

Geological and Geochemical Assessment Report  
on the ATLIN 2, ATLIN 21 and SHARKY Claims

ATLIN MINING DIVISION

N.T.S. 104-N-11/W and 104-N-12/E

59°42'N, 133°30'W

D. Petersen

February 18, 1985

Owner: Daiwan Engineering Ltd.

Operator: Acheron Resources Ltd.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**13,549**

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1. Introduction

This report describes the work that was done on the ATLIN 2, ATLIN 21, and SHARKY Claims between the 18th September and 12th October, 1984.

G. Lohman and H. Loughheed conducted a partial first-phase exploration program of the claims that included line flagging, reconnaissance soil geochemistry and mapping and prospecting.

Overall supervision of the field work was carried out by G. Lohman. Acheron Resources Ltd. was the operator of the program.

2. Location and Access

The subject claims are located in the Atlin Mining Division, approximately 17km Northeast of the town of Atlin. Geographic co-ordinates are  $59^{\circ}42'N$ ,  $133^{\circ}30'W$ . N.T.S. is 104-N-11/W and 104-N-12/E. See Fig. 1, "Location Map".

Access is by the Atlin-Whitehorse highway and then along the Atlin-Ruffner mine road to a jeep road that leads to the South end of the RUFF Claim.

3. Topography and Vegetation

The claims lie on the rugged West slope of Mount Vaughan and Mount Leonard. Elevations vary from 1,350m to 1,800m a.s.l.

Vegetation consists of sparse brush and willow on the lower slopes.

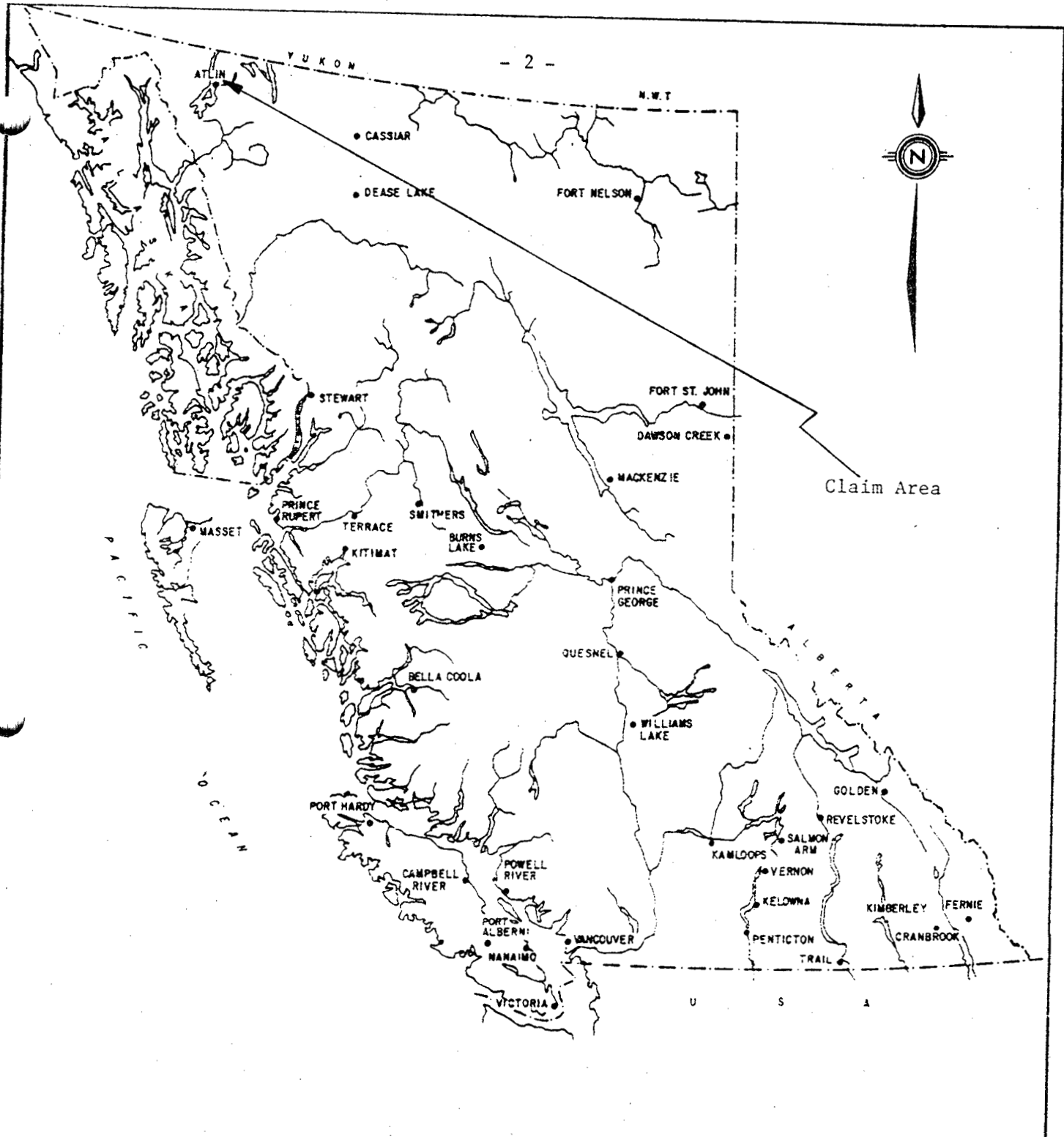


FIGURE 1

*S. Petersen*

Daiwan Engineering Ltd.
Atlin 2, 21 & SHARKY Claims
<b>LOCATION MAP</b>
<p>KILOMETRES</p> <p>0 100 200 300 400</p> <p>1:8,000,000</p>

#### 4. General Geology

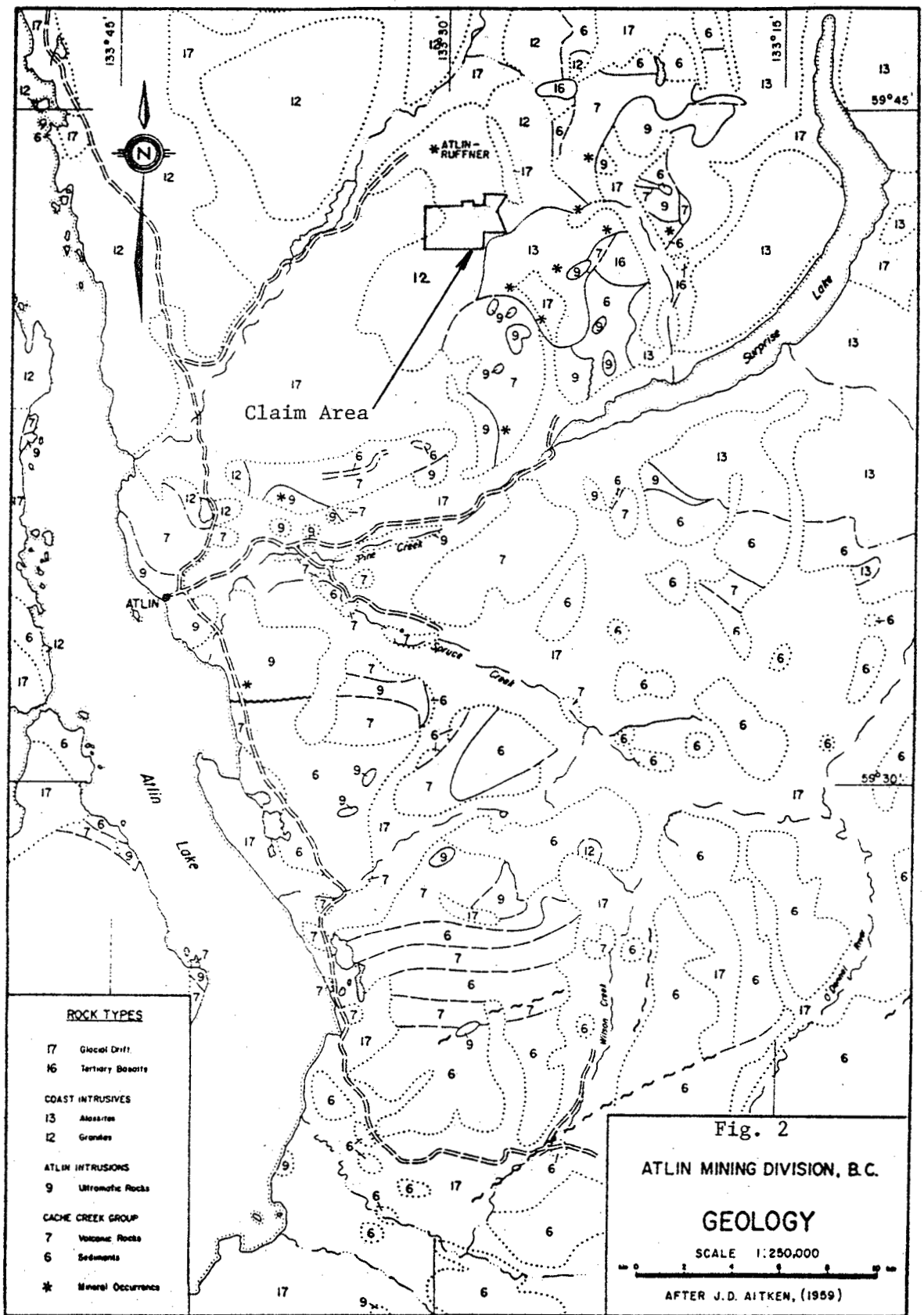
According to Aitken (1959), see Fig. 2, "Atlin Area Geology", the oldest rocks in the area are pre-Permian schists and gneisses that are known as the Yukon Group which were followed by sedimentary and volcanic rocks of the Cache Creek Group in Permian times. These rocks were intruded by the Atlin intrusives, a group of rocks that are ultramafic in composition and consist principally of serpentinized peridotites and dunites. In the Jurassic period, the Laberge group of marine sedimentary rocks were laid down which, in turn, were followed by emplacement of the siliceous Coast intrusives consisting of granodiorites, quartz monzonites, granites and alaskites. Tertiary rocks include olivine basalts, minor sediments and various intrusive rocks.

Mineralization is of four main types:-

1. a porphyry type stockwork molybdenum deposit located near the centre of an alaskitic intrusive, the Ruby Creek deposit, 24km Northeast of Atlin.
2. placer gold deposits whose origin is thought by Aitken to be eroded quartz vein systems and lodes.
3. silver-lead-gold lode deposits in lamprophyre dykes, such as the Atlin-Ruffner mine.
4. wolframite showings in comb quartz in sericitized alaskite.

#### 5. Local Geology

According to Aitken (1959), the claims are underlain by a granitic body known as the Black Mountain body batholith and by glacial drift. The intrusive belongs to the Coast Intrusive Complex and is part of the zoned Fourth of July Creek Batholith that consists of granodiorite and quartz monzonite.



5. Local Geology (Cont'd)

Both the Ruby Creek molybdenum deposit and the Atlin-Ruffner silver deposit are located within the granodioritic phase of this batholith.

6. Work Done in 1984

G. Lohman and H. Lougheed, from 18th September to 12th October, spent a total of 13 man-days performing the following work:-

1. Line Flagging

A total of 8.4km of East-West baseline and North-South grid line was flagged. Lines were a nominal 250m apart. Station spacing was 50m along the lines.

2. Prospecting and Reconnaissance Mapping

Prospecting and reconnaissance mapping was conducted along the lines during the course of the gridding and on ridges where the chance of finding outcrop was thought to be good.

3. Geochemical Soil Sampling

During the course of the gridding and the prospecting, a total of 121 soil samples were taken. Because the property is predominantly covered by talus and by till, soil development is poor and sampling consisted mainly of taking material from the 'C' horizon. Samples were taken by placing approximately 200g of soil in a Kraft paper bag numbered with the station co-ordinates and sending these to Acme Analytical Laboratories Ltd. in Vancouver where they were dried, sieved to -80 mesh and a 0.5g sample of the residue digested in 3ml of aqua regia at 95°C for 1 hour. After diluting to 10ml with demineralized water, the Ag, As, Cu, Pb, and Zn content was determined by ICP analysis.

The results are shown plotted in Fig's. 3, 4, 5, 6, and 7, "ppm Ag".

6. Work Done in 1984 (Cont'd)

3. Geochemical Soil Sampling (Cont'd)

"ppm As", "ppm Cu", "ppm Pb", and "ppm Zn", respectively.

4. Claim Staking

During the course of the gridding, it was found that the ATKIN 2 claim had been staked North of its required location and had, therefore, overlapped the RUFF claim. The ATLIN 20 claim that had been staked to eliminate a possible gap between these two claims had, therefore, overstaked the RUFF claim. The SHARKY claim was staked South of the ATLIN 2 claim to eliminate the gap between it and the ATLIN 18 claim to the South. See Fig. 3, "ppm Ag".

Acting on spurious information, the ATLIN 22 claim was staked to cover the ground that had come open by the supposed expiry of the SILVER 4 claim. The latter claim was, in fact, in good standing.

7. Results of Work Done in 1984

The results of the work done in 1984 are as follows:-

1. Geological Mapping

Seven outcrops were noted on lines 1,250W and 1,500W and on the ridge at the centre of the SHARKY claim. These were seen to consist of medium to coarse-grained granitic rock with grain size varying between 2 and 5mm. The <sup>Felspar</sup> mineral content was estimated to be 60% quartz and felspar, and 40% mafic minerals. No mineralization was observed.

Sampling of the trenches in the vicinity of co-ordinates OS OW on the ATLIN 2 claim was attempted but found to be impossible because they had sloughed badly and the floors were covered with snow and ice.



7. Results of Work Done in 1984 (Cont'd)

2. Geochemical Soil Sampling

The results of the soil sampling show that background values for Ag, As, Cu, Pb, and Zn are approximately 0.2, 15, 30, 15 and 60ppm, respectively.

Several coincident Ag, Pb, and Zn anomalies are present on the ATLIN 21 and the ATLIN 2 claims. These anomalies are accompanied for the most part by high As values while Cu values show little deviation.

The Northernmost of the anomalies on the ATLIN 21 extends from the SILVER 4 claim over 500m. The other anomalies are new.

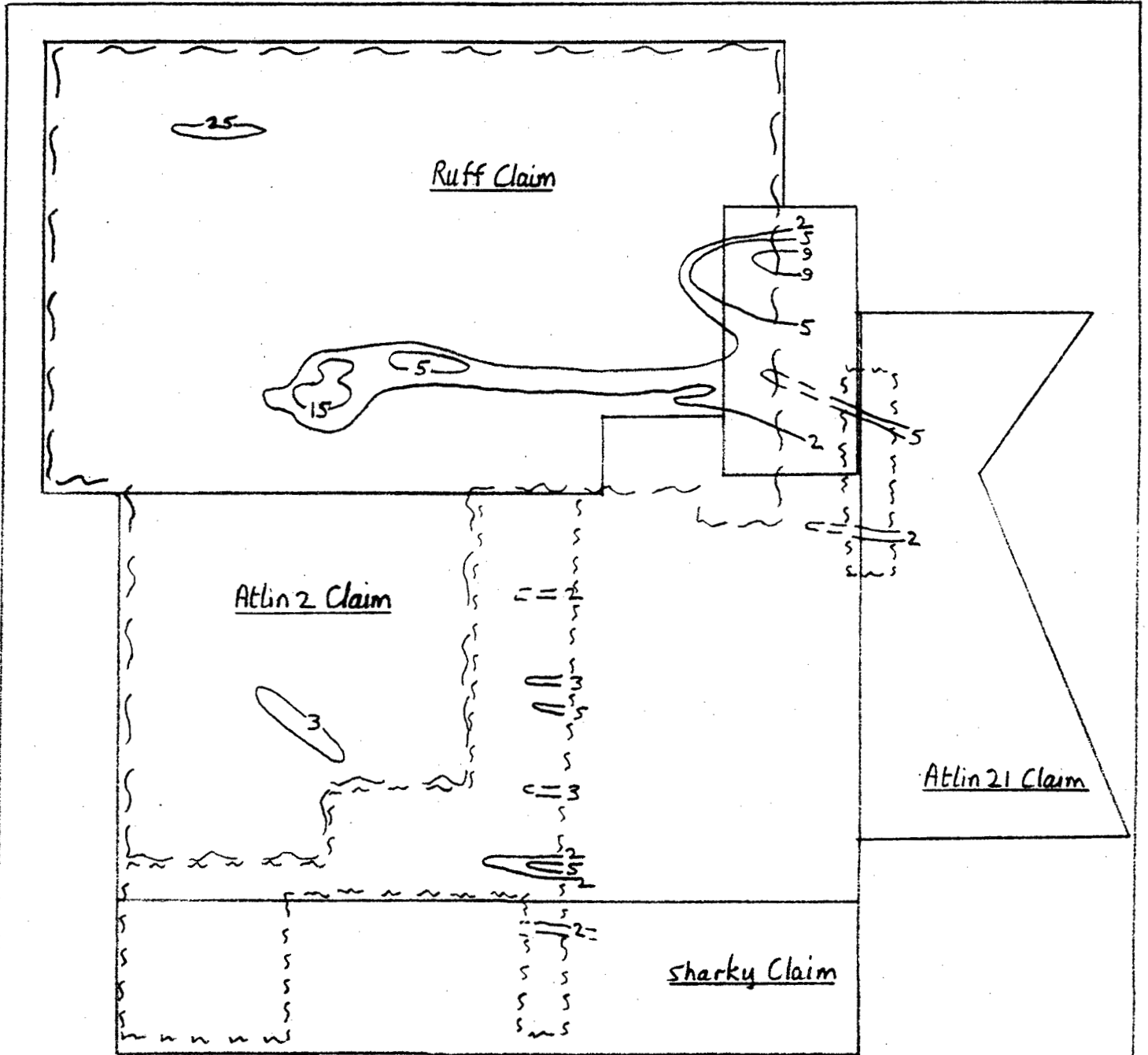
8. Discussion

Trenching and drilling of the small anomaly in the Northwest corner of the RUFF claim as shown in Fig. 8, "Compilation Map", has shown that two mineralized veins are present, the RUFF and VULCAN veins. These veins are approximately 75m apart and consist of steeply-dipping, East-West striking, fractured andesite dykes that are mineralized with quartz bearing pyrite, sphalerite, molybdenite, arsenopyrite, and minor chalcopyrite (Morgan, 1982).

In the RUFF vein, 38 samples cut in 9 trenches along a strike length of 90m averaged 3.65 oz/t Ag, 0.02 oz/t Au, 0.26% Pb and 0.37% Zn over 1.78m. Four NQ diamond drill holes through the vein averaged 3.06 oz/t Ag, 0.032 oz/t Au, 0.215% Mo, 0.45% Pb, and 1.58% Zn over 2.20m.

On the VULCAN vein, 5 NQ diamond drill holes averaged 1.43 oz/t Ag, 0.005 oz/t Au, 0.30% Pb, and 1.64% Zn.

While it is probable that the anomalies disclosed by the current geochemical program are caused by veins that are geologically similar to the RUFF and VULCAN veins, direct sampling is the only means of determining their grade.



Limit of 1980 survey —  
" " 1984 " - - -

Soil Geochemical  
Contours — 5 — ppm Ag

Peterson

Fig 8

Compilation Map

Scale 1:20,000

0 250 500 750 1000m

9. Conclusions

It is concluded that:-

1. the soil geochemical program has succeeded in outlining several Ag, Pb, and Zn anomalies on the ATLIN 2 and ATLIN 21 claims.
2. while it is probable that they are geologically similar to the RUFF and VULCAN veins to the Northwest, direct sampling is the only means of determining their grade.

10. Recommendations

It is recommended that:-

1. the geochemical soil sampling survey be extended to cover the unexplored parts of the ATLIN 2 and ATLIN 21 and SHARKY claims.
2. depending on the results of this survey, the decision to trench or to drill the anomalies can be made.
3. the ATLIN 20 and the ATLIN 22 claims be allowed to lapse.

11. Statement of Costs

The following costs were incurred in the program:

Salaries

G. Lohman, Geologist	18, 23-26, 27( $\frac{1}{2}$ day), 30th( $\frac{1}{2}$ day) September, 12 October ( $\frac{1}{2}$ day)		
	6 $\frac{1}{2}$ days @ \$175	\$	1,137
H. Loughheed, Sampler/Prospector	18, 23-26, 27( $\frac{1}{2}$ day) September		
	5 $\frac{1}{2}$ days @ \$126		<u>693</u>
		\$	1,830

Field Costs

Sampling and Freight	121 samples @ \$7	\$	847
Transport			338
Supplies			90
Groceries			<u>150</u>
		\$	1,425

Reporting

G. Lohman, Geologist	1 day @ \$175	\$	175
D. Petersen, Geologist	4 days @ \$275		1,100
S. Wheat, Typist	6 hours @ \$15		90
Drafting & Printing			<u>80</u>
		\$	<u>1,445</u>

TOTAL: \$ 4,700

*AB Petersen*

12. Title

Particulars of the claims are as follows:-

<u>Name of Claim</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Owner</u>	<u>Date of Record</u>
ATLIN 2	20	2243	Daiwan Engineering Ltd.	28 March, 1984
ATLIN 21	12	2288	Daiwan Engineering Ltd.	5 June, 1984
SHARKY	5	2436	Daiwan Engineering Ltd.	31 October, 1984

13. References

Aitken, J.D., 1959, Atlin Map-Area, British Columbia; GSC Mem. 307.

Morgan, D. R., 1982, A Geological Report on the Trenching and Drilling Program of Cyclone Developments Ltd. on the Company's RUFF claim.

Philp, R., 1980, Geochemical Survey Report on the DON, RUFF, HELEN claims for Cyclone Developments Ltd.

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

To Wit:

In the Matter of the geological and geochemical surveys on the ATLIN 2, ATLIN 21, and SHARKY claims:

I, David B. Petersen

of Daiwan Engineering Ltd.  
#1010 - 409 Granville Street, Vancouver, B. C. V6C 1W9

in the Province of British Columbia, do solemnly declare that the following costs were incurred in conducting the surveys:-

SALARIES

G. Lohman, Geologist	6½ days @ \$175	\$ 1,137	
H. Lougheed, Sampler/Propector	5½ days @ \$126	<u>693</u>	\$ 1,830

FIELD COSTS

Analyses and Freight		\$ 847	
Transport and Travel		338	
Supplies		90	
Groceries		<u>150</u>	1,425

REPORTING

G. Lohman, Geologist	1 day @ \$175	\$ 175	
D. Petersen, Geologist	4 days @ \$275	1,100	
Typing, S. Wheat	6 hours @ \$15	90	
Drafting and Printing		<u>80</u>	<u>1,445</u>

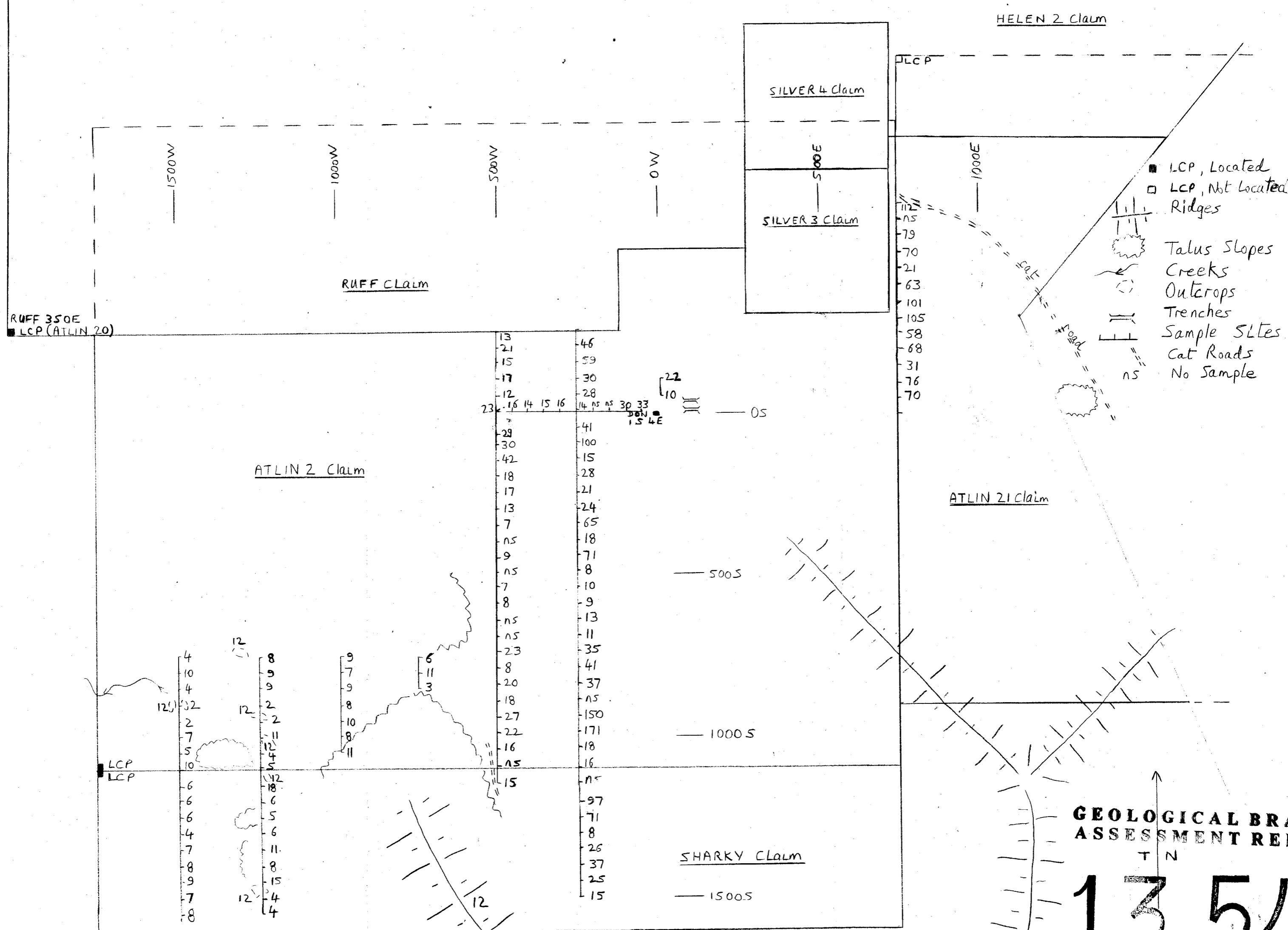
TOTAL: \$ 4,700

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City  
of Vancouver, in the  
Province of British Columbia, this 15th  
day of March 1985, A.D. } DB. Petersen

Day (C. DAY)  
A Commissioner for taking Affidavits for British Columbia or  
A Notary Public in and for the Province of British Columbia.



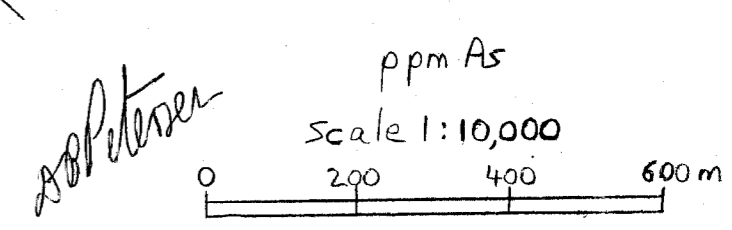


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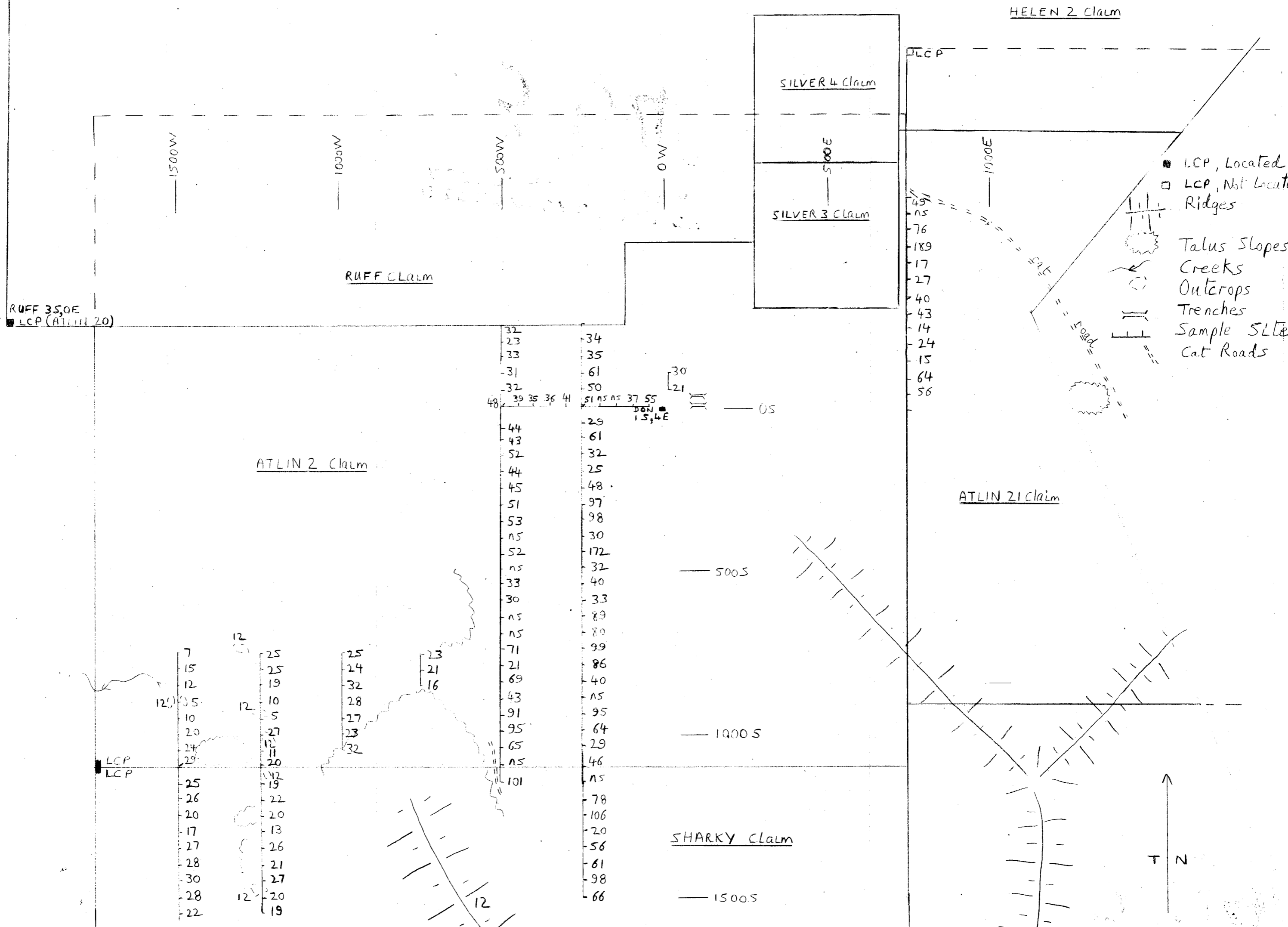
Fig 4

ATLIN 2, ATLIN 20, ATLIN 21,  
SHARKY CLAIM'S



*Bob Petersen*



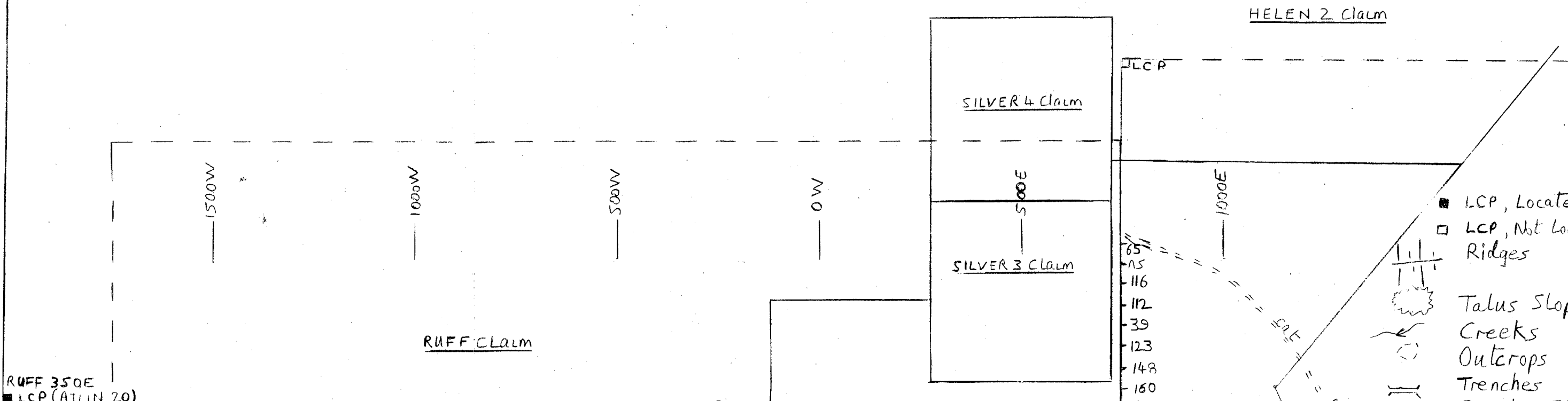


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**Fig 5**  
ATLIN 2, ATLIN 20, ATLIN 21,  
SHARKY CLAIMS  
ppm Cu  
Scale 1:10,000  
0 200 400 600 m

*aspeterson*



RUFF 350E  
LCP (ATLIN 20)

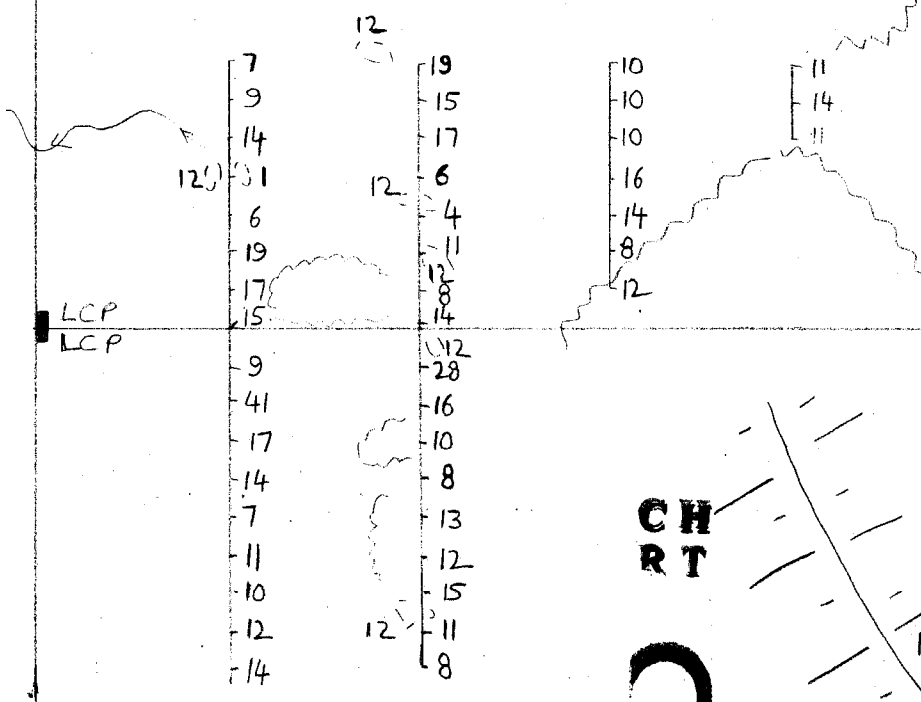
- LCP, Located
- LCP, Not Located
- Ridges
- Talus Slopes
- Creeks
- Outcrops
- Trenches
- Sample Sites
- Cat Roads
- No Sample

32	128
47	60
52	119
28	107
26	41 NS NS 54 60
43 36 49 55	29
82	24
143	33
129	175
166	37
63	79
50	31
30	50
14	85
NS	24
9	123
NS	25
12	15
13	19
NS	20
NS	22
40	39
23	130
23	158
24	NS
42	560
51	606
30	59
NS	38
17	NS
	183
	141
	25
	55
	24
	33
	21

ATLIN 2 Claim

ATLIN 21 Claim

SHARKY Claim



CH  
RT

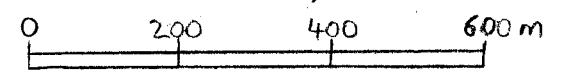
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13,540  
Fig 6

ATLIN 2, ATLIN 20, ATLIN 21,  
SHARKY CLAIMS

ppm Pb  
Scale 1:10,000



*S. Peterson*

