<u>300.00</u>

Subtotal: \$1,500.00

Travel, Accomodation, Meals

Truck Rental (4 days @ \$45/day)	180.00
Gas	38.43
Ferry	106.00
Food and Meals	48.15
Hotel	<u>185.36</u>

Subtotal: \$557.94

Analytical

Rock Samples	248.50
Supplies	12.72
Drafting (3 Hrs. @ \$22.50/Hr.)	67.50
Report Preparation	300.00
Word Processing and Reproduction	<u>125.00</u>

Subtotal: \$753.72

TOTAL: \$2,811.66  
=====

APPENDIX II

SAMPLES COLLECTED BY  
W.H. THORPE  
September, 1989

COVENANT RESOURCES LTD.

DIADEM CLAIMS

SAMPLES COLLECTED BY  
W.H. THORPE  
DURING SEPTEMBER, 1989

<u>*Sample</u>	<u>Tag No.</u>	<u>Remarks</u>
A	74165 H	Argillite float in Lois River
B	74166 H	Cherty quartz float, 5% pyrite
C	74167 H	Large outcrop, argillite, 5% pyrite
D	74168 H	Large outcrop, argillite, 150 feet south of previous sample
E	74169 H	L.R. Showing Chip sample 0 - 5' west to east, poor mineralization
F	74170 H	L.R. Showing Chip sample 5' - 10' 10% pyrite
G	74171 H	L.R. Showing Chip sample 10' - 15'
H	74172 H	L.R. Showing Chip sample 20' - 25'
I	74173 H	L.R. Showing Chip sample 25' - 30'
J	74174 H	L.R. Showing Chip sample 30' - 35'
K	74175 H	L.R. Showing Chip sample 35' - 40'
L	74176 H	Cherty quartz float, 10% pyrite
M	74177 H	Andesite outcrop, 10% - 20% pyrite, pyrrhotite, Epidote alteration
N	71478 H	Composite sample from L.R. Showing

\* For location see Figures 5 and 6

**APPENDIX III**

**LABORATORY ASSAY RESULTS**

Bondar-Clegg & Company Ltd.  
 140 Pemberton Ave.  
 North Vancouver, B.C.  
 V7P 2K5  
 (604) 981-7881 (604) 981-2667



Geochemical  
 Lab Report

DIVISION OF SOILS AND WATER QUALITY

REPORT: 989-06779.0 - COMPLETE

REFERENCE INF

CLIENT: MR. WALTER H. THORPE  
 PROJECT: NONE GIVEN

SUBMITTED BY: W.H. THORPE  
 DATE PRINTED: 2-OCT-87

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold - Fire Assay	14	5 PPS	FIRE-ASSAY	Fire Assay As
2	Ag Silver	14	0.1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
3	Cu Copper	14	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
4	Pb Lead	14	2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
5	Zn Zinc	14	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	14	2 -150	14	CRUSH,PULVERIZE -150	14

REPORT COPIES TO: MR. WALTER H. THORPE

INVOICE TO: MR. WALTER H. THORPE

Bondar-Clegg & Company Ltd.  
130 Pemberton Ave  
North Vancouver, B.C.  
V7P 2R5  
(604) 985-0681 Telex 01-352667



# Geochemical Lab Report

DIVISION OF INDUSTRIAL INSPECTION & TESTING SERVICES

REPORT: 89-06779.0

DATE PRINTED: 2-20-89

PROJECT: NONE GIVEN

PAGE

SAMPLE NUMBER	ELEMENT UNITS	As PFB	Ag PPM	Cu PPM	Pb PPM	Zn PPM
R2 74165H		<5	<0.1	44	7	25
R2 74166H		<5	1.8	118	172	649
R2 74167H		<5	<0.1	53	7	228
R2 74168H		<5	<0.1	28	7	85
R2 74169H		<5	<0.1	38	11	171
R2 74170H		<5	<0.1	30	8	134
R2 74171H		<5	<0.1	25	10	83
R2 74172H		<5	0.2	22	13	80
R2 74173H		<5	0.3	57	15	95
R2 74174H		<5	0.4	29	19	289
R2 74175H		<5	0.3	23	20	101
R2 74176H		<5	0.3	83	21	158
R2 74177H		<5	0.3	46	7	58
R2 74178H		7	0.3	18	23	79