GEOLOGICAL REPORT

ON THE

SAD MINERAL CLAIM

Hastings Arm
Skeena Mining Division
British Columbia

NTS: 103P/12W
55°37'N 129°50'W

OWNER: LORNE B. WARREN

AUTHOR: N.C. CARTER, Ph.D. P.Eng.

DATE: MAY 15,1998

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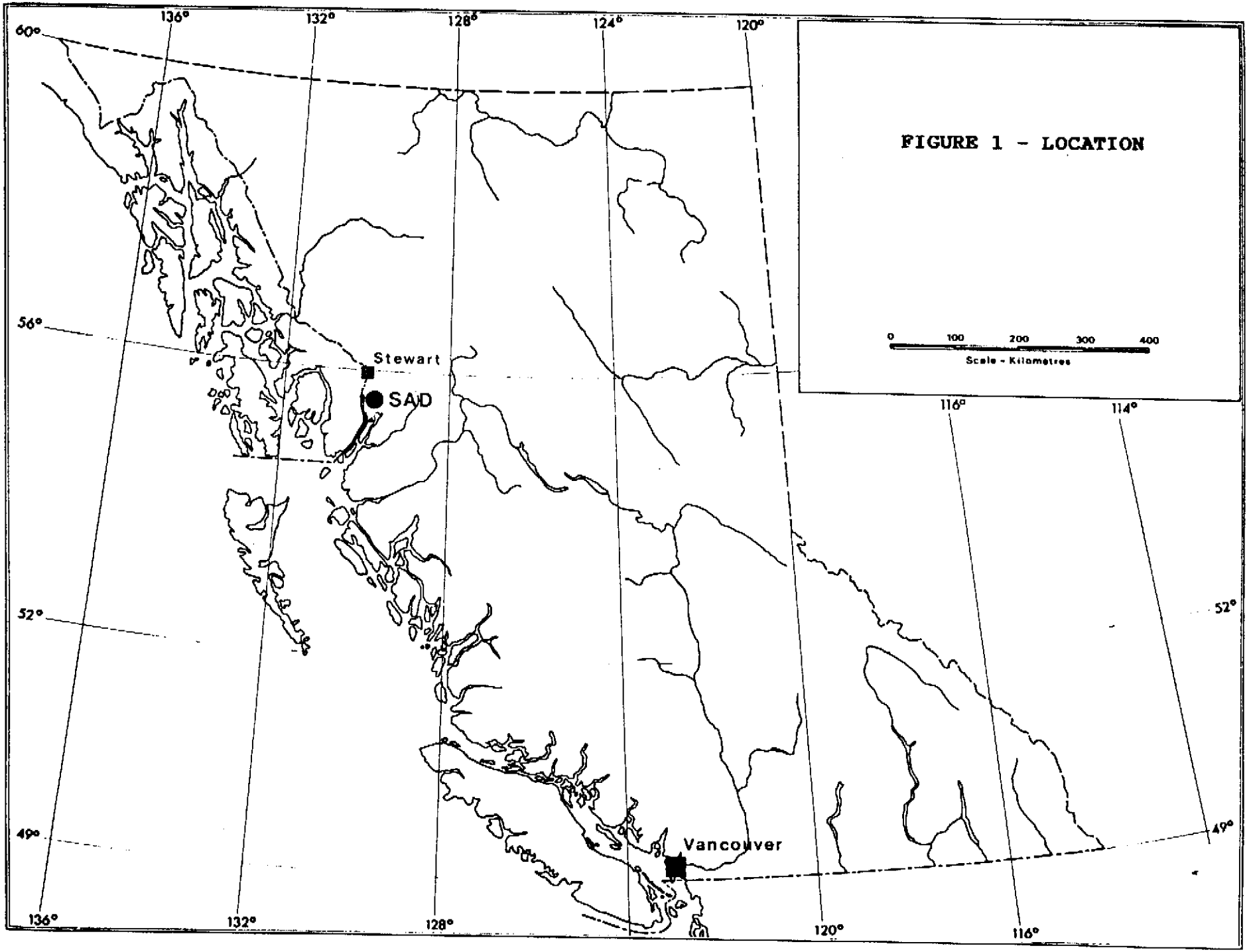
FIGURE 1 - LOCATION
0 100 200 300 400
Scale - Kilometres
136°
132°
128°
124°
120°
116°
114°
60°
56°
52°
49°
Stewart
SAID
Vancouver

INTRODUCTION

Location and Access

The SAD property is situated immediately west of the head of Hastings Arm 40 km south-southeast of Stewart in northwestern British Columbia (Figure 1). The geographic centre of the mineral claim is at latitude 55°37' North and longitude 129°50' West in NTS map-area 103P/12W (Figure 2).

Access to the area of the old workings on the claims is by helicopter. The lower reaches of the claim are accessible by boat from the end of road at Kitsault on Alice Arm, some 40 km southeast of the property.

Mineral Property

The SAD property consists of one 4-post mineral claim registered in the name of Lorne B. Warren (Figure 3). An application to reduce the size of the original 20 unit claim was filed February 12,1998; as indicated on Figures 2,3 and 4, only the northern 10 units have been retained. Current details of the mineral claim are as follows:

Claim Name	Units	Record Number	Date of Record
SAD	10	323603	February 17,1994 (Reduced 02/12/98)

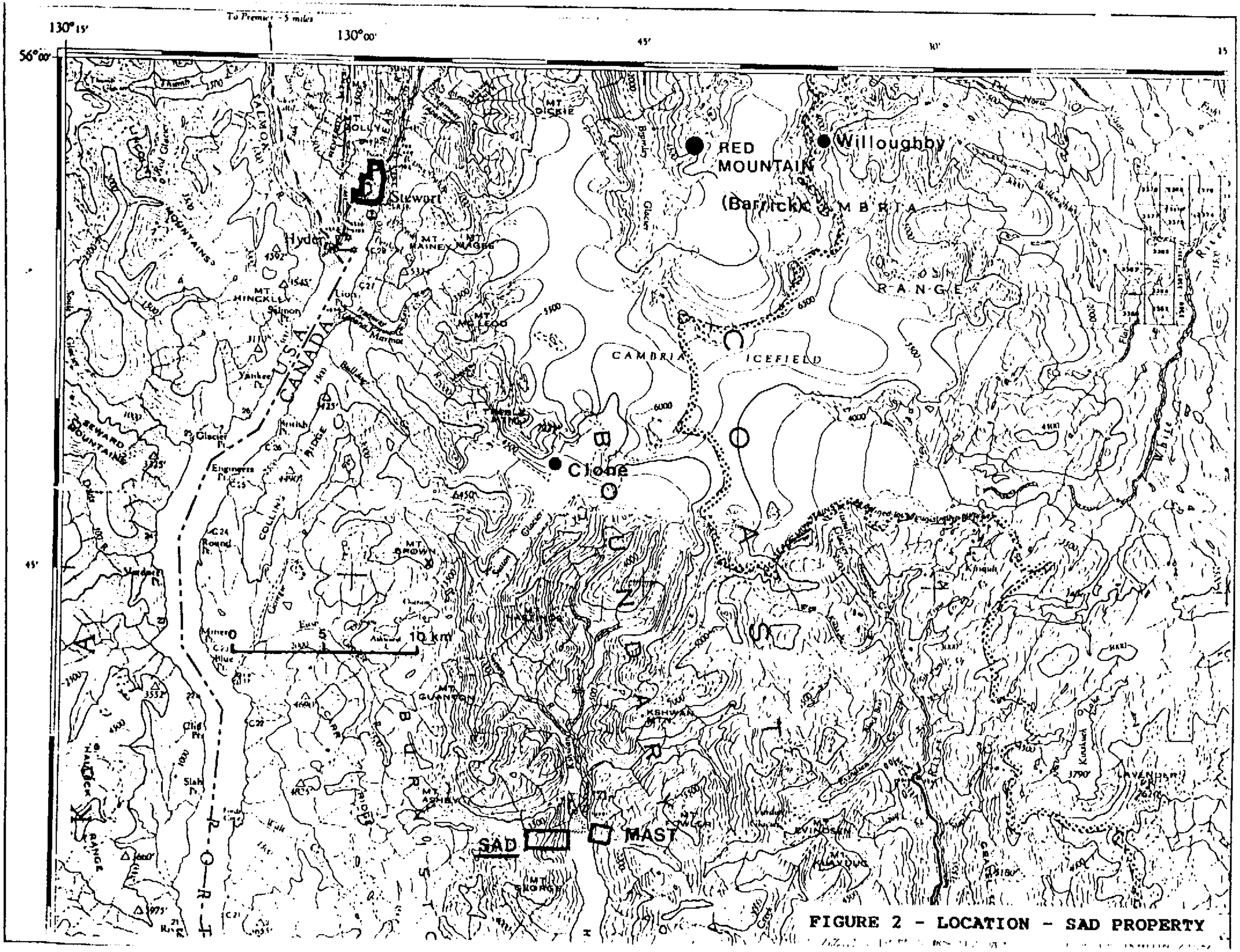

FIGURE 2 - LOCATION - SAD PROPERTY

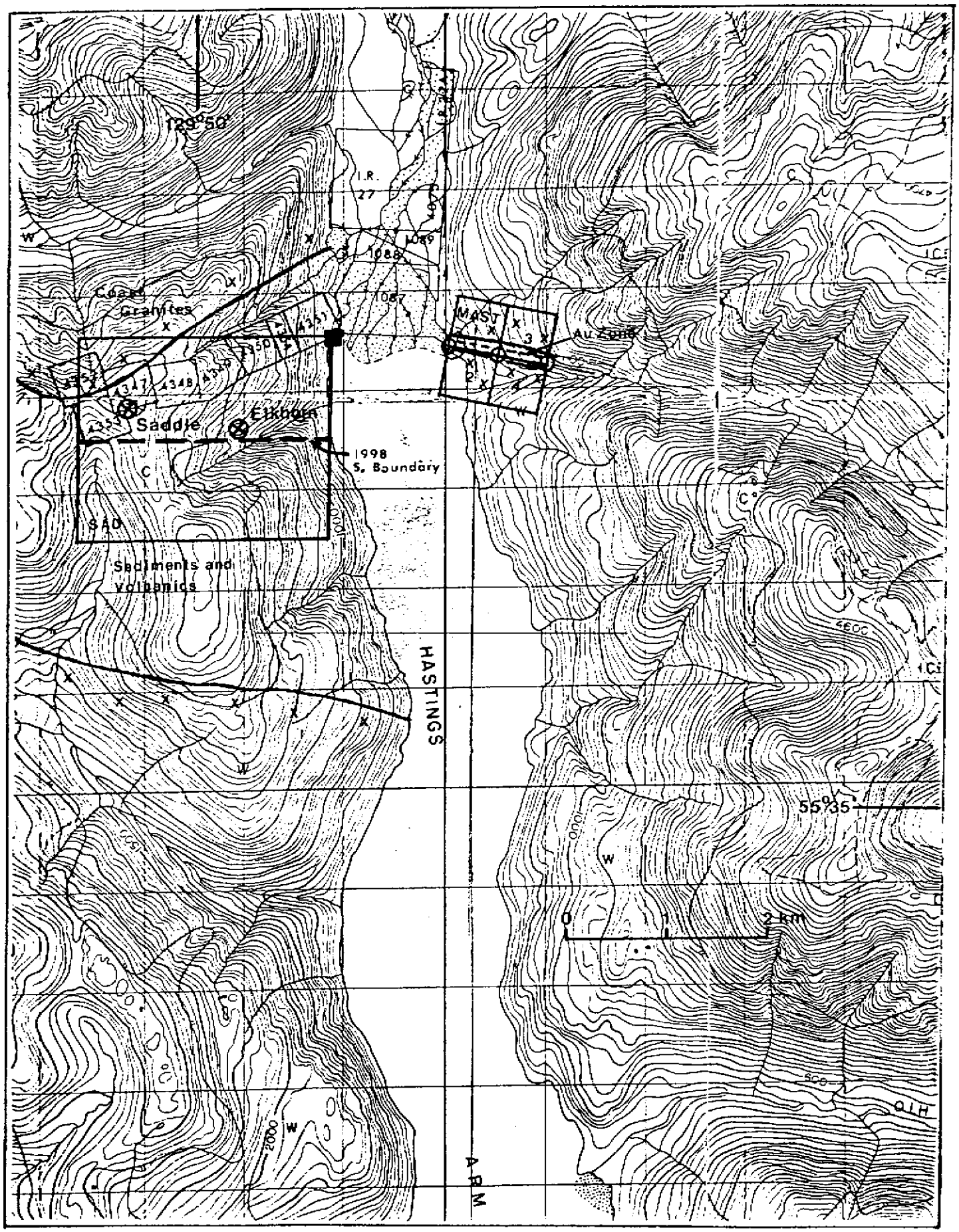

FIGURE 3 - SAD MINERAL CLAIM

History

Initial exploratory work in the area now covered by the SAD mineral claim followed the discovery in 1926 of the Saddle showing (Figure 3), a pyrite-galena bearing quartz vein containing gold and silver values. The following year, Silver Crest Mines Ltd. undertook hand trenching and the sinking of three shallow shafts (14, 11.6 and 2.5 metres deep) from which 9 metres of drifting was completed. Work in 1929 included the construction of a 3 km aerial tramway (8 steel towers) between the tide flats at the head of Hastings Arm and the principal workings at an elevation of 1250 metres. An adit was driven some 50 metres and 3 tonnes of ore yielding 1436 kg lead, 44 kg copper and 2613 g silver were shipped. The adit was driven an additional 140 metres in 1930.

The Elkhorn gold showing, east of the Saddle (Figure 3), was discovered in 1929 and work through 1934 consisted of a number of hand trenches and open cuts.

Only limited work has been undertaken in the area of the present claim since the 1930's. Some investigative work was undertaken by Mayfair Moly Mines Ltd. in 1967. Nor Con Exploration Ltd. conducted a reconnaissance of the Saddle showings and environs in 1982 (Cavanagh,1983a) and completed detailed surface channel sampling of the two

principal vein structures in 1983 (Cavanagh,1983b). The property was subsequently acquired by Winspear Resources Ltd. and a 1987 program included 145 line km of airborne VLF-EM and magnetometer surveys, construction of 11 km of flagged grid, a surface VLF-EM survey and the collection and analyses of 69 rocks and 342 soil samples (Di Spirito,1987).

The original SAD 20 unit mineral claim was located by Lorne B. Warren February 17,1994. Investigative work by the writer in September of 1994 (Carter,1995) included the determination of accurate locations of the surface trenches, shafts and adit portal using a Global Positioning system instrument (GPS), an assessment of the property geological setting and the structure of the two main vein systems, a preliminary survey of the underground workings and the collection of 5 rock samples for subsequent analyses.

Present Status

A 1997 program, carried out September 21, was directed to following up some of the results of 1994 work. Particular attention was directed to a vein system parallel to that sampled in 1994. Five samples of vein material were collected for analyses. The writer was assisted by R.T. Heard, P.Eng.

GEOLOGY AND MINERALIZATION

Physical Setting

The SAD mineral claim covers a steep east-facing, forested slope and alpine terrain immediately west of the head of Hastings Arm. Elevations range from sea level to more than 1300 metres above sea level (Figures 3 and 4). Locally steep slopes occur adjacent to deeply incised drainages in the central and eastern claim area (Figure 4).

The eastern and topographically lower area of the claim is typical of near sea level conditions on the north coast, featuring heavy timber and locally dense undergrowth. Tree cover extends to between 750 and 900 metres above sea level, above which somewhat gentler topography prevails. The area of the old workings is in open, alpine terrain.

Regional Geological Setting

The SAD mineral claim, situated near the eastern margin of the Coast Plutonic Complex, covers the northern part of a roof pendant of metasedimentary and metavolcanic rocks which is enclosed by Coast granitic rocks (Figure 3).

The property is midway between the Stewart and Anyox - Alice Arm mineral districts. Major past producing mines of the region include the Premier and Big Missouri gold-silver

deposits, Dolly Varden and Torbrit silver deposits, Anyox and Granduc massive sulphide deposits and the Kitsault porphyry molybdenum deposit south of Alice Arm.

The Red Mountain gold property, owned by Barrick Gold Corp. and subject to an agreement with Royal Oak Mines Ltd., is situated 40 km north-northeast of the SAD claim (Figure 2). Red Mountain includes at least four en-echelon northwest trending zones of semi-massive sulphides hosted by Hazelton Group felsic and pyritic volcanic rocks marginal to the middle Jurassic Goldslide granodiorite pluton which was investigated for molybdenum mineralization in the 1960's.

Published reserves for the Red Mountain gold deposits total 2.5 million tonnes grading 12.69 g/t (0.37 oz/ton) gold and 38.1 g/t (1.1 oz/ton) silver (Rhys et al,1995). A refined resource, estimated by Royal Oak prior to their 1996 program, was 1.92 million tonnes grading 9.8 g/t (0.284 oz/ton) gold (Schroeter,1998). The property is considered to have the potential to host between 2 and 3 million ounces gold.

The Willoughby Creek gold-silver property, owned by Camnor Resources Ltd. and situated 6 km east of Red Mountain (Figure 2), has a geological setting similar to Red Mountain. Gold mineralization is associated with northwest-trending structures both as sulphide (pyrite-pyrrhotite) replacement

lenses in altered Hazelton Group volcanic rocks and with shear zones in granitic rocks similar to the Goldslide pluton. These shears feature arsenic-antimony enrichment and contain silver-lead-zinc values in addition to locally high grade gold values.

The recently identified Clone gold prospect, near the southwestern margin of the Cambria Icefield 18 km southeast of Stewart and 20 km north of the SAD claim (Figure 2), includes four parallel, northwest-striking, gold-bearing shear zones developed in Hazelton Group volcanic and sedimentary rocks. Gold is associated with both sulphide (pyrite-chalcopyrite-arsenopyrite plus cobalt minerals) and hematite-rich (specularite-magnetite) shears.

Property Geology and Mineralization

The SAD mineral claim is principally underlain by metasedimentary and metavolcanic rocks of late Triassic to early Jurassic age which strike northeasterly to northwesterly and dip moderately west. These are part of a 4 x 3.5 km roof pendant within Coast Plutonic Complex granitic rocks (Figure 3). The northern contact of the roof pendant is well exposed in the northwestern claim area a short distance north of the principal mineral showings (Figures 3 and 4).

Granodiorites in the contact area are medium-grained and

migmatite zones are developed within highly contorted layered rocks marginal to the contact. Numerous aplitic sills cut both the granodiorites and the metasedimentary - metavolcanic rocks which contain abundant disseminated pyrite. Other granitic dykes were noted cutting the layered sequence including a 10 metres wide diorite dyke southwest of the showings area which is displaced some 30 metres on the north side of a northeast trending fault.

The principal mineral showings (Saddle occurrence) in the northwestern claim area (Figure 4) are associated with parallel quartz veins and stringers which trend northwesterly and dip moderately to steeply west and are crudely conformable to layering within the metavolcanic - metasedimentary sequence. Narrow, 0.1 to 0.3 metre wide post-mineral basic dykes, which strike northeasterly and dip steeply north, are offset by the northwest structures hosting the mineralized quartz veins.

Previous work included several open cuts and three shallow, inclined shafts on three parallel quartz vein structures 8 to 10 metres apart (Figure 5). Most of this work was directed to the easternmost structure which is between 1 and 1.5 metres wide and is exposed in three shafts and open cuts over a strike length of about 100 metres.

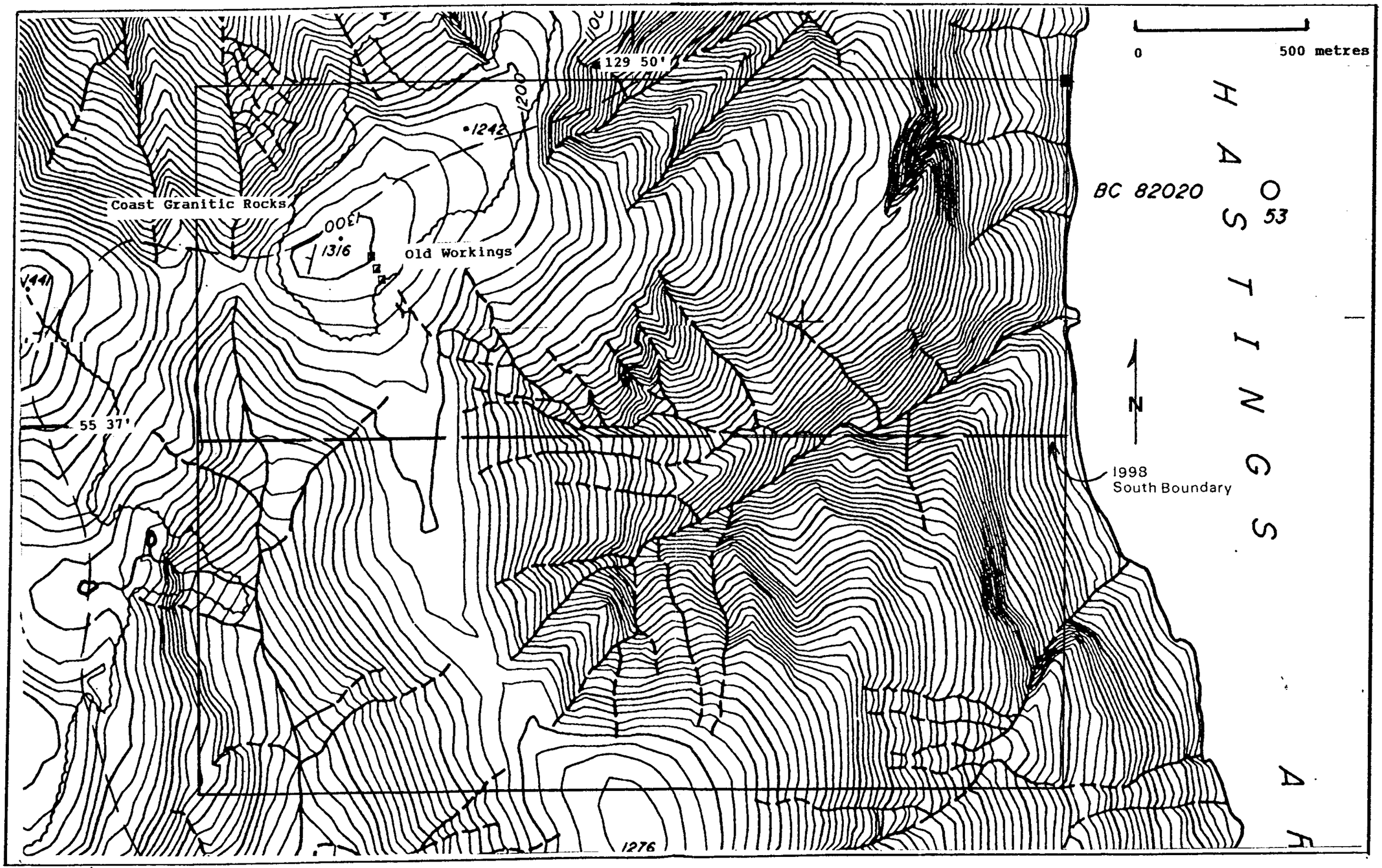

FIGURE 4 - SAD PROPERTY - LOCATION OF OLD WORKINGS

Where observed in open cuts and at the collars of the three shafts, the best mineralization consists of lenses of massive galena, sphalerite, pyrite and chalcopyrite over 0.3 to 0.6 metre widths and lengths of between 2 and 3 metres along the hangingwall of the vein.

Descriptions of the three shafts are contained in the 1927 Minister of Mines Annual Report. The northernmost shaft (Figure 5) was sunk to a depth of about 11.6 metres and 5 metres of drifting followed the vein which reportedly included a 0.5 metre wide lens of massive sulphides along the structural hangingwall. This material is evident in a dump adjacent to the shaft.

The southern shaft was only 2.4 metres deep but a good description of the nature of the mineralization in a vertical sense is given for the middle shaft which is 14 metres deep and includes a 3.7 metres drift. A 0.30 to 0.40 metre wide lens of massive sulphides on the vein hangingwall extends to a depth of 5.5 metres and is followed by a lower tenor of mineralization to a depth of 10 metres from which point massive sulphides persist to the bottom of the shaft.

Best mineralization seen in the central vein structure (Figure 5) occurs in the open cut near its known northern limits. The structure, which includes sheared country rocks and quartz veining, is up to 1.5 metres wide and contains

lenses of massive galena, sphalerite, pyrite and chalcopyrite.

Detailed channel sampling of the eastern and central structures was undertaken in 1983. Best precious metals values, obtained from massive sulphide lenses, included 9.8 g/t gold, 730.3 g/t silver over 35 cm; 241.8 g/t gold, 630.8 g/t silver over 18 cm; 36.1 g/t gold, 75.1 g/t silver over 13 cm and 21.8 g/t gold, 197.1 g/t silver over 65 cm (Cavanagh,1983).

Subsequent sampling (Di Spirito,1987), involving mainly the collection of character or grab samples, yielded lower gold and silver values, the best being two samples from between the middle and southern shafts which returned 15.29 g/t gold and 236.6 g/t silver and 8.74 g/t gold and 44.5 g/t silver.

The initial 12 metres of the 190 metres long adit, collared south of, and below, the surface workings, was reportedly (Minister of Mines Annual Report,1929) driven along a 0.3 to 1.2 metres wide quartz vein containing 2.5 - 5 cm of massive galena along its footwall. Beyond this point, little quartz veining and/or mineralization was encountered with the exception of a 0.60 metre wide, weakly mineralized vein some 10 metres from the adit face.

Sampling of the adit back at 10 to 20 metres intervals

(Di Spirito,1987) yielded low results, the best being 0.62 g/t gold and 324.3 g/t silver over a 1 metre width some 50 metres from the portal.

The relationship between veins reported in the adit and those on surface is unclear from earlier reports due to the fact that information regarding the precise location of the adit relative to the surface workings was not provided.

The 1994 program on the SAD mineral claim was designed in part to address this problem. Precise locations for the three shafts and the adit portal were determined by use of a global positioning system (GPS) instrument. These locations, accompanied by point elevations above sea level, are shown on Figure 5.

The three shafts are equidistant apart (35 metres) along the eastern vein system; the adit portal is 145 metres south-southwest of southernmost shaft and 35 metres vertically below it.

A preliminary survey of the adit was undertaken by Brunton compass and topofill chain and its configuration, as illustrated on Figure 5, suggests it was initially driven on the easternmost vein but then swung too far west before intersecting it again by way of cross-cutting toward the eventual face.

Locations of several confirmatory samples, collected

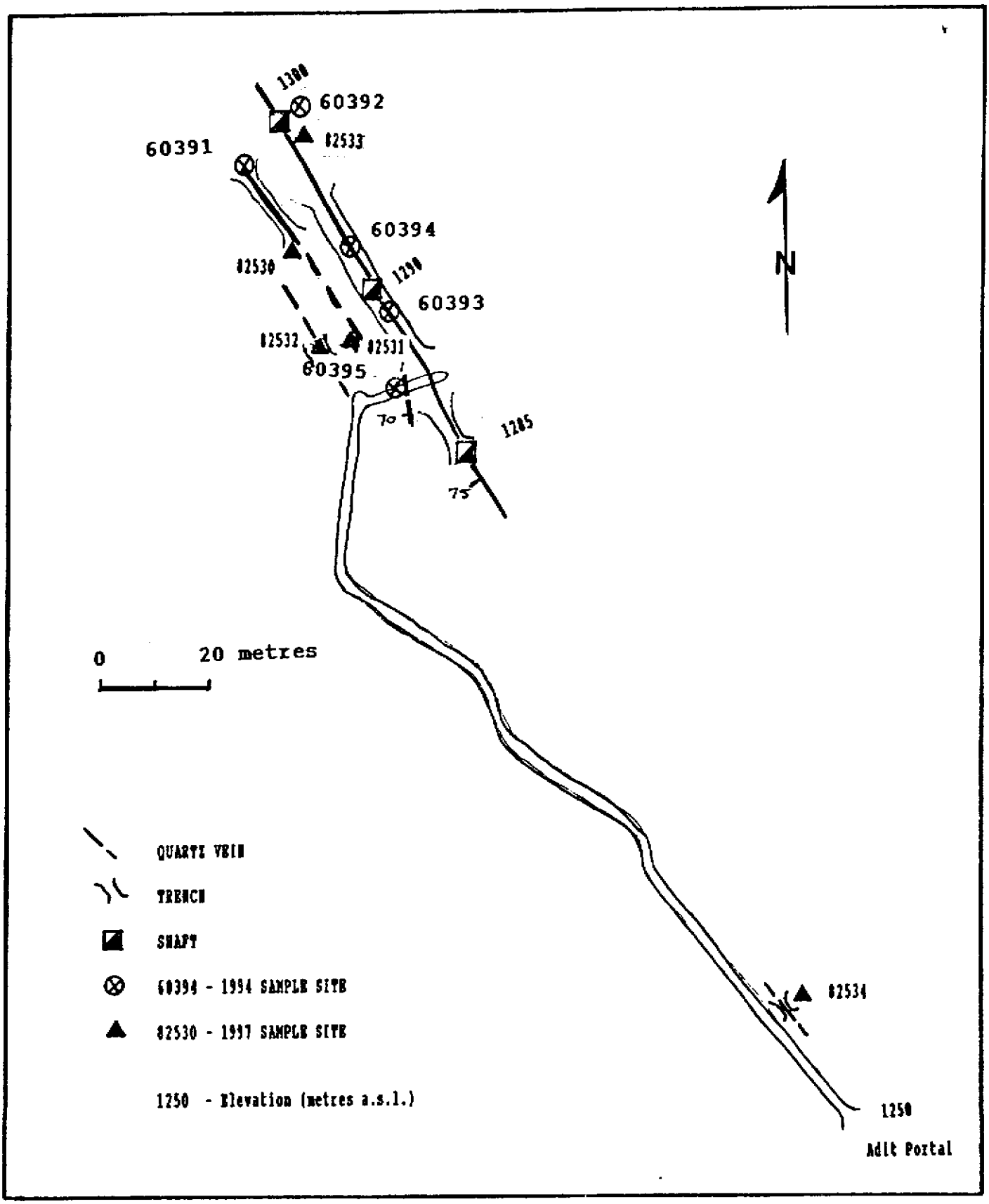

FIGURE 5 - SAD PROPERTY - SAMPLE LOCATIONS

from the eastern and central veins, are shown on Figure 5 and significant results are as follows:

Sample No.	Au(ppb)	Ag(g/t)	Cu(ppm)	Pb(%)	Zn(%)
Central Vein					
60391(grab)	2665	1022.0	>10000	57.20	9.46
Eastern Vein					
60392(grab)	229	694.0	>10000	35.80	6.79
60393(0.3m)	3440	178.5	6473	1.19	17.60
60394(0.4m)	73	64.3 (ppm)	1857	1.82 (ppm)	3.14 (ppm)
60395(0.7m) (adit)	25	2.5	79	377	4159

The Elkhorn showing, believed to be near the southern boundary of the reduced SAD claim (Figure 3), has been described as being situated about midway between the Saddle showings and tidewater at an elevation of approximately 1050 metres. The location shown on Figure 3 corresponds to that shown on the Minfile map (103P013) for this area and is by no means precise. A search of the assumed area of the showing was made by helicopter in 1994 with no success.

Past descriptions (Minister of Mines Annual Report,1929) of the Elkhorn showing refer to a silicified, 1 metre wide zone containing epidote, garnet, pyrite, pyrrhotite, galena and sphalerite and locally, "some spectacularly finely divided gold." A sample of sulphide mineralization containing no free gold, collected from this apparent skarn zone, returned 5.5 g/t gold and 17.1 g/t silver. Two other zones were reported as being between 15 and 30 metres higher in

elevation. The Minister of Mines Annual Report for 1934 describes trenches and open cuts over an apparent strike length of 180 metres.

1997 PROGRAM RESULTS

The 1997 program was directed principally to the investigation of the two vein structures parallel to, and west of, the main or eastern structure. Sample locations are shown on Figure 5.

Samples from the central structure included 1-82530, collected from the south end of the northern open cut where the vein is 0.30 to 0.50 metre wide and contains lenses of near massive galena, sphalerite and chalcopyrite. A second sample (1-82531), 20 metres southeast, consisted of rose-coloured, drusy quartz with disseminated galena.

A sample (1-82532) of the western vein structure was collected over a 0.20 metre wide section of massive galena.

Further sampling of the main or easternmost vein structure included a confirmatory grab sample (1-82533) of dump material adjacent to the northernmost shaft. The southern extension of this structure is exposed in an open cut above, and 25 metres northwest of the adit portal (Figure 5). Here , the vein is 0.40 metre wide and sample 1-82534 consisted of lenses of massive galena, sphalerite and

chalcopyrite hosted by drusy quartz.

Samples were collected in large plastic sample bags and submitted to Min-En Laboratories in Smithers for sample preparation and subsequent analyses in North Vancouver. Samples were analyzed form 31 major and trace elements by inductively coupled argon plasma (ICP) techniques and for gold by fire geochemistry with atomic absorption (AA) finish. Complete analytical results are contained in Appendix I; significant results are as follows:

Sample No.	Au(ppb)	Au(g/t)	Ag(g/t)	Cu(ppm)	Pb(%)	Zn(%)
Central Vein						
1-82530(0.4m)	3115	-	>200.0	>10000	>10000	>10000
1-82531(0.2m)	109	-	11.6	184	1605	1066
Western Vein						
1-82532(0.2m)	>10000	12.26	>200.0	>10000	>10000	>10000
Eastern Vein						
1-82533(grab)	7595	-	>200.0	>10000	>10000	>10000
1-82534(0.4m)	172	-	>200.00	>10000	>10000	>10000

As indicated, four of the five samples collected contained copper, lead and zinc values of greater than 1%. Similar material collected in 1994 had lead values of between 35.80 and 57.20%; zinc ranged from 6.79 to 17.60%. Silver values in excess of 200 ppm ranged between 694 and 1022 ppm.

Gold values are generally of the same tenor as those for 1994 samples. The highest value from 1997 sampling (12.26 g/t) was from the westernmost vein structure and a significantly higher value (7595 ppb vs 229 ppb) was obtained from the dump sample collected adjacent to the northernmost

shaft on the eastern vein structure.

CONCLUSIONS AND RECOMMENDATIONS

Work to date in the area of the present SAD claim has indicated the presence of significant concentrations of lead, zinc and copper with locally good gold and silver grades.

The eastern vein structure appears to be more persistent along strike; one 1997 sample collected above the adit portal indicates a strike length in the order of 200 metres.

As noted previously, it appears that the adit was driven west of this structure; the vein intersected in the cross-cut portion of the adit is probably the down dip extension of the structure between two of the shallow shafts (Figure 5). The lack of appreciable values in the one sample collected at this location is not considered to be particularly significant in view of the apparent lens-like nature of the massive sulphides which contain the better precious and base metal grades within the quartz vein structure. A better understanding of the geometry and predictability of these high grade shoots is required to adequately assess the potential of this zone.

Additional exploratory work is warranted for the SAD claim. A concerted effort should be made to identify strike extensions to the three parallel vein systems which are

apparently offset on the north and south by northeast trending faults. A 30 to 50 metre offset of a northwesterly trending granitic dyke, noted along the southern fault zone, may provide a clue to a possible vein extension south of the adit.

Additional prospecting and sampling should also include a diligent search to locate the Elkhorn showing.

COST STATEMENT

Wages	
- September 21,22,1997 -	
N.C Carter - 0.5 day @ $500	$250.00
R.T. Heard - 0.5 day @ $500	$250.00
	$500.00
Transportation	
Helicopter - (Bell Long Ranger) 0.75 hour @ $1100/hour	$825.00
Analytical Costs	
5 rock samples - 31 element ICP + gold @ $21.20/sample	$106.00
Report Preparation	
N.C. Carter - 1.3 days @ $500	$650.00
Word processing, duplicating	$69.00
TOTAL EXPENDITURES	**$2,150.00**

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STATEMENT OF QUALIFICATIONS

R.T. Heard, P.Eng.

- Graduate - Haileybury School of Mines
- Graduate - Geological Engineering, Montana Tech
- Geological Engineer - United Keno Hill Mines, Elsa, Yukon
  - Occidental Coal, Red Deer, Alberta
- Exploration Manager, Equity Silver Mines Ltd.
- Consulting Geological Engineer

AUTHOR'S QUALIFICATIONS

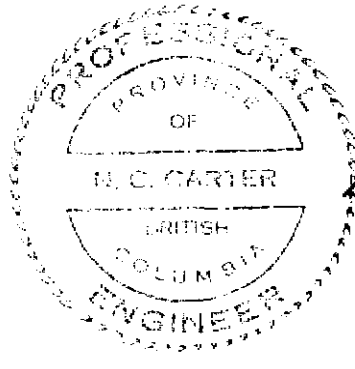
I, NICHOLAS C. CARTER, of 1410 Wende Road, Victoria, British Columbia, do hereby certify that:

1. I am a Consulting Geologist, registered with the Association of Professional Engineers and Geoscientists of British Columbia since 1966.

2. I am a graduate of the University of New Brunswick with B.Sc.(1960), Michigan Technological University with M.S.(1962) and the University of British Columbia with Ph.D.(1974).

3. I have practised my profession in eastern and western Canada and in parts of the United States for more than 25 years.

4. The geological comments contained in the foregoing report are based on my personal observations made while conducting the described work program on the SAD mineral claim September 21,1997.



N.C. Carter, Ph.D. P.Eng.

Victoria,B.C.
May 15,1998

APPENDIX I

Analytical Results

COMP: R T HEARD & ASSOC.
PROJ:
ATTN: Terry Heard / Nick Carter

MIN-EN LABS — ICP REPORT

8282 SHERBROOKE ST., VANCOUVER, B.C. V5X 4E8
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FILE NO: 7S-0294-RJ1+2
DATE: 97/10/01
(ACT:ICP 31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CR PPM	CU PPM	FE %	GA PPM	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SN PPM	SR PPM	TH PPM	TI %	U PPM	V PPM	W PPM	ZN PPM
1-82530	>200.0	.29	61	8	.1	47	.01	>100.0	87	75	>10000	5.85	4	.06	4	.11	304	1	.01	7	620	>10000	29	1	1	23	.01	7	12.8	1614	>10000
1-82531	11.6	.27	175	6	.1	9	.01	9.8	2	237	184	1.57	1	.06	4	.11	143	56	.01	6	120	1605	4	1	1	7	.01	2	12.1	8	1066
1-82532	>200.0	.03	62	2	.1	353	.01	>100.0	24	12	>10000	8.52	5	.01	1	.01	22	1	.01	23	1090	>10000	679	1	1	39	.01	11	8.2	136	>10000
1-82533	>200.0	.10	68	2	.1	225	.01	>100.0	79	53	>10000	9.07	6	.01	2	.04	149	1	.01	20	1050	>10000	199	1	1	36	.01	12	13.0	1287	>10000
1-82534	>200.0	.18	26	6	.1	50	.01	>100.0	20	110	8798	4.94	3	.04	3	.07	96	33	.01	29	350	>10000	51	1	1	22	.01	6	14.0	91	>10000

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7S-0294-RG2

Company: R T HEARD & ASSOC.
Project:
Attn: Terry Heard / Nick Carter

Date: OCT-01-97

We hereby certify the following Geochemical Analysis of 17 ROCK samples submitted SEP-23-97 by NICK CARTER.

Sample Number	Au-fire PPB	Au-fire g/tonne
1-82530	3115	
1-82531	109	
1-82532	>10000	* 12.26
1-82533	7595	
1-82534	172	

SAD
↓