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GEOLOGICAL - GEOCHEMICAL  
ASSESSMENT REPORT  
SORT 1-7 MINERAL CLAIMS  
NANAIMO MINING DIVISION

BY

ARNE O. BIRKELAND, P.ENG.  
ARNEX RESOURCES LTD.

JANUARY 25, 1991

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,917

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- Appendix III    GEOCHEMICAL DATA SHEETS,  
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- APPENDIX IV    CERTIFICATES OF ANALYSIS;  
ANALYTICAL PROCEDURES

## INTRODUCTION

A program of reconnaissance geological mapping, stream sediment geochemical sampling, prospecting and rock chip sampling has been conducted on the Sort Mineral Claims located in the north central portion of Vancouver Island.

Exploration work was conducted between December 21, 1989 and December 19, 1990. Sixty eight man days of exploration work was conducted by Arnex Resources Ltd. Gross total expenditure on the project to date is \$47,528.52. (See Appendix II, Statement of Expenditure; Pie-graphs, Sort Project Expenditures, Expenditures by Category.)

Exploration work was conducted on the lower accessible portions of the Property.

This Engineering Report presents a summation of data collected and reports significant results of the Exploration Program.

## CLAIM TENURE

The Sort Mineral Claim Groups (A and B) comprise the Sort 1 to 7 Mineral Claims (127 claim units), Record #3667 to #3773. Anniversary dates for the 3,175 hectare (7846 acre) property are presented in Table 1, Claim Tenure.

TABLE 1  
CLAIM TENURE

CLAIM	RECORD NUMBER	NUMBER OF UNITS	DATE OF RECORD	ANNIVERSARY DATE
Sort 1	3667	20	12-20-89	12-20-91
Sort 2	3668	20	12-19-89	12-19-91
Sort 3	3669	12	12-20-89	12-20-91
Sort 4	3670	20	12-21-89	12-21-91
Sort 5	3671	20	12-22-89	12-22-91
Sort 6	3672	15	12-21-89	12-22-91
Sort 7	3673	20	12-23-89	12-23-91

NOTE: All claims are located in the Nanaimo Mining Division;  
NTS: 92L/1E, 92K/4W

## **HISTORY**

Regional geochemical survey data (MEMPR BC RGS 23; GSC O.F. 2040) for NTS 92L/102 I was released in June 1989. MINFILE Mineral Occurrence Inventory and updated geological base maps were also released at this time.

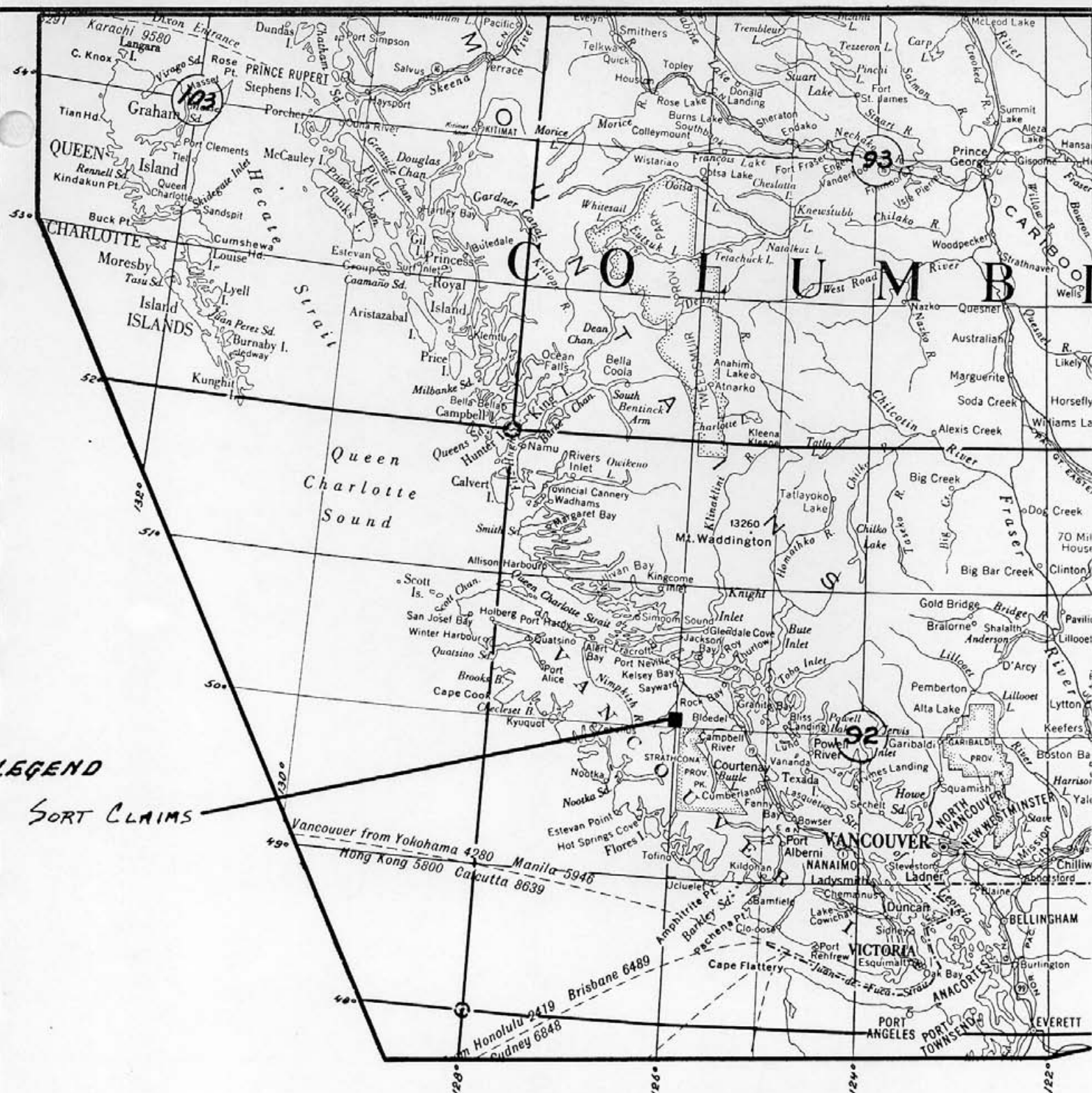
Compilation and research of all published data including investigation of Claim Tenure resulted in selection of high priority anomalies for further investigation.

Follow-up reconnaissance field work resulted in the staking of the claims between December 19 and December 23, 1989.

As no previous claims appear to have ever been staked, this property qualifies for classification as a "New Discovery".

## **LOCATION**

The Sort Claims are located on north-central Vancouver Island, approximately 40 km west of Campbell River on Consort Creek, an easterly tributary of the White River drainage. The Claims are situated on NTS Map Sheets 92L/1E and 92K/4W and are centered at 50°05' Latitude and 126°0' Longitude (Figure 1, Property Location Map, and Figure 2, Claim Location Map).



**LEGEND**

**SORT CLAIMS**

**SORT CLAIMS**

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**PROPERTY**

**LOCATION MAP**

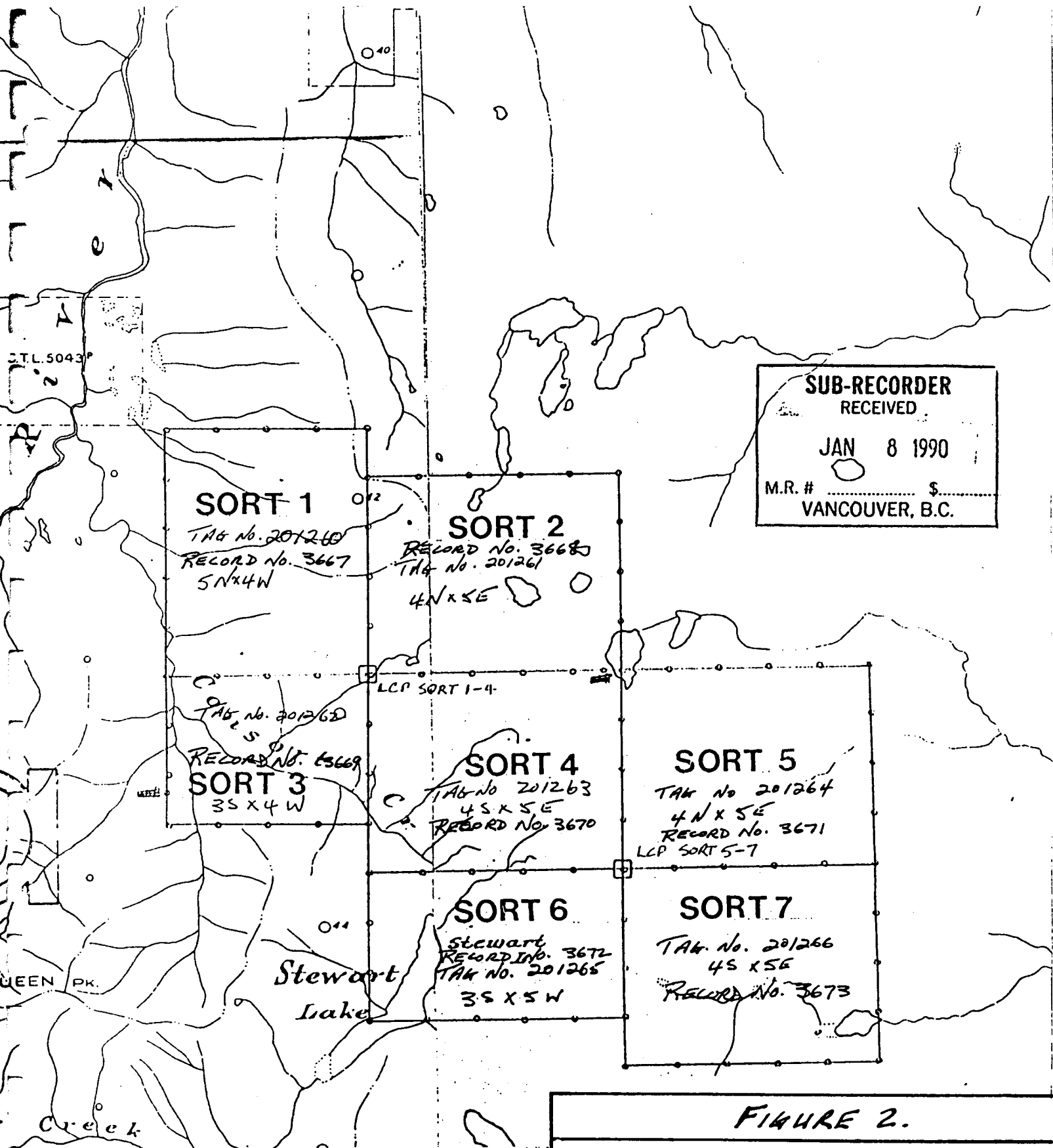
**PROVINCE OF BRITISH COLUMBIA**

**(SOUTH PART)**

**SCALE: 1" = 64 miles**

**Figure 1**





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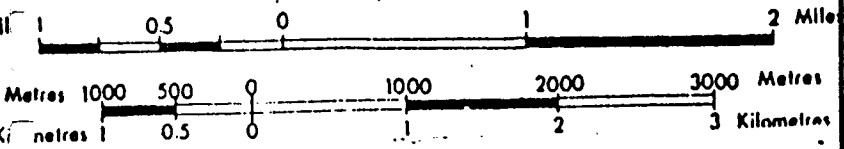
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FIGURE 2.

**SORT CLAIMS**

**CLAIM LOCATION MAP**

NTS: 92L/1E; 92K/4W



Scale: 1:50,000

## **ACCESS**

The property can be reached by vehicle by following Highway 19 approximately 55 km north from Campbell River to Sayward Junction.

From Sayward Junction, the western portion of the Claims can be accessed by approximately 30 km of good logging road on the White River Main, Stewart Main, and John Frazer Main logging roads.

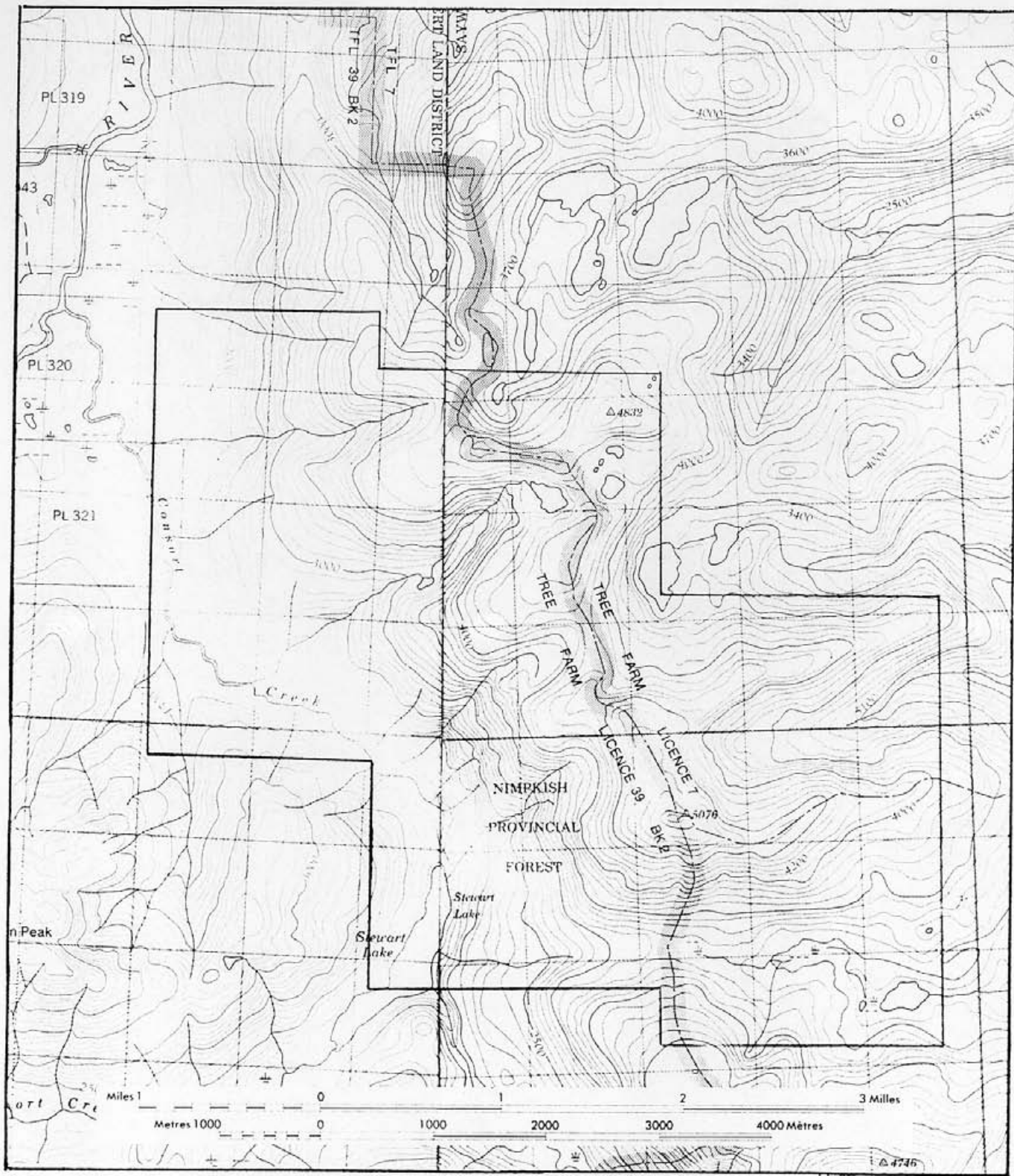
The eastern portion of the Claims can be accessed by travelling approximately 35 km to the southeast on the Salmon River Main and Grilse Creek logging road systems.

For local access on the lower elevations, the logging spur roads are used supplemented by hicking.

Helicopter support will be required in the upper more inaccessible elevations of the Property.

## **TOPOGRAPHY AND PHYSIOGRAPHY**

The Property lies along the height of land forming the backbone of Vancouver Island. Extreme relief characterizes the topography of the Claim group (Figure 3, Topography and Figure 4, Topographic Base Map).



**SORT 1-7**  
**TOPOGRAPHY**

ELEVATION IN FEET

Scale 1:50,000

Metres 1000 0 1000 2000 3000 4000 Metres

NTS: 92L/1E : 92K/4W

Figure: 3

Date/Revised: 01-90/01-91

The Stewart Lake and Consort Creek drainage system forms the V shaped valley dominating the immature western landform. The lowest elevation is approximately 1000 feet.

A northwest trending ridge of rounded high peaks (maximum elevation 5076 feet) and alpine lakes comprise the eastern portion of the property. Steeply incised northeast trending secondary creek drainages dissect the steep southwesterly facing slopes on which the bulk of the work has been done to-date.

#### **CLIMATE**

Typical Westcoast rain forest climatic conditions are present. During the spring/fall/winter months, heavy precipitation is dominant as the area becomes subject to the flow of the moist humid jet stream. Drainages are commonly in flood and very high energy flows develops on steep hillsides.

Snow usually arrives at the lowest portions of the property in the valley bottoms during the early part of December to the early part of January. It can vary considerably from year to year. Generally, the lower elevations become snow free during March.

During the summer months between June and September, hot dry spells may occur for up to weeks.

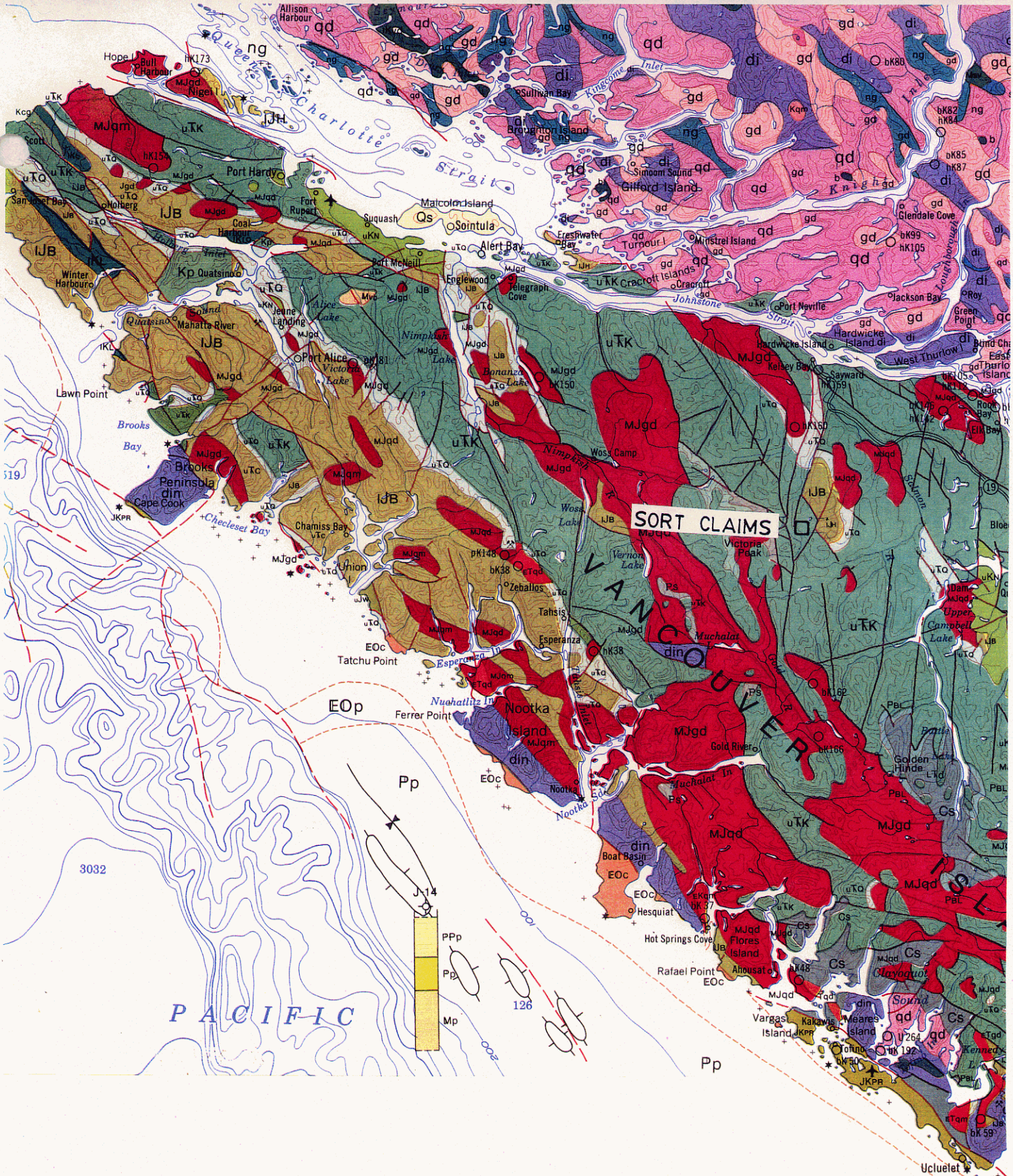
## VEGETATION

Alpine scrub-brush and grasses dominate the highest elevations on the property with tree-line at approximately 4,700 feet.

Thick conifer forest of mature fir, hemlock, balsam, spruce and cedar grow on the valley walls and along the valley bottoms. In the mature old growth forest, underbrush is only modestly dense. Outcrop areas are usually covered in a thick carpet of moss. In logged areas, very thick undergrowth can develop until trees have reached a height of 5 to 10 m.

## REGIONAL GEOLOGY

The geologic history of north-central Vancouver Island can be simplified into five major episodes: (1) formation of the Paleozoic volcanic arc of the Sicker Group, (2) extrusion of the Triassic tholeiitic flood basalts of the Karmutsen Formation, (3) development of the Jurassic volcanic arc of the Bonanza Group and related Island intrusions, (4) Nanaimo group sedimentation, and (5) Tertiary volcanic and plutonic activity including emplacement of the Tertiary Catface intrusions. (Figure 5, Regional Geological Map - Map 1386A; Figure 6, Geotectonic Correlation Chart - Map 1386A; Figure 7, Relationship of Formations on Vancouver Island.)



REGIONAL GEOLOGIC MAP		1:1,000,000 GEOLOGICAL ATLAS	
NORTHERN VANCOUVER ISLAND		SHEET 92	
Figure 5	Kilometres 25 0 25 50 75 Kilometres		
	Miles 20 0 20 40 Miles		

# STANDARDS FOR GEOLOGICAL TIME

EON	ERA	PERIOD	TIME-STRATIGRAPHIC		TIME-ROCK	
			SERIES	STAGE		
					*Ma	
PHANEROZOIC	JURASSIC	UPPER	NEOC	VALANGINIAN	130	
				BERRIASIAN	136	
			UPPER TITHONIAN	UPPER VOLGIAN	141	
				LOWER VOLGIAN	146	
			PORTLANDIAN		151	
			MIDDLE	KIMMERIDGIAN	151	
				OXFORDIAN	157	
				CALLOVIAN	162	
				BATHONIAN	167	
		BAJOCIAN		172		
		TOARCIAN		178		
		LOWER	PLIENSCHACHIAN	183		
			SINEMURIAN	188		
			HETTANGIAN	190-195		
		TRIASSIC	UPPER	RHAETIAN		
				NORIAN		
				KARNIAN	(205)	
				MIDDLE	LADINIAN	
	ANISIAN				(215)	
	SPATHIAN					
	LOWER		SMITHIAN			
			DIENERIAN			
			GRIESBACHIAN	225		
	PERMIAN		U	OCHOAN	DZHULFIAN	230
				GUADALUPIAN	KAZANIAN	240
			LOWER	LEONARDIAN	ARTINSKIAN	265-268
		WOLFCAMPIAN		SAKMARIAN		
				ASSELIAN	280	
		PENNSYLVANIAN		U	VIRGILIAN	ORENBURGIAN
	MISSOURIAN		GZHELIAN			
DESMOINESIAN						
M	ATOKAN		MOSCOVIAN	WEST-PHALIAN	310-315	
			BASHKIRIAN			
L	MORROWAN					
MISSISSIPPIAN	UPPER	CHESTERAN	NAMURIAN	325		
		MERAMECIAN	WISEAN			
	LOWER	OSAGIAN		335-340		
			TOURNAISIAN			

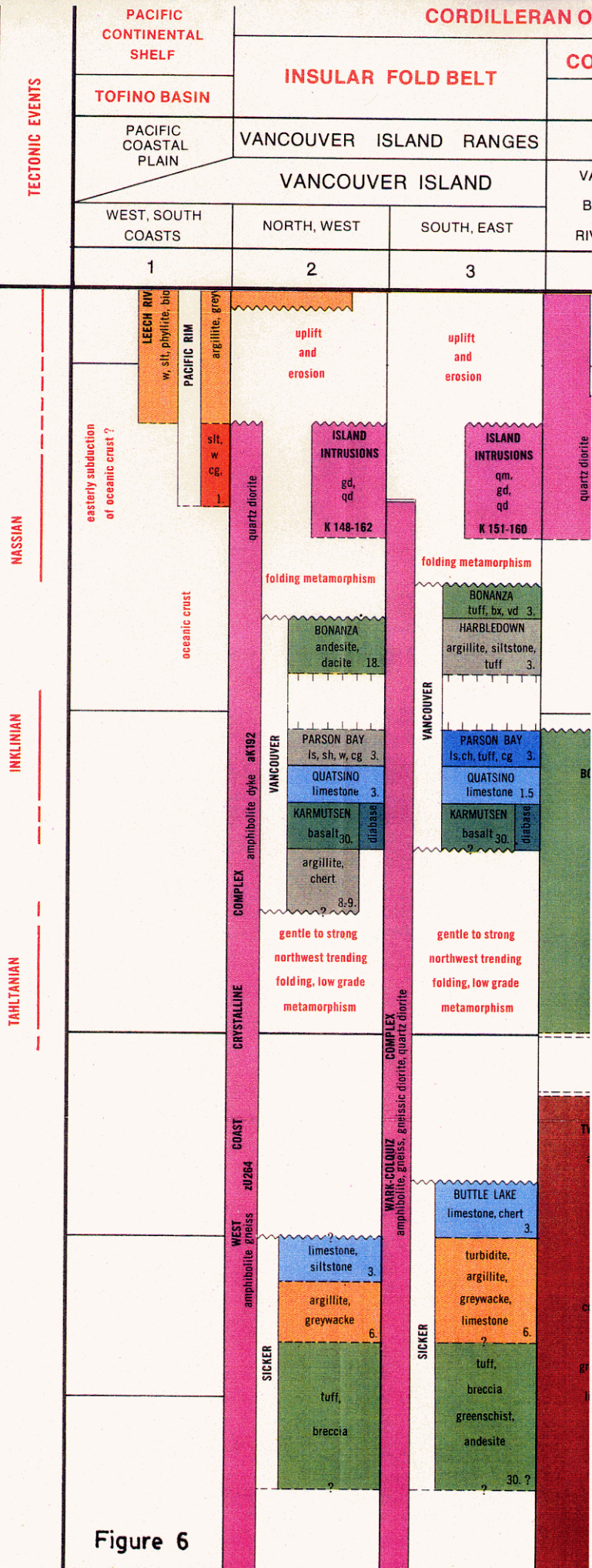


Figure 6

Geotectonic Correlation Chart for Sheet 92, Fraser River, Map 1386A

# STANDARDS FOR GEOLOGICAL TIME

TIME		TIME-STRATIGRAPHIC		TIME-ROCK			
EON	ERA	PERIOD	SERIES	STAGE			
*Ma							
CENOZOIC	TERTIARY	QUATERNARY	RECENT		1.5-2		
			PLEISTOCENE				
			PLIOCENE				
			MIOCENE				
			OLIGOCENE				
			EOCENE				
		PALEOGENE	PALEOCENE		65		
			UPPER	SENONIAN	MAESTRICHTIAN		70
					CAMPANIAN		76
					SANTONIAN		
					CONIACIAN		
			TURONIAN		94		
			CENOMANIAN		100		
			LOWER	NEOCOMIAN	ALBIAN		106
APTIAN		112					
BARREMIAN		118					
HAUTERIVIAN		124					
VALANGINIAN		130					
BERRIASIAN		136					
UPPER TITHONIAN		UPPER VOLGIAN			141		
PORTLANDIAN		LOWER VOLGIAN					

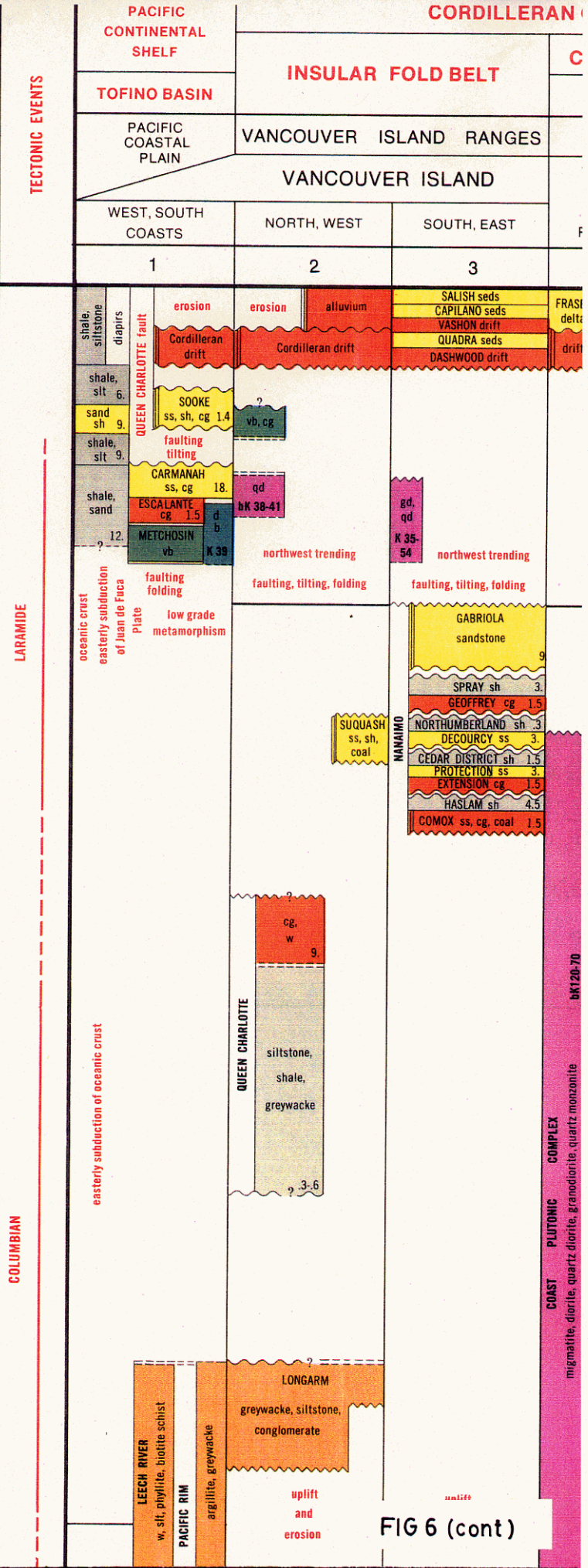


FIG 6 (cont)

Geotectonic Correlation Chart for Sheet 92, Fraser River, Map 1386A



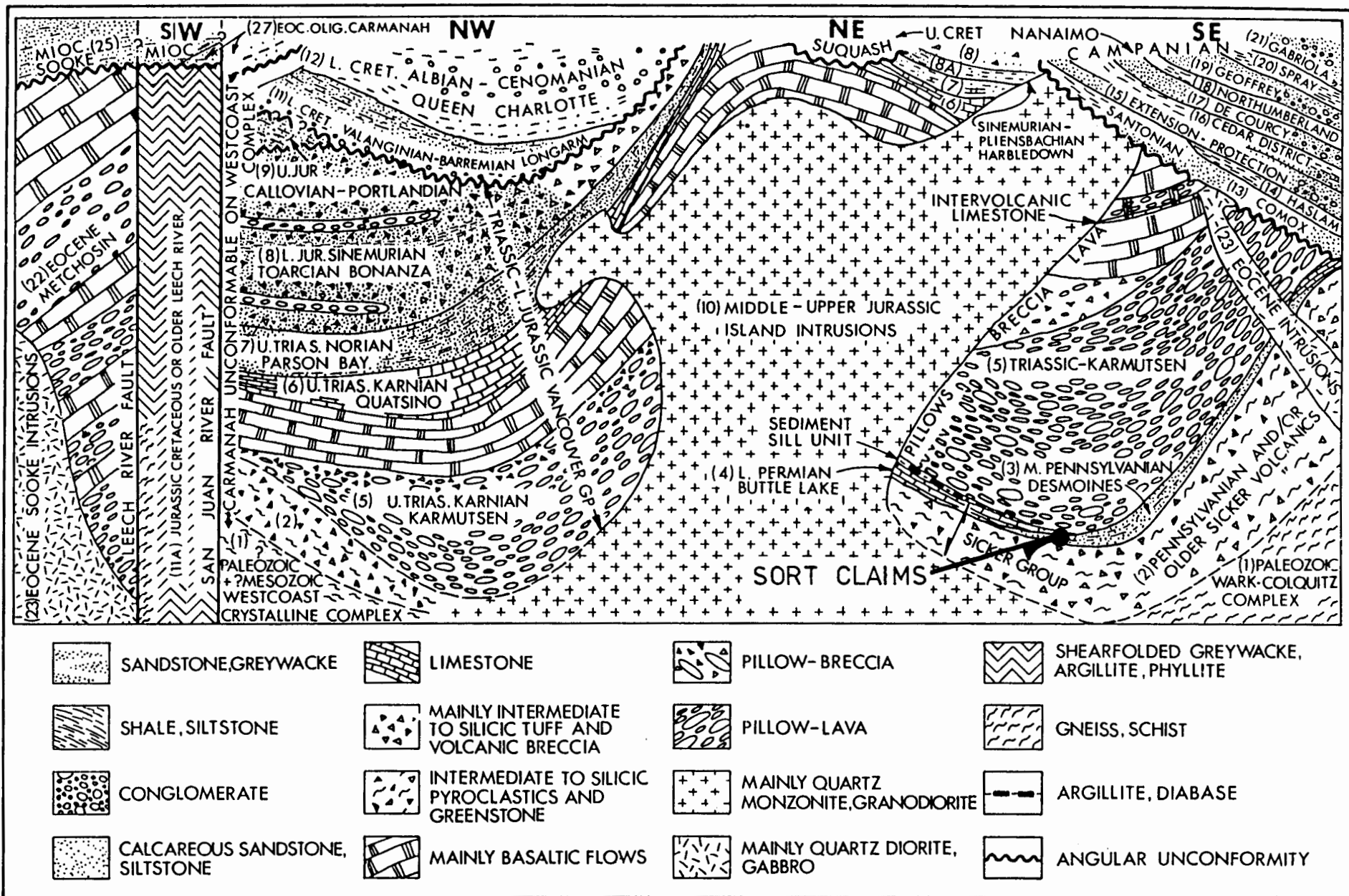


Figure 7. Relationships of formations of Vancouver Island.

### **Paleozoic Volcanic Arc**

Sicker Group anticlinoria consist of volcanic and volcanoclastic rocks and greywackes that constitute a Paleozoic volcanic arc. The lowermost part of the Sicker Group contains the Duck Lake/Nitinat Formations characterized by pillowed and massive basaltic flows and breccias which host Au deposits in the Port Alberni area (i.e. Debbie). Middle Sicker Group rocks contain the Myra formation which is composed of more felsic volcanic and volcanoclastic rocks that host volcanogenic massive sulfide (VMS) ore deposits at the south end of Buttle Lake and at Mount Sicker. The top of the Sicker Group is capped by limestones and volcanoclastic sediments which have been intruded by comagmatic Late Triassic diabase sills.

### **Vancouver Group**

Overlying the Paleozoic Sicker Group are the Vancouver Group rocks comprised of the Karmutsen, Quatsino and Parson's Bay formations.

The Karmutsen Formation is the thickest and most extensive formation on Vancouver Island. It is divisible into a lower part of pillow lavas up to approximately 3000 m thick, a middle section of pillow breccias and tuffs up to 1000 m thickness and an uppermost section of basalt and andesite flows with minor sedimentary intercalations.

### **Jurassic Island Arc**

The Karmutsen Formation is overlain conformably by the late Triassic Quatsino and Parson's Bay formations dominantly composed of limestone and shale respectively.

An early to middle Jurassic Island Arc assemblage of volcanic and volcanoclastic rocks is known as the Bonanza Group. Numerous andesite and gabbro dykes and sills hosted in older strata occur as feeders for the Bonanza Group.

Coeval with Bonanza volcanism was emplacement of major quartz diorite to granodiorite batholiths, known as the Island intrusions. The Island Copper porphyry copper-molybdenum deposit is related to this magmatic episode.

### **Upper Mesozoic**

Cretaceous sedimentary rocks of the Nanaimo Group overlie all preceding units with marked angular unconformity.

### **Tertiary**

Tertiary Eocene Catface quartz diorite batholiths with related dyke swarms also occur throughout north central Vancouver Island. Au-quartz veins in the Zeballos district and at Mount Washington are related to this plutonic episode.

## TECTONICS

The geological structure of the area is mainly the result block faulting. The faults are invariably steep and have vertical as well as transcurrent off-sets that in most instances cannot be determined due to a lack of marker beds.

Because faults are narrow linear belts of shattered rocks, they have a major influence on ground water circulation, erosion, and the topography, thus major steeply dipping faults are generally occupied by prominent valleys. Secondary fault systems commonly outcrop in steeply incised side creeks.

A northwesterly orogenic trend dominates the Insular Belt of north central Vancouver Island. A series of imbricating northwest trending easterly dipping thrust faults comprise the eastern flank of the northwesterly trending anticlinorium. Local northerly and northeasterly trending block faults dissect the orogenic grain.

The Sort Claims occur at the intersection of the northwesterly trending Eve fault system and the north-south trending White River system. Al creek fault trending north  $20^{\circ}$  east belongs to the White River north trending fault swarm (See Figure 8, Map of Main Faults and Fault Blocks)

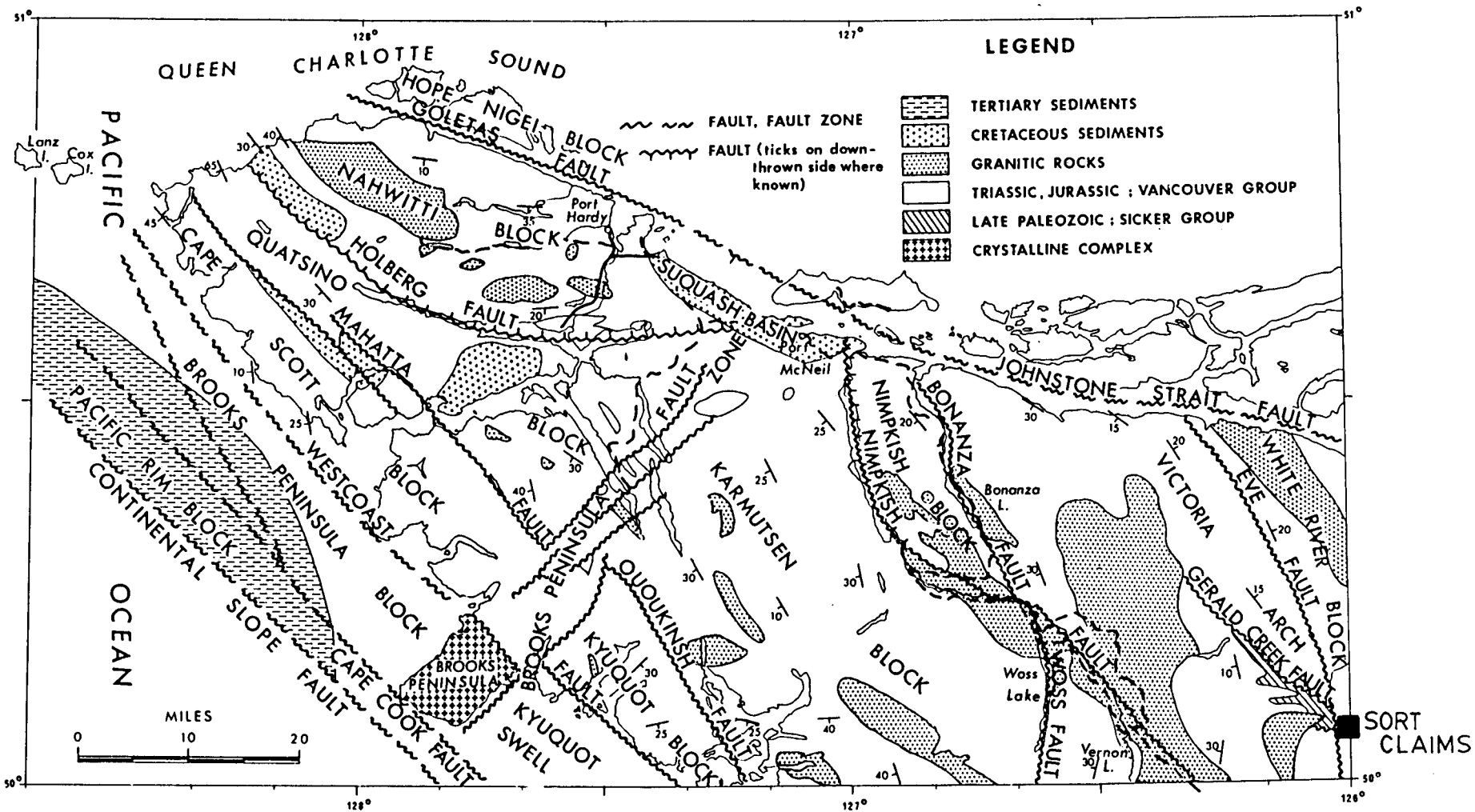


Figure 8. Map of main faults and fault-blocks.

## LOCAL GEOLOGY

From a limited number of traverses a Generalized Geological Map, Figure 9 and Idealized Cross Section A-A', Figure 10 have been prepared. Due to a lack of marker beds or distinctive stratigraphic units, correlation of the rocks which underlay the Property with regional geological units is difficult. It appears that the Property is underlain by rocks of the lower, middle and upper Karmutsen volcanics. Paleozoic Sicker group rocks may be present in the lower most stratigraphic successions.

The Property is mostly underlain by a thick series of tholeiitic basaltic lavas.

The volcanic stratigraphy has been subdivided into generalized units containing pillow basalts, basalt flows / breccias and undivided basalt and andesite flows (Figure 11, Stratigraphic Column).

The lower most unit (uTrK;pb) consists of close packed pillows generally 0.5 m to several m in size. Many pillows have chilled rims of dark green or brown aphanitic rock, 1 to 2 cm thick, enveloping reddish brown weathering, fine grained commonly porphyritic or amygdaloidal basalt. Roughly tetrahedral spaces between pillows are typically filled mainly with quartz and minor amounts of epidote and calcite. Such quartz "nests" are in many

SORT CLAIMS

IDEALIZED  
CROSS SECTION A-A'

Jan, 1991

Figure 10

CROSS SECTION LOOKING NORTH

4000'

3000'

2000'

1000'

A

A'

— CONSERVATION CREEK  
— LOGGING ROAD

URK; pb

URK; bf2, bx

URK; pb

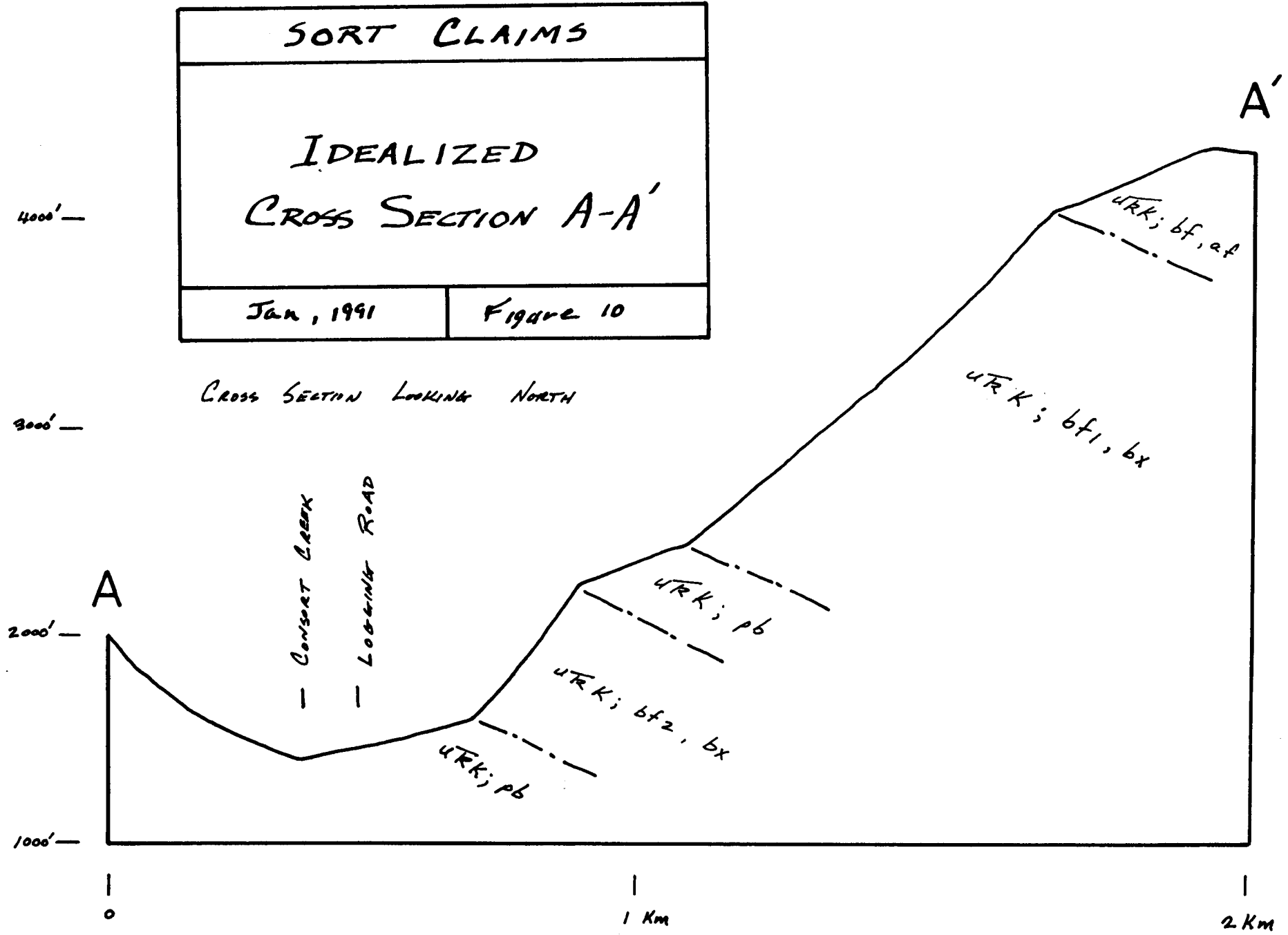
URK; bf1, bx

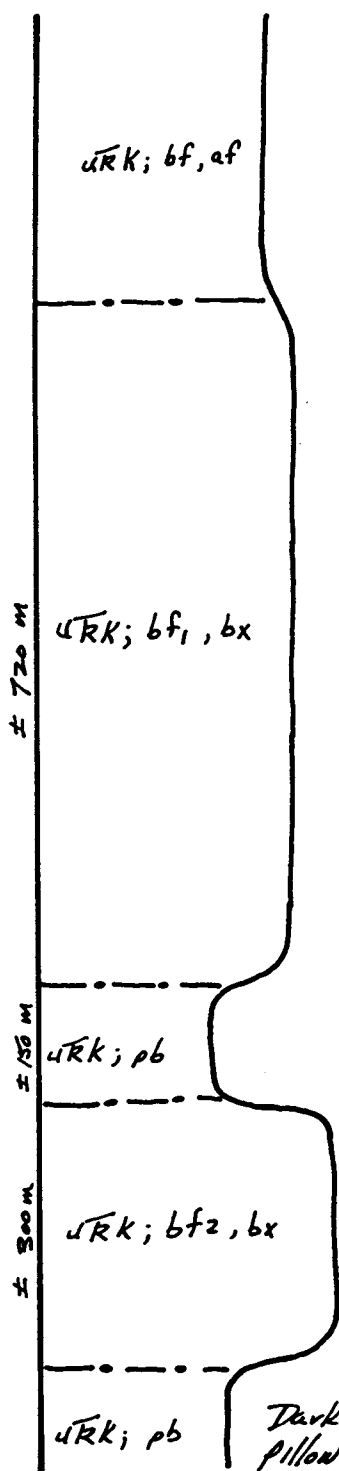
URK; bf, af

0

1 Km

2 Km





Undivided green-grey massive basalt and andesite flows; minor tuffaceous interbeds.

Massive dark grey basalt flows and flow breccia units; VMS style stratabound sulfide rich zones.

Dark grey-dark green pillow basalts; densely packed small pillows

Basalt flows and flow breccias; dark grey to black; minor concordant sulfide rich zones.

Dark grey-black pillow basalt; large loosely packed pillows, minor flows and breccias

<b>SORT CLAIMS</b>	
<b>STRATIGRAPHIC COLUMN</b>	
January, 1991	Figure 11



places the best indicators of pillow structure in otherwise massive looking basaltic rock.

The lowermost pillow basalt unit (uTrK;pb) grades transitionally upwards to basalt flows and flow breccias (uTrK;bf2,bx). The transitional section is marked by pillow breccia, which contain angular fragments of pillows imbedded in a matrix of aquagene tuff.

Grading upwards, the monolithic pillow breccias grade into basalt flows and heterolithic breccias of the uTrK;bf1,bx unit. The layered flows vary in thickness from approximately 2 to +20 m. Some massive well jointed layers of basalt may represent sills rather than flows. Breccias commonly contain angular fragments of flow rocks and are hosted in a chloritic matrix. These rocks are generally dark grey to black in colour. This unit is resistant to weathering and commonly forms steep bluffs and cliffs in outcrop.

The overlying pillow basalt and massive basalt unit (uTrK;pb) contains pillows which are much less recognizable in this recessive weathering unit and only the existence of interstitial quartz indicates the pillow units.

The most significant geological unit on the property (uTrK;bf2,bx) consists of interbedded basalt flows and flow breccias. Contacts between breccias and silicified tuffaceous

intercalations are often associated with alteration and sulfide mineralization. This approximately 720 m thick sequence is very resistant to weathering and forms numerous cliffs and bluffs.

The uppermost undivided uTrK;bf,af unit consists of undivided andesite and basalt flows and breccias. These generally grey to dark green rocks outcrop in the highest elevations in the western portion of the Property and are dominantly present on the easterly portion of the Property. They are also resistant to weathering and are cliff forming.

All volcanic rocks are intruded by gabbro and andesite dykes and sills. The most commonly observed dykes are generally steep in orientation and vary from a few m to up to 50 m in thickness. The dykes commonly exhibit chilled rims and low grade contact metamorphic (epidote) margins commonly occur in the host rock. Gabbro dykes and sills are thought to be coeval with the upper Karmutsen series while andesite dykes are thought to be feeders for the andesitic volcanics of the Bonanza Group.

The rocks underlying the Claim group appear to be generally northerly striking with gentle to moderate dips to the east. Bedding is difficult to recognize and flow contact relations or jointing is the best indicator of attitude.

## **ALTERATION**

Diagenetic alteration includes chloride epidote associated with pillow rims and basalt flow contacts. Interpillow quartz accretions are commonly accompanied by epidote skarn assemblages.

Two main types of local alteration occur. Ankerite (ferrodolomite), quartz and chlorite alteration is commonly associated with steeply dipping faults that outcrop in steep creek beds. Local albite, epidote, chlorite and silica alteration also occurs with sulfides stratabound within the basaltic flows and flow breccia units.

## **STRUCTURE**

The most dominant structural feature to the Property is the northwesterly trending Eve and White River fault systems which control the White River, Consort Creek, and Stewart Lake drainages.

Major steeply dipping N20°E and east-west striking block faults commonly outcrop in hillside drainages. These faults commonly occur as shear and breccia zones that are generally up to a maximum of 5 m in width. Where observed, slickensides indicate a major vertical component of displacement rather than horizontal lateral offset. Because of the brittle nature of the basaltic

rocks, the faults form the boundaries of large undisrupted blocks that have shattered margins.

Pb Creak and Boundary Creek drainages coincide with major east-west trending block fault systems. In the central portion of the Property, A1 Creek and 1324 Creek and numerous other small drainages are oriented N20°E over a 1 to 2 Km zone of major block faulting.

## **GEOCHEMISTRY**

### **Procedure**

Stream sediment geochemical sampling was conducted on the western and southern portions of the Claim Group.

Moss mat sampling was used extensively in the collection of stream sediments.

Field collection of approximately 1 Kg samples of moss and root material were collected from outcrops and boulders within the active stream channel. Samples were collected above low-water and below high-water levels within the drainage channel. When dried, the sediment portion trapped in the roots of the moss yielded an excellent stream sediment sample media in steep drainages where conventional active stream silt does not exist.

The -80 mesh moss mat sediment fraction was assayed for Au, Ag, As, Bi, Cu, Cd, Hg, Mo, Pb, Sb, Se and Zn. All assay results are

presented in Appendix IV, Certificate of Analysis and anomalous results are reported as Appendix III, Anomalous Results, Geochemical Data Sheets.

Threshold values were determined by choosing the appropriate percentile for Karmutsen rocks from the large sample population base reported by the Ministry of Energy, Mines, and Petroleum Resources (Table 2 , Geochemical Threshold Values).

**Table 2**  
**GEOCHEMICAL THRESHOLD VALUES**

<u>ELEMENT</u>	<u>PERCENTILE</u>	<u>THRESHOLD VALUE</u>
Ag	99 <sup>th</sup>	0.6 ppm
As	95 <sup>th</sup>	27 ppm
Au	95 <sup>th</sup>	80 ppb
Bi	99 <sup>th</sup>	0.5 ppm
Cu	98 <sup>th</sup>	196 ppm
Cd	99 <sup>th</sup>	1.2 ppm
Hg	95 <sup>th</sup>	460 ppb
Mo	99 <sup>th</sup>	5 ppm
Pb	99 <sup>th</sup>	18 ppm
Sb	98 <sup>th</sup>	1.4 ppm
Se	No data	
Zn	98 <sup>th</sup>	192 ppm

Case history study and correlation of results from moss mat derived sediments vs conventional active stream silts indicates that values are directly comparable for hydromorphic anomalies while transported anomalies of detrital minerals are slightly elevated.

### **Geochemical Anomalies**

Significant reproducible polymetallic geochemical anomalies occur primarily in A1 and 1324 Creeks (Figure 12, Sample Location Map and Figures 13 & 14, Maps 1 & 2).

Most anomalous is A1 Creek where several samples returned values as follows: Au > 1000 ppb, Ag > 5 ppm, Cu > 300 ppm, Hg up to 1900 ppb, and anomalous As and Sb. Further up this drainage at approximately the 4000 foot elevation level, Au anomalies at Sample #9072 and #9073 indicate that the A1 Creek polymetallic geochemical may extend to this area.

Low order Au, Ag, Cu, As, Sb anomalies are present in several samples in 1324 Creek (Figure 15, Map 3 - 1324 Creek).

Anomalous As, Cu and Pb values were encountered in Pb Creek. (Figure 16, Map 4 - Pb Creek)

Anomalous Au values ranging between 380 and 780 ppb are also present in Boundary Creek in the southern portion of the Property (Figure 17, Map 5 - Boundary Creek).

## **MINERALIZATION**

### **General Description**

Mineralization is generally polymetallic on the Sort Claims and consists of gold, silver (tetrahedrite?, argentite?), chalcopyrite, sphalerite, and galena associated with pyrite and other iron sulfides. Arsenopyrite and stibnite are often present as fine grained disseminations.

A high Au to base metal ratio exists for both rock chip and geochemical stream sediment sampling. For example, geochemical values of +1000 ppb Au are often accompanied by values only in the order of 300 ppm Cu. In rock chip sampling, values of up to only 2 1/2 % Cu can contain as much as 100 g/t Au.

Most sulfide mineralization occurs in late stage cross-cutting quartz-carbonate veins and breccias related to northeasterly or easterly trending fault zones. Precious metal and base metal fracture filling sulfides are commonly hosted in a gangue of quartz, ankerite, and silicified volcanic rock. These cross-cutting fracture zones show pervasive silicification flanked by propylitic alteration (epidote and chlorite).

Distinct from the cross-cutting quartz vein related mineralization are disseminated (locally to 50%) sulfides hosted in altered volcanic rocks (VMS style). Stringer zones and crudely banded sulfides up to 10 mm in thickness are hosted in bleached (albitized, argillized), altered (dark chlorite and epidote) volcanic flows and flow breccias. This style of mineralization is restricted to the basalt flow and breccia units (uTrK;bf1,bx, and uTrK;bf2,bx).

Float containing sulfide mineralization occurs as pebbles, cobbles and boulders in at least three drainages on the Property. The float is often angular and similar in lithology to the local outcrop and is considered to be near source. Follow up prospecting of float debris has resulted in the discovery of sulfide showings in outcrop.

#### **A1 Creek Mineralization**

Mineralized float and outcrop showings occur over a +700 m strike length on A1 Creek (See Figure 13, Map 1 and Figure 14, Map 2). Up to 0.3 m angular float assays as high as 101 g/t Au (2.96 oz/T), 423 g/t Ag (12.6 oz/T) and 2.6 % Cu (Table 3, Significant Assays, Rock chip Sampling, A1 Creek).



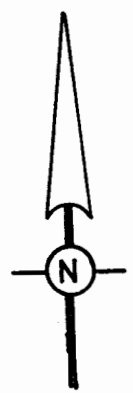
Table 3

SIGNIFICANT ASSAYS

ROCK CHIP SAMPLING

A1-CREEK

LOCATION	SAMPLE NO.	SAMPLE TYPE	TRUE/APPARANT WIDTH	ASSAY			
				Au	Ag	Cu	Zn
AB-100	26323	Float, grab	0.25m AW	70g/t	545g/t	1.2%	
AB-101	26324	Float, grab	0.3m AW	101g/t	423g/t	2.6%	
AB-106	26329	Channel	0.4m TW	750ppb		0.14%	205ppm
AB-118	26344	Channel	0.3m TW	33g/t	96g/t	0.14%	
AB-119	26345	Channel	0.5m TW	0.7g/t	4g/t	0.03%	
AB-120	26346	Channel	1.0m TW	11.6g/t	10g/t	0.86%	8.42%
AB-121	26347	Channel	0.5m TW	5g/t	5g/t		0.37%
AB-120 121	26346, 26347	Continuous	1.5m TW	9.5g/t	8.3g/t	0.57%	5.7%



uTK; bfz, bx  
Basalt flows, breccias,  
tuffs; local sulfides in  
altered volcanic

9055 1130/5.2/360/166

AB-102-106 (26325-26329); p4, minor cpy  
26325 340/1175/1300/58  
326 190/182/240/255  
327 176/8.1/560/172  
324 207/100/573/160  
329 750/1.4/1750/205  
AB-101 (26324); cpy, p4, asp, sb  
710,000/2950/770,000/73

uTK; pb  
Pillow basalt,  
flows and breccias,  
quartz calcite veinlets

9035 AB-90 (26313); Quartz sulfide vein, Breccia  
1100/5.43/90/80  
AB-89 (26312)  
AB-100 (26323) 10/1.02/100/104  
Quartz - Carbonate vein, Breccia  
in sulfide rich volcanic host,  
p4, cpy, asp, sb  
710,000/2,000 cgt/10,000/50

Cover  
↓

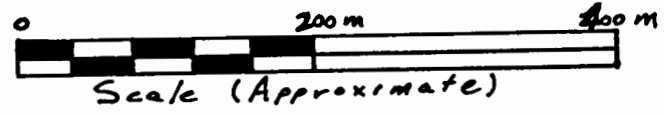
X AB-88 (26311)  
30/0.2/86/40  
Quartz - carbonate vein  
p4 minor cpy asp  
710,000/2,000 cgt/10,000/50

X AB-87 (26310)  
4360/4.0/37/46  
Quartz - carbonate vein  
p4, minor cpy, asp  
1730/5.1/350/120

James Reported  
As

Au, pb, Ag, ppm / Cu, ppm / Zn, ppm

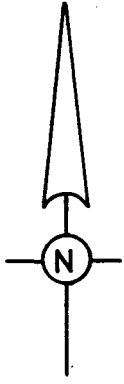
9008 670/2.6/290/114



X AB-86 5260/13.4/40/70  
X AB-85 (26308)  
Sulfide rich altered  
volcanic breccia, rounded  
sulfide fragments, p4 minor cpy

To White River  
X AB-84 (26307) To Stewart Lake  
Quartz - carbonate vein,  
p4, cpy

<b>SORT CLAIMS</b>	
<b>SAMPLE LOCATIONS AND DETAILED GEOLOGY</b>	
<b>MAP 1 - AZ CREEK</b>	
Dec 1990	Figure 13



uTk; bfi bx  
 Massive andesite and  
 basalt flows and breccias,  
 local concordant sulfide zones

uTk; pb  
 Pillow basalts, amygdaloidal,  
 quartz "nests"; numerous  
 barren quartz-calcite  
 veinlets; Relatively  
 unfractured, unaltered

uTk; bf2, bx  
 Basalt flows and  
 breccias, minor  
 tuffs; Locally  
 sheared and altered  
 along major fault zones;  
 quartz ankerite sulfide  
 vein system, cp4, py, zn,  
 As, Sb.

90106 FALLS  
 1200 / 350 / 360 / 116  
 AB 119 (26345); py, cp4, zn, Sb  
 6.69 g/t / 4.9 g/t / 0.08% / 2.01%  
 AB 120, 121 (26346, 26347); py, cp4  
 26346 11.6 g/t / 10.0 g/t / .86% / 8.12%  
 26347 5.04 g/t / 5.5 g/t / .02% / .7%  
 AB 119 (26344); py, cp4  
 339 g/t / 96 g/t / .14% / .1%

90105 FALLS  
 1490 / 90 / 400 / 135  
 AB 115 (26339)  
 Slide 20  
 py, cp4  
 .05% / 14 / 35  
 Cover

VALUES REPORTED AS: Au<sub>ppb</sub>/Ag<sub>ppm</sub>/Cu<sub>ppm</sub>/Zn<sub>ppm</sub>



SCALE (APPROXIMATE)

**SORT CLAIMS**

**SAMPLE LOCATIONS  
 AND  
 DETAILED GEOLOGY  
 MAP 2 - A1 CREEK**

Dec 1990

Figure 14

90104  
 1380 / 70 / 350 / 30  
 Cover  
 AB 98 (26321)  
 25 / .13 / 100 / 74  
 9055  
 1130 / 52 / 360 / 166

Pyrite, chalcopyrite and fine grained arsenopyrite and stibnite occur as fracture fillings in cross cutting veins and breccias. This style of mineralization commonly occurs in gash vein structures in dilatent brittle-fracture fault zones. Pervasive silicification accompanies vein and breccia zones.

Sulfide mineralization also occurs as stratabound disseminated sulfide rich zones in altered volcanics rock. Alteration includes chlorite-pyrite rock containing pyrite locally to 20%. VMS style mineralization is suggested by crude layering in the sulfide rich volcanic rocks. Average grade may be represented by sample AB-87 (#26310) which assays 4360 ppb Au (4.3 g/t).

Where faults and associated quartz-ankerite veins cross-cut sulfide rich volcanic zones hosted in the favourable basalt flow and breccia units (particularly near the gradational contacts of these units) is where base and precious metal values seem to occur most frequently.

Follow-up prospecting of float resulted in the discovery of four outcrop showings in the norther portion of Map 2. Channel samples taken over a 450 m strike length over widths of 0.25 to 1 m returned grades between 5 and 33 g/t Au and up to 1 % Cu and 8 % Zn (Table 3, Significant Assays, A1 Creek).

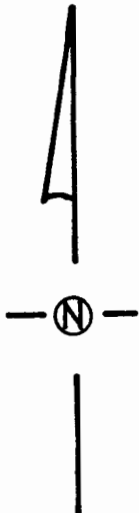
At sample location AB-115 (#26339) a 2.5 m channel of crudely layered sulfides (up to 30%) hosted in chloritized volcanic are

poorly exposed. The extent of this zone cannot be determined until additional hand trenching has been completed.

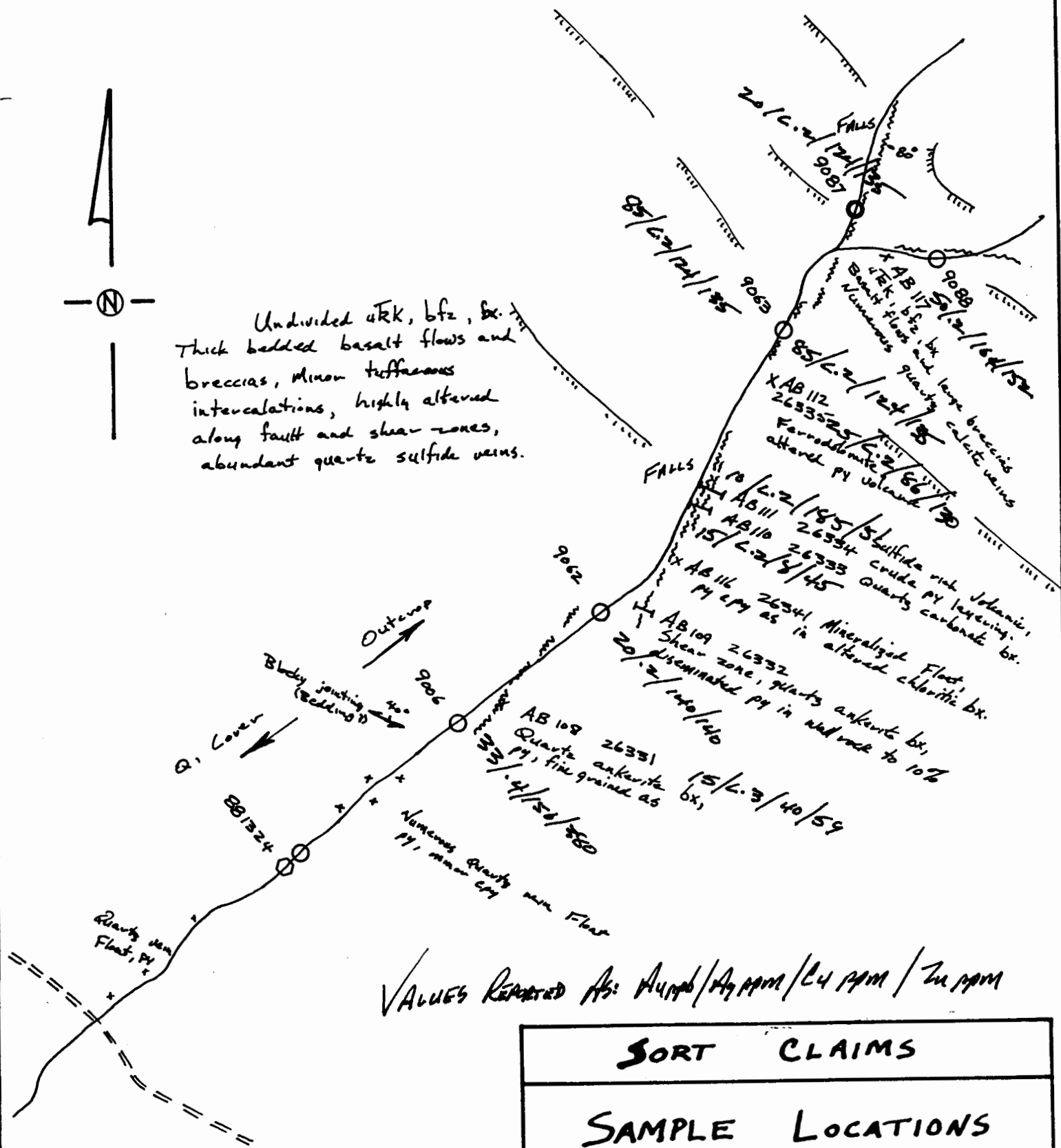
The widest portion of the mineralized zone found in outcrop to-date occurs at AB 120-121 (#26346-26347). VMS style crudely banded sulfides are interlayered with bleached (albitized, argillized), altered (chlorite epidote) volcanics. The weighted average grade over a true width of 1.5 m is calculated to be 9.5 g/t Au, 8.3 g/t Ag, 0.57 % Cu, and 5.7 % Zn. Locally, sulfides total up to 40% as crude layerings and disseminations. The extent of this zone is unknown as bank slide debris covers part of the showing and additional hand trenching is required to fully expose the mineralization.

#### **1324 CREEK**

In 1324 Creek, mineralized float occurs over a strike length of +300 m. While some mineralization is related to cross-cutting quartz veins, some mineralization also occurs as sulfide rich altered volcanic rocks associated with concordant alteration zones. At location AB-109 (#26332), a value of 0.5 % Cu and 88 g/t Ag was obtained over a 1 m true width channel sample. Arsenopyrite and stidnite are also associated with sulfides in this zone. The best mineralization appears to be related to where cross-cutting quartz veins cut sulfide rich volcanic rocks.

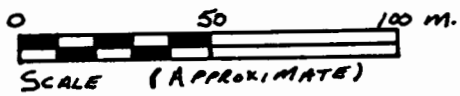


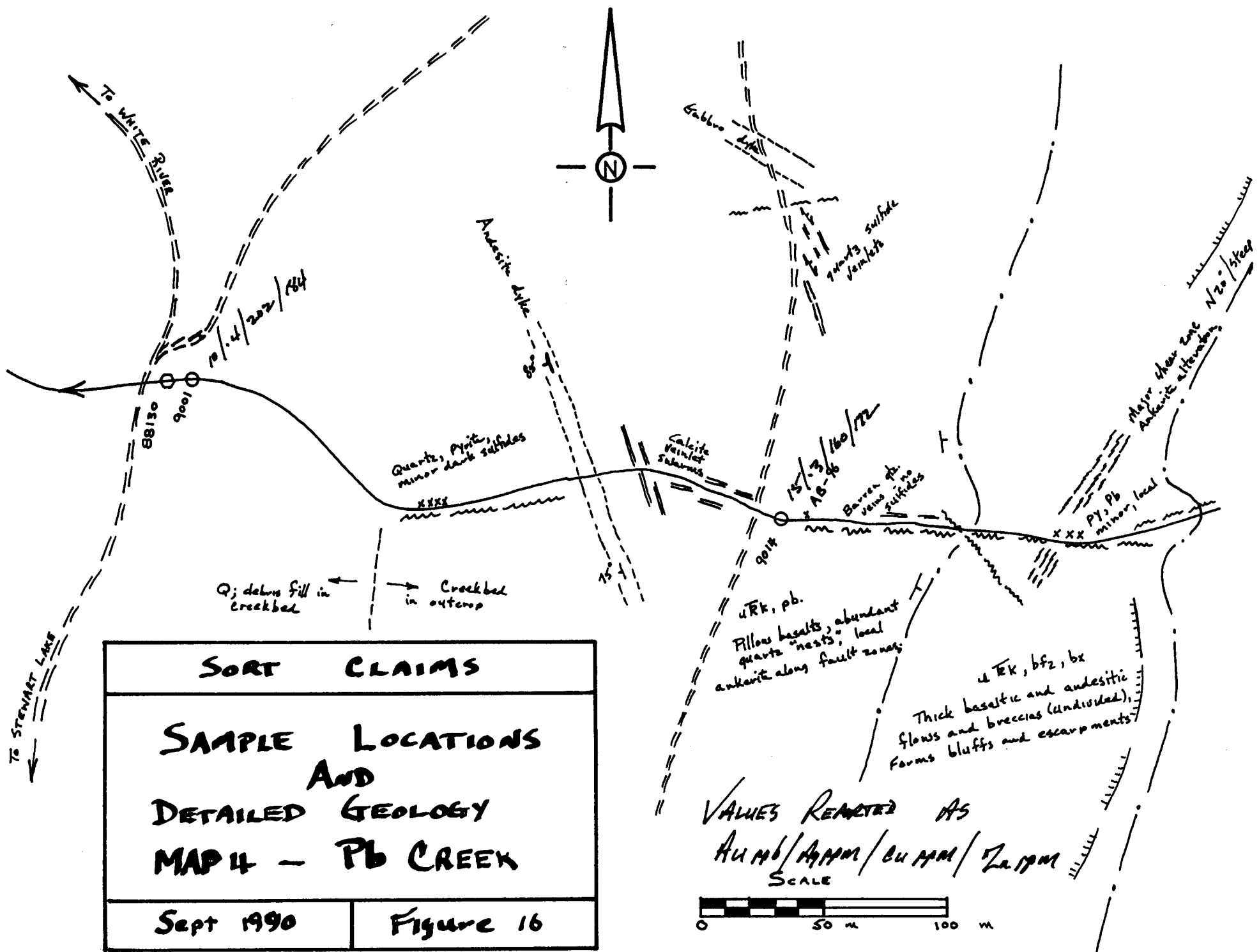
Undivided uTK, bfz, bx.  
 Thick bedded basalt flows and  
 breccias, minor tuffaceous  
 intercalations, highly altered  
 along fault and shear zones,  
 abundant quartz sulfide veins.



VALUES REPORTED AS: Au ppm / Ag ppm / Cu ppm / Zn ppm

<b>SORT CLAIMS</b>	
<b>SAMPLE LOCATIONS AND DETAILED GEOLOGY MAP 3 - 1324 CREEK</b>	
Dec 1990	Figure 15





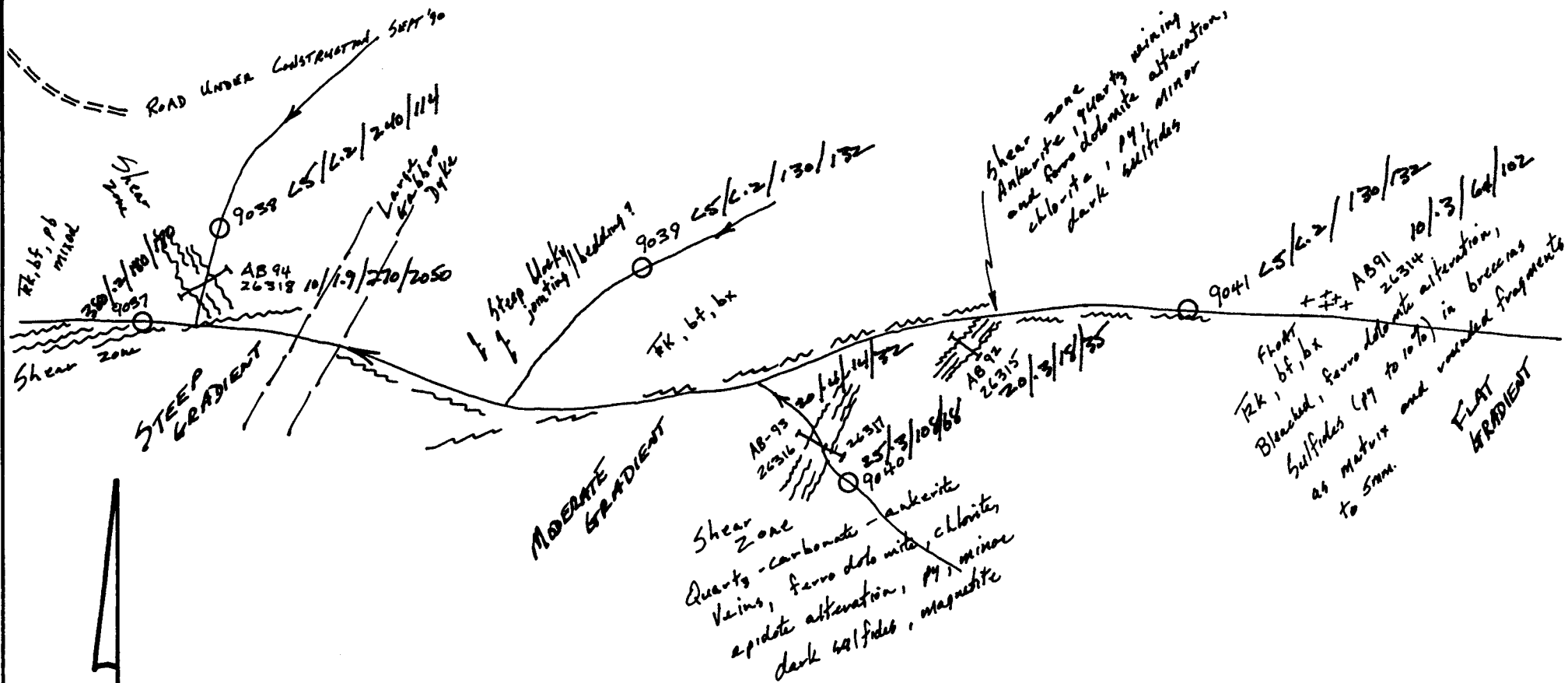
**Sort CLAIMS**

**SAMPLE LOCATIONS**  
**AND**  
**DETAILED GEOLOGY**

**MAP 4 - Pb CREEK**

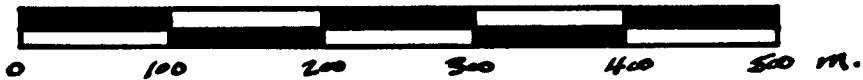
Sept 1990	Figure 16
-----------	-----------

VALUES REPORTED AS  
 Au mg / Ag ppm / Cu ppm / Zn ppm  
 SCALE



VALUES REPORTED AS  
Au ppm / Ag ppm / Cu ppm / Zn ppm

SCALE (APPROXIMATE)



SORT CLAIMS

SAMPLE LOCATIONS  
AND  
DETAILED GEOLOGY

MAP 5 - BOUNDARY CREEK

Sept 1990

Figure 17



## **BOUNDARY CREEK**

In Boundary Creek, sulfide float and mineralized outcrop showings along a cross-cutting east-west striking fault system occur over a +1 km strike length. Silicification, quartz-ankerite veining and chlorite-epidote alteration are present.

### **SUMMARY - CONCLUSIONS**

A geological and geochemical exploration program has been carried out on the lower accessible portions of the Sort 1 to 7 Claim group.

Geochemical anomalies have been encountered in four creeks. Anomalies consists of polymetallic combinations of Au, Ag, Cu, Zn, Bp, As, Hg, and Sb.

Sulfide mineralization occurs as float and outcrop showings on three creeks. Showings appear to be concentrated in two distinctive basalt flow and breccia units.


Reproducible +1000 ppb gold anomalies, mineralized float occurrences and showings are located over a +700 m strike length on A1 Creek. A sample of high-grade float which is considered to be near source returned grades of up to 101.5 g/t Au (2.96 oz/T), 423 g/t Ag, (12.3 oz/T), and 2.6 % Cu. Follow-up prospecting of additional high-grade float encountered one showing area where

four channel samples taken over a 450 m strike length (between 0.25 and 1.0 m apparent widths) return values between 5 and 33 g/t Au, up to 1 % Cu and up to 8.4 % Zn.

Preliminary exploration results have been encouraging. Potential exists for the Property to host economic polymetallic precious and base metal deposits.

Additional exploration work is required to evaluate the Property's potential.

Dated January 25, 1991



A circular professional seal for Arne O. Birkeland, a Professional Engineer in the Province of British Columbia. The seal contains the text: "PROFESSIONAL PROVINCE OF A. O. BIRKELAND BRITISH COLUMBIA ENGINEER". A handwritten signature "A. O. Birkeland" is written across the seal.

**ARNE O. BIRKELAND, P.ENG.**

**President,**

**ARNEX RESOURCES LTD.**

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## GLOSSARY

### ABBREVIATIONS COMMONLY USED

Ag	Silver
Au	Gold
As	Arsenic
Cu	Copper
Pb	Lead
Sb	Antimony
Zu	Zinc
g/t	Grams/tonne
oz/T	Ounces/ton
m	Meters
mm	Millimeters
cm	Centimeters
km	Kilometres
VMS	Volcanogenic Massive Sulfide

### MAP LEGENDS

Aspy	Arsenopyrite
Cpy	Chalcopyrite
Py	Pyrite
Sb	Stibnite
Zn	Sphalerite

**APPENDIX I**

**CERTIFICATE OF QUALIFICATION**

APPENDIX I

CERTIFICATE OF QUALIFICATION


I, ARNE O. BIRKELAND, DO HEREBY CERTIFY THAT:

1. I am a Geological Engineer in the employ of Arnex Resources Ltd. with offices at 4005 Brockton Crescent, North Vancouver, British Columbia.
2. I am a 1972 graduate of the Colorado School of Mines with a Bachelor of Science Degree in Geological Engineering.
3. I have been a registered Professional Engineer with the Association of Professional Engineers of British Columbia (Registration No. 9870) since 1975.
4. My primary employment since 1966 has been in the field of mineral exploration, namely as a Geological Engineer.
5. My experience has encompassed a wide range of geological environments and has allowed considerable familiarization with geophysical, geochemical and diamond drilling techniques.
6. I have conducted the exploration work on the property reported on herein. This report is based on data acquired and also draws from researched published information available on the area.

DATED at North Vancouver, British Columbia,

this 25 day of JANUARY, 1991

A. O.  
ARNE O. BIRKELAND P. ENG.

A circular professional seal for the Province of British Columbia. The outer ring contains the text "PROFESSIONAL ENGINEER" at the top and "COLUMBIA" at the bottom. The inner ring contains "PROVINCE OF" at the top and "BRITISH COLUMBIA" at the bottom. In the center, the name "A. O. BIRKELAND" is written in a stylized font, with a signature over it.

**APPENDIX II**

**STATEMENT OF EXPENDITURE;  
PIE-GRAPHS, SORT PROJECT EXPENDITURES,  
EXPENDITURES BY CATEGORY**




APPENDIX II

STATEMENT OF EXPENDITURE

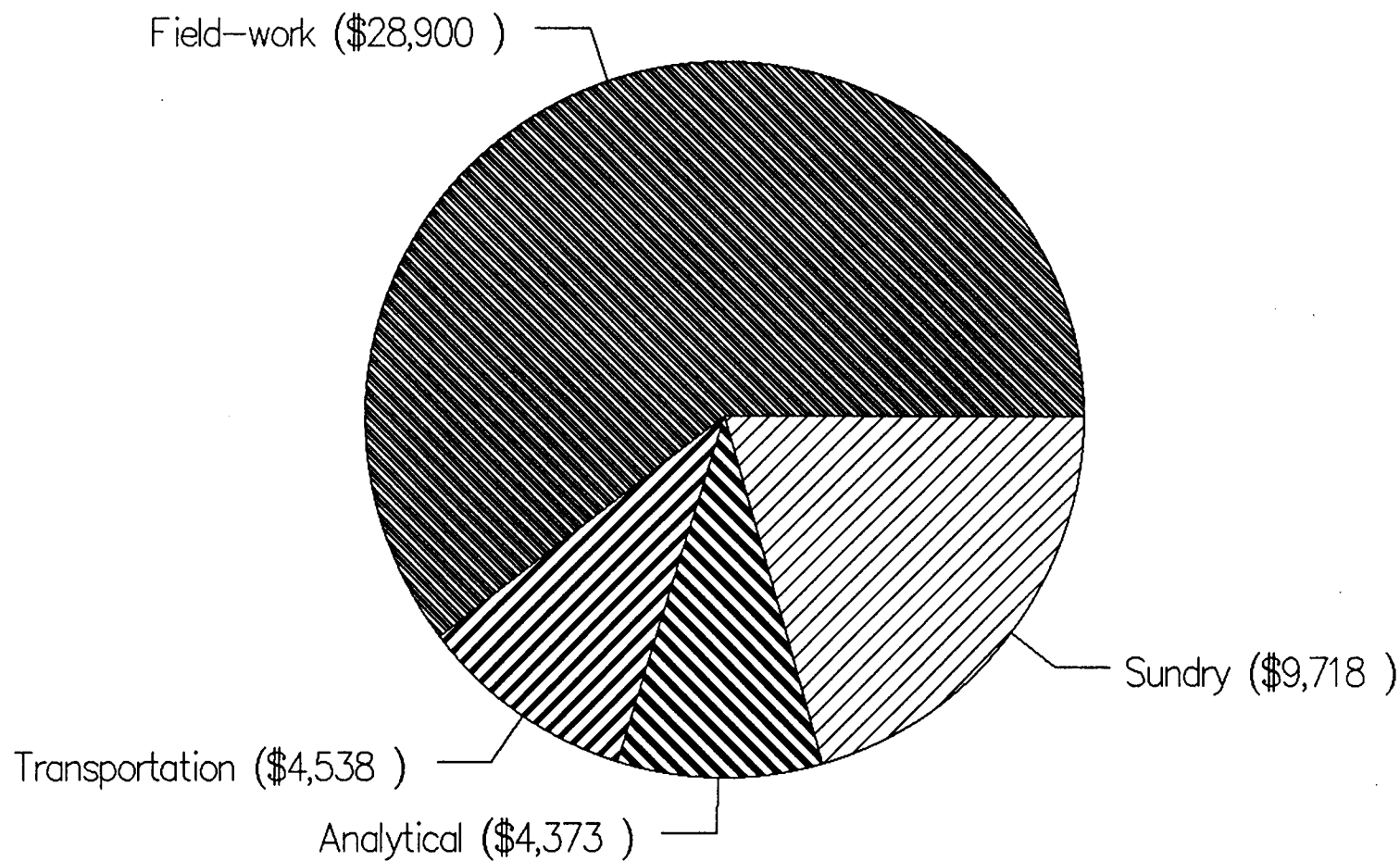
REPORT PERIOD : December 21, 1989 - December 19, 1990

<u>DESCRIPTION</u>	<u>AMOUNT</u>
Field-work - 68 man days @\$425/day	\$28,900.00
Transportation	\$4,537.89
Analytical	\$4,372.77
Sundry Room and Board, Groceries, Gas, Field Supplies, Maps, Copies, etc.	\$9,717.86
	=====
TOTAL	\$47,528.52

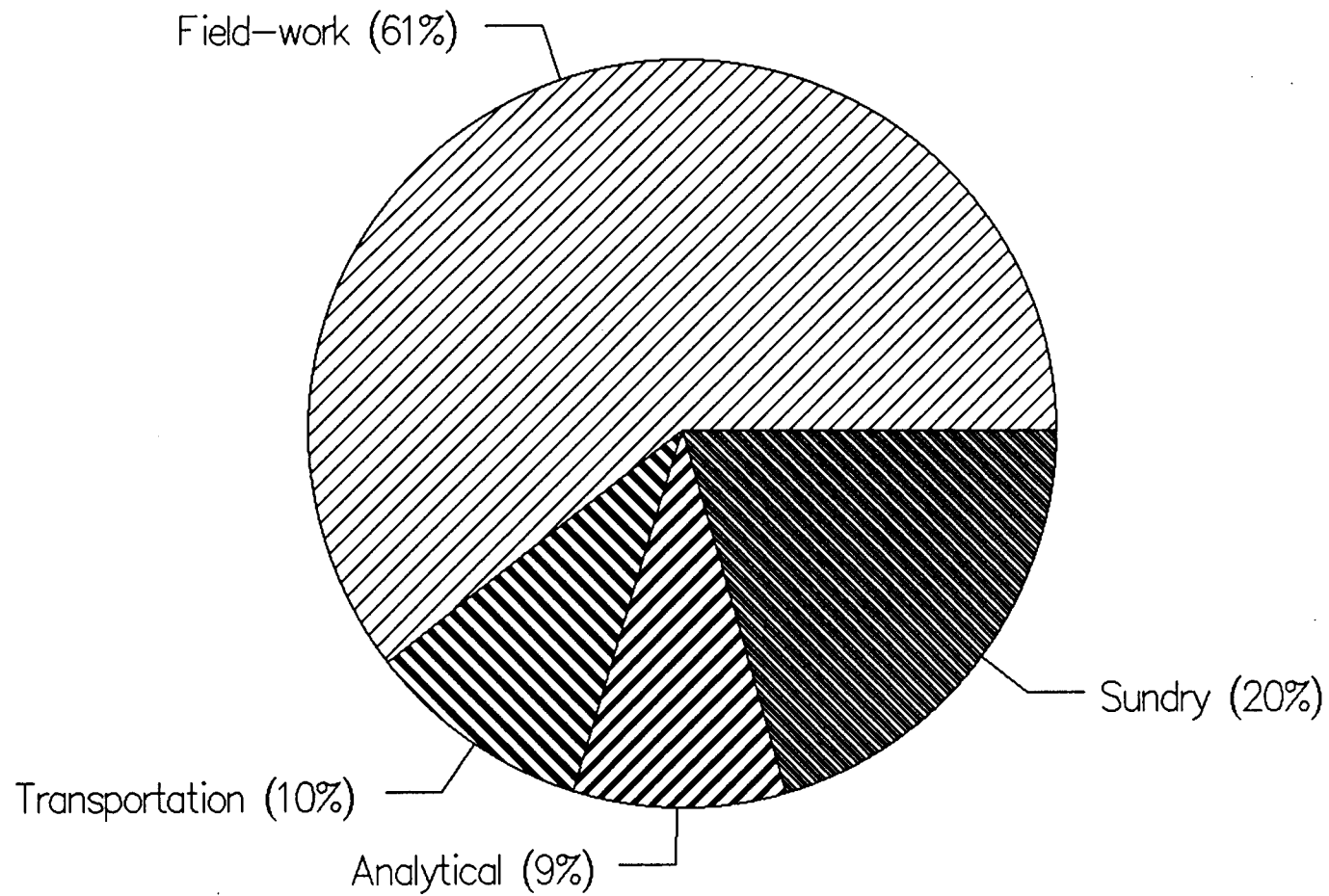
*A. O. Berkeley*  
A. O. Berkeley, B. Eng.  


# PIE GRAPH

## SORT PROJECT EXPENDITURES



# SORT PROJECT EXPENDITURES BY CATEGORY



**APPENDIX III**

**GEOCHEMICAL DATA SHEETS , STREAM SILTS, MOSS MAT,  
ROCK CHIP SAMPLING;  
ANOMALOUS RESULTS**

SAMPLER A0B

PROJECT SORT CLAIMS

CREEK \_\_\_\_\_

DATE 1990

AIR PHOTO NO. \_\_\_\_\_

SAMPLE NO.	VOLUME		DRAIN AGE	QUALITY	TYPE OF SAMPLE	COLOUR	TEXTURE	% ORGANIC MATERIAL	PETROLOGY OF BEDROCK AND/OR FLOAT	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
	Width	Depth												
9001	2	.4	Flat	Good	ASS	dark grey	silt	Low	TK, pb	Culvert (zn) in road crossing 500 m above sample site			Cu = 202	ppm
													As = 30	ppm
													Pb = 46	ppm
9008	.5	.2	Mod	G	MM	dark grey	silt		TK + JB	Float - cherty tuff (felsic) - gtz veining + associated ankerite (Fe dolomite) common			Au = 690	ppb
													As = 30	ppm
													Cu = 294	ppm
													Ag = 2.6	ppm
9014	2	1	step	G	MM	dark brown	silt		TK; pb	TK bfr, bx; Quartz veining + sulfides common			Pb = 76	ppm
9018	.5	.1	Mod	G	MM	dark brown	silt-sand	Low	TK	TK bfr, bx			Zn = 420	ppm
													Pb = 72	ppm
9019	1	.5	Flat	G	MM				TK	Low grade skarn (prop) alteration common.			Au = 780	ppb
													Bi = 0.7	ppm
9021	2	1	Mod	G	MM				Q	Possible nugget effect (placer).			Au = 490	ppb



SAMPLER AuBPROJECT SORT CLAIMS

CREEK \_\_\_\_\_

DATE 1990

AIR PHOTO NO. \_\_\_\_\_

SAMPLE NO.	VOLUME		DRAIN AGE		TYPE OF SAMPLE	COLOUR	TEXTURE	% ORGANIC MATERIAL	PETROLOGY OF BEDROCK AND/OR FLOAT	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS				
	Width	Depth													
9055	1	.5	steep	G	MM from Creek-bed outcrop	grey brown	bandy	Low	Fek bf <sub>2</sub> tx	Sulfidation, sulfide "flooding", sulfides common - ankeritic and carbonate alteration associated with ozonite fault			As = 1130	ppb	
													Ag = 5.2	ppm	
													As = 72	Cd = 360	ppm
													Hg = 870	Pb = 58	ppm
9063	2.3	.5	mod	G	MM from o.c.	brown	sandy	Low	4Fek bf <sub>2</sub> - bx	Sulfide "flooding" - ankeritic alteration common			As = 85	ppb	
9069	2	.5	steep	Rare	MM	brown	sandy coarse root material	Mod-High	4Fek; bf, of	Country rock more andesitic; disseminated sulfides common.			As = 120	ppb	
9072	5	1	mod	G	MM long moss	brown	sandy	Mod.	4Fek; bf of	Andesitic country rock - Qtz + sulfides common			As = 110	ppb	
9073	1	.5	steep	G	MM from o.c.	brown	sandy	Low	4Fek; bf of	Grille Creek			As = 85	ppb	
9074	.5	.3	steep	G	MM	dark grey	lumpy	Low	4Fek; bf of	Small bag and creek - sulfides to 10% in Country rock (andesitic)			As = 245	ppb	





ARNEX RESOURCES LTD.

GEOCHEMICAL DATA SHEET - STREAM SILTS (ASS)  
- MASS MAT (MM)

EXPLORATION DIVISION

SAMPLER AOB

PROJECT SORT CLAIMS

NTS 92L/1E ; 92K/4W

DATE 1990

CREEK \_\_\_\_\_

AIR PHOTO NO. \_\_\_\_\_

SAMPLE NO.	VOLUME		DRAIN AGE		TYPE OF SAMPLE	COLOUR	TEXTURE	% ORGANIC MATERIAL	PETROLOGY OF BEDROCK AND/OR FLOAT	ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS				
	Width	Depth													
90104	3	1	step	OK	MM	Dark grey	silt	High	4Fzk; b <sub>2</sub> bx	Possible side bank contamination; creek in flood and gravel on ground.			Au = 1380	ppb	
													Ag = 7.0	ppm	
													As = 62	Cu = 350	ppm
													Hg = 2000	Pb = 40	ppm
													ppb		
90105	3	1	step	G	MM	Grey brown	lumpy	Mod	4Fzk; b <sub>2</sub> bx	From edge of creek at base of falls; abundant gtz sulfide float and veining; ankerite alteration; veins 020°/step and 100°/45°N			Au = 1490	ppb	
													Ag = 9	ppm	
													As = 96	Cu = 400	ppm
													Hg = 1800	Pb = 48	ppm
													ppb		
90106	3	1	step	G	MM	Dark grey	silty	Mod	4Fzk; b <sub>2</sub> bx	Abundant sulfides in gtz and ankerite breccia country rock - "bleached" alteration common			Au = 1200	ppb	
													Ag = 5.9	ppm	
													As = 60	Cu = 360	ppm
													Hg = 1900	Pb = 38	ppm
													ppb		
90107	.5	.2	Mod	G	MM	Dark grey	silty	Mod	4Fzk	Ankerite alteration - boulders to .7 m; some quartz + sulfides				Pb = 24	ppm
90108	.5	.2	Mod	P	MM	Brown	gravel	High	4Fzk	Andesite dyke in o.c.				Pb = 34	ppm

SAMPLER

A. B.

PROJECT

SORT CLAIMS

NTS

92L/1E; 92K/4W

LINE

DATE

1990

AIR PHOTO NO.

SAMPLE NO.	LOCATION	ROCK TYPE	DESCRIPTION					ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
			Sample Type	APPARENT WIDTH	TRUE WIDTH	Alteration	Freshness		Mineralization			
26307	AB-84	4T2K, pb	Float- Grab	0.3m 0.3	/	Ankerite, quartz, carbonate	Fresh ✓	Py, As, Cpy.	Float boulders, quartz carbonate vein material hosted in sulfide vch volcanic host rock; Float semi-angular, near source	As = 3230 ppb Ats = 112 ppm Cu = 530 ppm	3.34 g/l	
26308	AB-85	4T2K, pb	Float- Grab	0.4m /	/	Ankerite chlorite epidote	✓	Py, Cpy	Float - sulfide vch Volcanic breccia, sulfides in matrix and as crude rounded fragments, barren qtz vein cutting sulfides	As = 5260 ppb Ag = 134 ppm Cu = 410 ppm Hg = 1300 ppb	4.89 g/l	
26310	AB-87	4T2K, pb	Float- Grab	1m /	/	chlorite Ankerite	✓	Py, Cpy	VMS? type sulfide float, crude layering, large rubble boulders near or in-place - Grade typical of Walkway	As = 4360 ppb Cu = 370 ppm Hg = 2700 ppb	4.52 g/l	
26313	AB-90	4T2K pb	Channel, chip	0.5m 0.5m	/	Ankerite chlorite porphyritic	✓	Py.	Ankerite - quartz breccia in sulfide vch altered host-rock	As = 650 ppb		

NTS 92L/1E ; 92K/4W

SAMPLER AB

PROJECT SORT CLAIMS

LINE \_\_\_\_\_

DATE 1990

AIR PHOTO NO. \_\_\_\_\_

SAMPLE NO.	LOCATION	ROCK TYPE	DESCRIPTION					ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
			Sample Type	APPARENT WIDTH	TRUE WIDTH	Alteration	Freshness		Mineralization			
26319	AB-95	FK- Volcanoclastic	O.C. grab	/	/	limonite	w/leathered	P <sub>1</sub> Zn (sphalerite) Pb (galena)	Below rusty o.c. area, jarosite (?) stain common Sample Representative of Rock Type.	Cu = 225 ppm (.01%) Cd = 18.8 ppm Pb = 5400 ppm (.52%) Sb = 5.6 ppm Zn = 3000 ppm (.25%)		
26323	AB-100	FK- pb-bx	Float- Grab	.25m Angular	/	ankeritic pyrophyllitic	Not w/leathered	CpP <sub>1</sub> As Ag (argenticite)	Quartz Carbonate Breccia, Pyrite (+ other sulfides) "layered" with silica and altered wallrock- sulfides as mix. of breccia.	Au = 70 g/t (2.0 g/t) Ag = 545 g/t (15.9 g/t) Cu = 1.22% As = 400 ppm Hg = 710,000 ppb Pb = 4900 ppm (.5%) Sb = 16.8 ppm		
26324	AB-101	FK- pb-bx	Float- Grab	.3m Angular	/	ankeritic pyrophyllitic (chlorite epidote)	✓	CpP <sub>1</sub> P <sub>1</sub> As Ag	Quartz carbonate breccia and veins, disseminated sulfides flooding wallrock, Sulfide "fragments" in breccia	Au = 101.5 g/t (2.96 g/t) Ag = 423 g/t (12.3 g/t) Cu = 2.6% Hg = 3400 ppb Sb = 4.6 ppm Pb = .05%		

NTS 92L/1E ; 92K/4W

SAMPLER AOB

PROJECT SORT CLAIMS

LINE \_\_\_\_\_

DATE 1990

AIR PHOTO NO. \_\_\_\_\_

SAMPLE NO.	LOCATION	ROCK TYPE	DESCRIPTION					ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS			
			Sample Type	APPARENT WIDTH	TRUE WIDTH	Alteration	Freshness		Mineralization			
26325	AB-102	channel-chip	4FzK; bfz, bx	/	.5m	Chlorite "gouge"; Calcite	✓	Py; cpy	Footwall Quartz vein #1 @ 025°/-80°E Sharp F.W. contact	Au=3410 ppb Ag=17.5 ppm Cu=1300 ppm Hg=12.00 ppb		
26326	AB-103	channel-chip	4FzK; bfz, bx	/	.2m	Chlorite "gouge"; ankerite	✓	Py = 5%	Footwall Quartz vein #2 @ 020°/step Banded and crackle breccia	Au=1990 ppm Ag=16.2 ppm Hg=2300 ppb Zn=225 ppm		
26327	AB-104	channel-chip	4FzK; bfz, bx	/	.3m	Calcite 15-20%	✓	Heavy local py >10%	Broken rubble-ground breccia zone - some rounded sulfide fragments	Au=1760 ppb Ag=440 ppm Cu=560 ppm (.05%) Hg=2700 ppb Pb=160 ppm Zn=192 ppm		
26328	AB-105	channel-chip	4FzK; bfz, bx	/	.5m	Chlorite	✓	py < 5% cpy 1-2%	Main quartz vein to .5m tw. Coarse bull gtz and Loromb gtz, banded sulfides	Au=2670 ppb Ag=10 ppm Cu=575 ppm (.05%) Hg=2900 ppb Pb=114 ppm (.04%)		

NTS 92 L/E; 92 K/4W  
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SAMPLER AOB  
 DATE 1990

PROJECT SORT CLAIMS

SAMPLE NO.	LOCATION	ROCK TYPE	DESCRIPTION					ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS					
			Sample Type	APPARENT WIDTH	TRUE WIDTH	Alteration	Freshness		Mineralization					
26329	AB-106	4T2K; bf <sub>2</sub> , bx	channel, chip	/	.4m	sulfide, argillized	Fresh	Heavy local banding in character, sulfides py < 15% cpy.	Hw. zone - stringer type	Au = 750 ppb Cu = 178 ppm (.14%) Zn = 205 ppm				
26333	AB-110	4T2K; bf <sub>2</sub> , bx	channel, chip	/	1.0m	ankerite quartz carbonate	✓	Fine sulfides (arsenopyrite)	Fault + 020°/-60°W	As = 9% ppm Hg = 6000 ppb				
26334	AB-111	4T2K; bf <sub>2</sub> , bx	channel chip	/	1.0m	ankerite quartz Carbonate	✓	Py, As, Py locally to 50%; stibnite?	UMS? Type Mineralization Coarse crudely bedded py and altered co. rock Py "flooding"	As = 116 ppm Hg = 610 ppb Sb = 9.6 ppm				
26337	AB-114	4T2K; bf, af Tuff-? argillite?	Float; Grab	/		limonite; silic; feldic?	mod.	py + malacchite to 50% arseno fine disseminations	rusty weathering dark argillite; Tuffaceous unit? Represents a Rock Type.	Au = 85 ppb As = 276 ppm				
26332	AB-109	4T2K; bf <sub>2</sub> , bx	Channel chip	/	1.0m	ankerite quartz carbonate	✓	cpy, py	shear zone, chlorite F-dillo alteration, Py flooding	Cu = 0.5 % Ag = 88 g/t				

NTS 92L/1E ; 92K/4WSAMPLER A.BPROJECT SORT CLAIMS

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DATE 1990

AIR PHOTO NO. \_\_\_\_\_

SAMPLE NO.	LOCATION	ROCK TYPE	DESCRIPTION					ADDITIONAL OBSERVATIONS OR REMARKS	ASSAYS				
			Sample Type	APPARENT WIDTH	TRUE WIDTH	Alteration	Freshness		Mineralization				
26339	AB-115	4 1/2 K; bf <sub>2</sub> , bx	channel, chip	0.25 m		Chlorite, Pyrite	✓	Py, Cpy, fine dark sulfides, sulfides to 50% locally.	SM5? type mineralization, crude layering of sulfides, sulfides ± 3.0% Qtz - carbonate veining Cross-cutting sulfide band.	Au = 23.9 g/t Ag = 81 ppm Cu = 1.03 % Fe = 9.79 %			
26344	AB-118	4 1/2 K; pb and 4 1/2 K: bf, bx Contact zone	channel, chip	0.3 m				Fine grained py < 10% SM5? type banded sulfides, brecciated altered wallrock, quartz - sulfide veins Cross-cutting sulfide zone	Au = 33.2 g/t Ag = 96.0 g/t Cu = 0.14 %				
26345	AB-119	4 1/2 K; bf, bx.	channel, chip	0.5 m		ankerite chlorite epidote	✓	Py, Cpy fine arseno and stibnite	Quartz - carbonate vein, vein breccia; sulfide "flooding" of wallrock.	Au = 0.7 g/t Ag = 40 g/t Cu = .03 % As Sb not assayed			



**APPENDIX IV**

**CERTIFICATES OF ANALYSIS,  
ANALYTICAL PROCEDURES**





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE. NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.  
N. VANCOUVER, BC  
V7G 1E5

Project: SORT

Comments: CC: ARNE BIRKELAND

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### CERTIFICATE OF ANALYSIS A9010747

SAMPLE DESCRIPTION	PREP CODE	Au NAA ppb	Cu ppm	Mo ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	As ppm	Sb ppm		
9003	214 --	27	156		2	69	380	0.9	75		1.0
9006	214 --	33	141		1	23	180	0.4	19		1.2
9015	214 --	12	144		1	128	360	0.6	59		1.2

CERTIFICATION :

*Arne Birkeland*



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212 BROOKSBANK AVE., NORTH VANCOUVER,  
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V7G 1E5

A9010747

Comments: CC: ARNE BIRKELAND

## CERTIFICATE A9010747

ARNEX RESOURCES LIMITED  
PROJECT : SORT  
P.O.# : NONE

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 8-FEB-90.

### SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
214	3	Received sample as pulp

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
101	3	Au ppb: Fuse 10 g sample	FA-NAA	1	10000
	2	Cu ppm: HNO <sub>3</sub> -aqua regia digest	AAS	1	10000
	3	Mo ppm: HNO <sub>3</sub> -aqua regia digest	AAS	1	1000
	4	Pb ppm: HNO <sub>3</sub> -aqua regia digest	AAS-BKGD CORR	1	10000
	5	Zn ppm: HNO <sub>3</sub> -aqua regia digest	AAS	1	10000
	6	Ag ppm: HNO <sub>3</sub> -aqua regia digest	AAS-BKGD CORR	0.2	100.0
	13	As ppm: HNO <sub>3</sub> -aqua regia digest	AAS-HYDRIDE/EDL	1	10000
	22	Sb ppm: HCl-KClO <sub>3</sub> digest. extrac	AAS-BKGD CORR	0.2	1000



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Comments: ATTN: A.O. BIRKELAND

## CERTIFICATE OF ANALYSIS A9016996

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm
8909	201 238	10	0.2	6	0.5	23	172	4.92	2880	< 1	38	16	< 0.2	152
8910	201 238	5	0.9	10	0.4	16	113	3.22	1905	< 1	27	20	< 0.2	190
8911	201 238	< 5	1.0	6	0.5	43	87	2.44	3790	1	27	72	< 0.2	420
8912	201 238	15	0.6	46	0.4	25	164	4.79	2640	1	37	54	0.2	230
9001	201 238	10	0.4	30	0.4	26	202	6.29	1320	< 1	57	46	0.4	184
9002	201 238	5	0.4	12	0.4	20	118	4.59	1765	< 1	35	8	1.0	98
9004	201 238	10	0.2	12	0.3	25	209	5.95	1175	< 1	56	10	1.0	100
9005	201 238	10	< 0.2	10	0.1	24	168	5.57	860	< 1	53	6	1.0	90
9006	201 238	10	0.3	15	0.1	27	155	5.61	1600	< 1	48	12	1.2	136
9007	201 238	< 5	0.3	8	0.4	8	124	1.55	2980	< 1	18	8	0.2	188
9008	201 238	690	2.6	30	0.4	27	294	6.38	2090	1	41	30	0.4	114
9009	201 238	< 5	0.2	7	0.3	10	74	2.04	1230	< 1	17	6	< 0.2	46
9010	201 238	< 5	< 0.2	6	0.3	11	96	2.53	1575	< 1	21	6	< 0.2	54
9011	201 238	< 5	< 0.2	5	0.3	8	68	1.90	1080	< 1	16	2	< 0.2	38
9012	201 238	< 5	< 0.2	4	0.4	16	108	4.28	1650	1	29	4	< 0.2	68
9013	201 238	< 5	0.2	3	0.3	12	90	3.00	1820	< 1	22	4	< 0.2	52
9014	201 238	15	0.3	23	0.4	24	160	5.84	1520	< 1	53	76	0.8	172
NO NUMBER	201 238	10	0.2	25	0.4	24	173	5.60	1650	< 1	52	72	0.4	188

CERTIFICATION:

*B. Coughlin*



# Chemex Labs Ltd.

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British Columbia, Canada V7J 2C1  
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4005 BROCKTON CR.  
N.VANCOUVER, BC  
V7G 1E5

A9016996

Comments: ATTN: A.O. BIRKELAND

CERTIFICATE

A9016996

ARNEX RESOURCES LIMITED

Project: SORT  
P.O.#: NONE

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 26-JUN-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	18	Dry, sieve to -80 mesh
238	18	NITRIC-AQUA REGIA DIGESTION
287	18	Special dig'n with organic ext'n

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	18	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
6	18	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	18	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	18	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
1929	18	Co ppm: 9 element, soil & rock	ICP-AES	1	10000
1931	18	Cu ppm: 9 element, soil & rock	ICP-AES	1	10000
1932	18	Fe %: 9 element, soil & rock	ICP-AES	0.01	15.00
1937	18	Mn ppm: 9 element, soil & rock	ICP-AES	5	10000
1938	18	Mo ppm: 9 element, soil & rock	ICP-AES	1	10000
1940	18	Ni ppm: 9 element, soil & rock	ICP-AES	1	10000
1004	18	Pb ppm: 9 element, soil and rock	ICP-AES	5	10000
22	18	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
1950	18	Zn ppm: 9 element, soil & rock	ICP-AES	2	10000



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## CERTIFICATE OF ANALYSIS A9018930

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
9019	201 238	780	0.3	12	0.7	190	0.5	110	1	8	0.8	< 0.2	160		
9020	201 238	65	0.3	12	0.5	210	0.2	630	1	6	0.6	< 0.2	150		
9021	201 238	490	0.4	6	0.1	78	< 0.2	80	< 1	2	0.4	< 0.2	100		
9022	201 238	20	0.3	10	< 0.1	66	0.4	90	1	4	0.4	< 0.2	110		
9023	201 238	< 5	0.6	42	< 0.1	146	0.3	160	2	22	1.4	< 0.2	90		
9024	201 238	30	0.5	10	< 0.1	144	0.1	200	2	10	0.8	< 0.2	78		
9025	201 238	1230	5.1	56	0.1	350	0.5	1900	2	40	1.6	< 0.2	120		
9026	201 238	< 5	0.3	2	< 0.1	126	0.2	210	1	10	0.4	< 0.2	54		
9027	201 238	< 5	< 0.2	5	< 0.1	160	< 0.1	100	2	4	0.2	< 0.2	110		

CERTIFICATION: Hant Bichler



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Project: SORT  
P.O.#:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 2-AUG-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	9	Dry, sieve to -80 mesh
238	9	NITRIC-AQUA REGIA DIGESTION
287	9	Special dig'n with organic ext'n

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	9	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	9	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	9	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	9	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	9	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	9	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	9	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	9	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	9	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	9	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	9	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	9	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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## CERTIFICATE OF ANALYSIS

### A9018931

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
26307	205 294	3230	6.3	112	0.7	530	< 0.1	60	2	4	1.0	< 0.2	36		
26308	205 294	5260	13.4	50	0.4	410	< 0.1	1300	2	5	1.2	< 0.2	70		
26309	205 294	40	0.5	8	0.2	86	0.4	50	8	2	1.6	6.6	46		

CERTIFICATION:

*Arne Birkeland*



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Comments: ATTN: ARNE BIRKELAND

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ARNEX RESOURCES LIMITED

Project: SORT  
P.O. #:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 25-JUL-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	3	Geochem ring to approx 150 mesh
294	3	Crush and split (0-10 pounds)
238	3	NITRIC-AQUA REGIA DIGESTION
287	3	Special dig'n with organic ext'n

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	3	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	3	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	3	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	3	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	3	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	3	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	3	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	10000
3	3	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	3	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	3	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	3	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	3	Zn ppm: HNO3-aqua regia digest	AAS	1	10000





# Chemex Labs Ltd.

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## A9019852

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
26310	212	294	4360	4.0	17	1.0	370	< 0.1	2700	2	5	0.8	< 0.2	46		
26311	212	294	30	< 0.2	23	0.5	88	< 0.1	50	3	6	0.2	< 0.2	40		
26312	212	294	10	0.2	30	0.5	100	< 0.1	50	2	7	2.2	< 0.2	104		
26313	212	294	650	2.0	5	0.5	70	< 0.1	330	1	16	0.4	< 0.2	88		

CERTIFICATION:

*Hart Bichler*



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ARNEX RESOURCES LIMITED

Project: SORT  
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Samples submitted to our lab in Vancouver, BC.  
 This report was printed on 2-AUG-90.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
212	4	Geochem pulv, screen -150, roll
294	4	Crush and split (0-10 pounds)
238	4	NITRIC-AQUA REGIA DIGESTION
287	4	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	4	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	4	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	4	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	4	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	4	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	4	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	4	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	4	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	4	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	4	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	4	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	4	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



# Chemex Labs Ltd.

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 Invoice No. : I-9019853  
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## CERTIFICATE OF ANALYSIS A9019853

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
9028	201 202	< 5	< 0.2	3	< 0.1	120	< 0.1	60	2	2	< 0.2	< 0.2	110		
9029	201 202	< 5	< 0.2	2	< 0.1	100	< 0.1	50	1	< 1	< 0.2	< 0.2	90		
9030	201 202	< 5	< 0.2	8	< 0.1	200	< 0.1	50	1	2	0.2	< 0.2	130		
9031	201 202	< 5	< 0.2	8	< 0.1	140	< 0.1	70	1	9	0.8	< 0.2	92		
9032	201 202	< 5	< 0.2	5	< 0.1	144	< 0.1	80	1	10	0.4	< 0.2	120		
9033	201 202	< 5	< 0.2	2	< 0.1	146	< 0.1	150	1	35	< 0.2	< 0.2	100		
9034	201 202	< 5	< 0.2	2	< 0.1	174	< 0.1	80	< 1	3	0.2	< 0.2	94		
9035	201 202	1100	5.4	60	< 0.1	390	0.7	1200	1	32	1.0	< 0.2	130		
9036	201 202	20	0.3	15	< 0.1	184	0.3	150	2	19	1.2	< 0.2	120		

CERTIFICATION: Hart Bichler



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.  
N.VANCOUVER, BC  
V7G 1E5

A9019853

Comments:

<b>CERTIFICATE</b>	<b>A9019853</b>
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ARNEX RESOURCES LIMITED

Project: SORT  
P.O. #:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 2-AUG-90.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	9	Dry, sieve to -80 mesh
202	9	save reject
238	9	NITRIC-AQUA REGIA DIGESTION
287	9	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	9	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	9	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	9	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	9	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	9	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	9	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	9	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	9	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	9	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	9	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	9	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	9	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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Invoice No.: I-9023980  
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## CERTIFICATE OF ANALYSIS A9023980

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Au FA oz/T	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm
26314	205 294	10	-----	0.3	70	0.1	64	0.7	50	< 1	54	1.6	< 0.2	102
26315	205 294	20	-----	0.3	100	< 0.1	18	0.1	30	< 1	40	1.6	< 0.2	35
26316	205 294	20	-----	0.4	210	< 0.1	14	< 0.1	40	< 1	26	1.4	< 0.2	32
26317	205 294	25	-----	0.3	34	0.4	108	< 0.1	40	< 1	38	1.2	< 0.2	68
26318	205 294	10	-----	1.9	212	0.2	270	13.6	140	< 1	1200	25.0	< 0.2	2050
26319	205 294	50	-----	4.9	80	0.2	225	18.8	170	7	5400	5.6	2.0	3000
26320	205 294	5	-----	0.3	10	< 0.1	78	1.0	40	2	380	0.8	0.6	260
26322	205 294	< 5	-----	< 0.2	14	< 0.1	126	0.3	30	4	116	0.4	0.6	74
26323	205 294	>10000	2.008	>100.0	400	3.2	>10000	1.0	>100000	< 1	4900	16.8	1.8	50
26324	205 294	>10000	2.956	>100.0	220	10.0	>10000	1.1	34000	< 1	200	4.6	0.8	73
26325	205 294	3410	-----	17.5	30	0.4	1300	0.2	12000	< 1	42	1.0	< 0.2	58
26326	205 294	1990	-----	18.2	172	0.1	240	0.7	2300	9	40	1.6	0.2	255
26327	205 294	1760	-----	8.1	440	1.4	560	0.1	2700	30	160	2.6	0.8	192
26328	205 294	2670	-----	10.0	170	2.0	575	0.3	2900	40	114	2.6	0.6	160
26329	205 294	750	-----	1.4	70	0.2	1750	0.1	420	3	28	2.0	0.2	205

CERTIFICATION:

*Hart Buchler*



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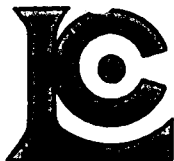
Samples submitted to our lab in Vancouver, BC.  
This report was printed on 10-OCT-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	15	Geochem ring to approx 150 mesh
294	15	Crush and split (0-10 pounds)
287	15	Special dig'n with organic ext'n
238	15	NITRIC-AQUA REGIA DIGESTION

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	15	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
396	2	Au oz/T: 1/2 assay ton	FA-GRAVIMETRIC	0.003	20.000
6	15	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	15	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	15	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	15	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	15	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	15	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	15	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	15	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	15	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	15	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	15	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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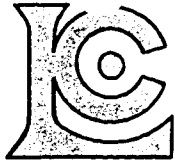
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## CERTIFICATE OF ANALYSIS

### A9023981

SAMPLE DESCRIPTION	PREP CODE	Cu %	Pb %	Zn %							
26319	299 --	0.01	0.52	0.25							
26323	299 --	1.22	0.50	< 0.01							
26324	299 --	2.62	0.05	< 0.01							
26326	299 --	0.01	0.02	< 0.01							
26327	299 --	0.05	0.03	< 0.01							
26328	299 --	0.05	0.04	< 0.01							
26329	299 --	0.14	0.02	< 0.01							

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Comments:

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A9023981

ARNEX RESOURCES LIMITED

Project: SORT  
P.O. #:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 8-OCT-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	7	Sample split from other certif

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	7	Cu %: HClO4-HNO3 digestion	AAS	0.01	100.0
312	7	Pb %: HClO4-HNO3 digestion	AAS	0.01	100.0
316	7	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0





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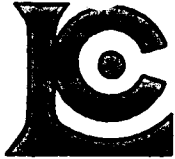
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## CERTIFICATE OF ANALYSIS A9023982

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
9037	201 238	380	0.2	13	0.4	180	0.5	100	< 1	14	0.4	0.2	170		
9038	201 238	< 5	< 0.2	16	0.2	240	0.2	100	< 1	6	0.2	0.6	114		
9039	201 238	< 5	< 0.2	5	< 0.1	92	0.3	100	< 1	6	< 0.2	0.6	100		
9040	201 238	< 5	0.3	28	0.1	130	1.2	310	< 1	18	1.0	0.8	190		
9041	201 238	< 5	0.2	6	0.1	130	0.6	120	< 1	16	< 0.2	1.2	132		
9042	201 238	25	< 0.2	6	< 0.1	76	0.2	70	< 1	4	0.2	0.4	108		
9043	201 238	5	< 0.2	3	< 0.1	84	< 0.1	40	< 1	1	0.2	0.2	60		
9044	201 238	< 5	< 0.2	6	< 0.1	68	0.2	50	< 1	1	0.2	0.2	86		
9045	201 238	< 5	< 0.2	8	< 0.1	68	0.2	60	< 1	2	< 0.2	< 0.2	98		
9046	201 238	< 5	< 0.2	9	< 0.1	106	0.3	50	< 1	2	0.2	< 0.2	78		
9047	201 238	< 5	< 0.2	3	< 0.1	56	0.4	80	< 1	4	< 0.2	< 0.2	124		
9048	201 238	< 5	< 0.2	4	< 0.1	148	0.1	40	< 1	1	< 0.2	< 0.2	64		
9049	201 238	< 5	< 0.2	2	< 0.1	66	< 0.1	40	< 1	< 1	< 0.2	< 0.2	38		
9050	201 238	< 5	< 0.2	2	0.1	34	< 0.1	60	1	< 1	< 0.2	< 0.2	44		
9051	201 238	< 5	< 0.2	1	< 0.1	20	< 0.1	40	6	< 1	< 0.2	< 0.2	42		
9052	201 238	< 5	< 0.2	4	0.1	240	0.2	40	< 1	< 1	0.2	< 0.2	68		
9053	201 238	< 5	< 0.2	2	0.1	26	< 0.1	50	< 1	< 1	0.2	0.2	46		
9054	201 238	< 5	< 0.2	2	0.1	34	< 0.1	30	< 1	< 1	0.2	< 0.2	32		
9055	201 238	1130	5.2	72	0.2	360	0.6	870	< 1	58	1.2	0.4	166		
9056	201 238	< 5	< 0.2	4	< 0.1	50	0.1	80	1	4	< 0.2	< 0.2	80		
9057	201 238	< 5	0.2	3	< 0.1	94	0.2	180	< 1	< 1	< 0.2	0.4	74		
9058	201 238	< 5	< 0.2	3	< 0.1	76	< 0.1	90	< 1	< 1	0.2	0.6	68		

CERTIFICATION

*Hart Bickler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
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British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ARNEX RESOURCES LIMITED

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N.VANCOUVER, BC  
V7G 1E5

A9023982

Comments:

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ARNEX RESOURCES LIMITED

Project: SORT  
P.O. #:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 11-OCT-90.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	22	Dry, sieve to -80 mesh
238	22	NITRIC-AQUA REGIA DIGESTION
287	22	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	22	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	22	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	22	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	22	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	22	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	22	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	22	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	22	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	22	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	22	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	22	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	22	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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## CERTIFICATE OF ANALYSIS

### A9025181

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
26321	205 294	< 5	0.3	1	< 0.1	100	1.1	40	17	12	0.6	1.4	74		
26330	205 294	< 5	0.5	3	< 0.1	235	< 0.1	110	2	6	0.8	3.4	33		
26331	205 294	15	0.3	20	< 0.1	40	0.2	50	2	2	0.6	< 0.2	59		
26333	205 294	15	< 0.2	96	< 0.1	8	0.3	6000	1	1	2.4	< 0.2	45		
26334	205 294	10	< 0.2	116	< 0.1	185	< 0.1	610	< 1	4	9.6	< 0.2	51		
26335	205 294	25	< 0.2	38	< 0.1	86	< 0.1	80	< 1	18	4.2	< 0.2	130		
26336	205 294	25	< 0.2	38	< 0.1	103	< 0.2	100	1	20	4.0	< 0.2	55		
26337	205 294	85	0.8	276	< 0.1	114	0.4	290	10	2	3.0	0.2	28		
26338	205 294	5	< 0.2	3	< 0.1	196	< 0.1	50	< 1	5	0.8	< 0.2	85		
26341	205 294	< 5	< 0.2	3	0.2	60	< 0.1	30	< 1	4	0.2	< 0.2	67		

CERTIFICATION:

*Hart Bickler*



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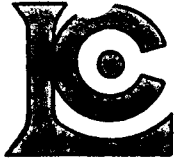
Samples submitted to our lab in Vancouver, BC.  
This report was printed on 23-OCT-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	10	Geochem ring to approx 150 mesh
294	10	Crush and split (0-10 pounds)
238	10	NITRIC-AQUA REGIA DIGESTION
287	10	Special dig'n with organic ext'n

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	10	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	10	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	10	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	10	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	10	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	10	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	10	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	10	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	10	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	10	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	10	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	10	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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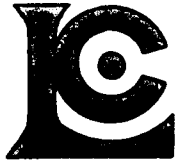
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### CERTIFICATE OF ANALYSIS

A9025176

SAMPLE DESCRIPTION	PREP CODE	Au FA g/tonne	Ag FA g/tonne								
26307	214 --	3.34	9.1								
26308	214 --	4.89	16.3								
26310	214 --	4.53	23.7								
26323	214 --	70.2	545.5								
26324	214 --	101.5	423.4								
26325	214 --	3.09	26.4								
26326	214 --	1.85	23.5								
26327	214 --	1.78	14.7								
26328	214 --	2.78	15.6								

CERTIFICATION:



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212 Brooksbank Ave., North Vancouver  
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PHONE: 604-984-0221

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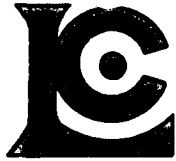
Samples submitted to our lab in Vancouver, BC.  
This report was printed on 24-OCT-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
214	9	Received sample as pulp

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
1297	9	Au g/tonne: 2 assay ton	FIRE ASSAY	0.03	1000
384	9	Ag g/tonne	FA-GRAVIMETRIC	0.3	500.0



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## CERTIFICATE OF ANALYSIS

A9025178

SAMPLE DESCRIPTION	PREP CODE		Au FA g/tonne	Cu %	Pb %	Zn %						
26332	207	294	< 0.07	0.55	0.01	0.08						
26339	207	294	23.9	1.03	0.01	0.01						

CERTIFICATION:

*W. Blom*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.  
N.VANCOUVER, BC  
V7G 1E5

A9025178

Comments:

<b>CERTIFICATE</b>	<b>A9025178</b>
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ARNEX RESOURCES LIMITED

Project: SORT  
P.O.#: NONE

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 23-OCT-90.

<b>SAMPLE PREPARATION</b>		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
207	2	Assay pulv, screen -150, roll Crush and split (0-10 pounds)
294	2	

<b>ANALYTICAL PROCEDURES</b>					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
1297	2	Au g/tonne: 2 assay ton	FIRE ASSAY	0.03	1000
301	2	Cu %: HClO4-HNO3 digestion	AAS	0.01	100.0
312	2	Pb %: HClO4-HNO3 digestion	AAS	0.01	100.0
316	2	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0





# Chemex Labs Ltd.

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British Columbia, Canada V7J 2C1  
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Project: SORT  
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## CERTIFICATE OF ANALYSIS

## A9025180

SAMPLE DESCRIPTION	PREP CODE	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
26332	299 233	1.63	9.4	95	30	< 0.5	< 2	9.43	11.5	23	65	5930	4.94	20	18	0.59	< 10	2.27	2670	< 1
26339	299 233	1.98	88.2	160	< 10	< 0.5	8	0.26	< 0.5	33	42	>10000	9.79	10	< 1	< 0.01	< 10	1.20	320	< 1

CERTIFICATION:

*B. Caughlin*



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PHONE: 604-984-0221

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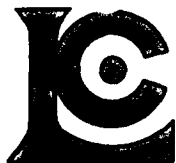
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Invoice Date: 23-OCT-90  
Invoice No.: I-9025180  
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## CERTIFICATE OF ANALYSIS A9025180

SAMPLE DESCRIPTION	PREP CODE	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
26332	299 233	0.02	50	280	26	335	6	52	0.01	< 10	< 10	63	< 10	848
26339	299 233	0.01	41	200	26	5	6	3	0.02	< 10	< 10	85	< 10	176

CERTIFICATION: B. Coughlin



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212 Brooksbank Ave., North Vancouver  
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Samples submitted to our lab in Vancouver, BC.  
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## SAMPLE PREPARATION

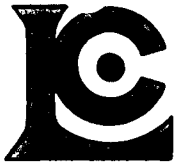
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	2	Sample split from other certif Assay AQ ICP digestion charge
233	2	

\* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
921	2	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
922	2	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
923	2	As ppm: 32 element, soil & rock	ICP-AES	5	10000
924	2	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
925	2	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
926	2	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
927	2	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
928	2	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
929	2	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
930	2	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
931	2	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
932	2	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
933	2	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
951	2	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
934	2	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
935	2	La ppm: 32 element, soil & rock	ICP-AES	10	10000
936	2	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
937	2	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
938	2	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
939	2	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
940	2	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
941	2	P ppm: 32 element, soil & rock	ICP-AES	10	10000
942	2	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
943	2	Sb ppm: 32 element, soil & rock	ICP-AES	5	10000
958	2	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
944	2	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
945	2	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
946	2	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
947	2	U ppm: 32 element, soil & rock	ICP-AES	10	10000
948	2	V ppm: 32 element, soil & rock	ICP-AES	1	10000
949	2	W ppm: 32 element, soil & rock	ICP-AES	10	10000
950	2	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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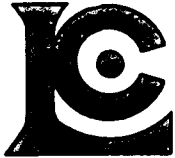
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 Total Pages: 1  
 Invoice Date: 25-OCT-90  
 Invoice No.: I-9025183  
 P.O. Number: NONE

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### CERTIFICATE OF ANALYSIS A9025183

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
9059	201 238	5	< 0.2	3	< 0.1	116	0.4	150	< 1	29	< 0.2	< 0.2	104		
9060	201 238	< 5	< 0.2	2	< 0.1	130	< 0.1	70	< 1	2	< 0.2	< 0.2	84		
9061	201 238	< 5	< 0.2	2	< 0.1	114	< 0.1	90	< 1	2	< 0.2	< 0.2	79		
9062	201 238	20	< 0.2	17	0.1	140	0.5	290	3	14	1.4	< 0.2	140		
9063	201 238	85	< 0.2	15	0.1	124	0.3	180	< 1	8	1.2	< 0.2	135		
9064	201 238	70	< 0.2	14	< 0.1	138	< 0.1	160	< 1	4	< 0.2	< 0.2	88		
9065	201 238	< 5	< 0.2	2	< 0.1	82	< 0.1	170	< 1	4	< 0.2	< 0.2	94		
9066	201 238	< 5	< 0.2	3	< 0.1	140	< 0.1	70	< 1	1	< 0.2	< 0.2	86		
9067	217 238	< 5	< 0.2	10	< 0.1	23	< 0.1	110	< 1	< 1	< 0.2	< 0.2	38		
9068	217 238	< 5	< 0.2	2	< 0.1	44	< 0.1	110	< 1	1	< 0.2	< 0.2	64		
9069	201 238	120	< 0.2	12	< 0.1	172	< 0.1	50	< 1	2	< 0.2	< 0.2	70		
9070	201 238	10	< 0.2	1	< 0.1	128	< 0.1	50	< 1	< 1	< 0.2	< 0.2	77		
9071	201 238	< 5	< 0.2	5	< 0.1	155	< 0.1	60	2	1	< 0.2	< 0.2	58		
9072	201 238	110	< 0.2	1	< 0.1	120	< 0.1	70	< 1	< 1	< 0.2	< 0.2	91		
9073	201 238	85	< 0.2	2	< 0.1	124	0.2	50	2	8	< 0.2	< 0.2	99		
9074	201 238	245	< 0.2	1	< 0.1	132	< 0.1	70	< 1	1	< 0.2	< 0.2	100		
9075	203 205	25	< 0.2	2	< 0.1	154	< 0.1	120	3	3	< 0.2	< 0.2	138		
9076	201 238	< 5	< 0.2	4	< 0.1	120	< 0.1	140	< 1	10	< 0.2	< 0.2	109		
9077	201 238	45	< 0.2	2	< 0.1	116	< 0.1	140	< 1	4	< 0.2	< 0.2	82		
9078	201 238	< 5	< 0.2	3	0.1	240	< 0.1	70	< 1	2	< 0.2	< 0.2	62		
9079	201 238	25	0.3	20	0.1	220	< 0.1	40	< 1	1	0.8	< 0.2	45		
9080	201 238	5	< 0.2	12	0.8	184	0.2	130	< 1	5	0.4	< 0.2	71		
9081	201 238	< 5	< 0.2	2	< 0.1	138	< 0.1	40	< 1	1	< 0.2	< 0.2	94		
9082	201 238	< 5	< 0.2	2	< 0.1	120	< 0.1	60	< 1	1	< 0.2	< 0.2	85		
9083	201 238	30	< 0.2	1	< 0.1	98	< 0.1	40	< 1	1	< 0.2	< 0.2	76		
9084	201 238	< 5	< 0.2	1	< 0.1	180	< 0.1	50	< 1	1	< 0.2	< 0.2	80		
9085	201 238	< 5	< 0.2	2	< 0.1	160	0.3	130	< 1	10	< 0.2	< 0.2	124		

CERTIFICATION: Stan Buchler



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221

To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.  
 N. VANCOUVER, BC  
 V7G 1E5

A9025183

Comments:

<b>CERTIFICATE</b>	<b>A9025183</b>
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ARNEX RESOURCES LIMITED

Project: SORT  
 P.O. #: NONE

Samples submitted to our lab in Vancouver, BC.  
 This report was printed on 25-OCT-90.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	24	Dry, sieve to -80 mesh
203	1	Dry, sieve to -35 mesh
205	1	Geochem ring to approx 150 mesh
217	2	Geochem ring entire sample
238	27	NITRIC-AQUA REGIA DIGESTION
287	27	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	27	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	27	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	27	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	27	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	27	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	27	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	27	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	27	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	27	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	27	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	27	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	27	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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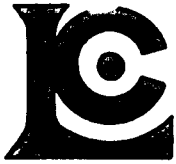
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 Comments:

## CERTIFICATE OF ANALYSIS A9026803

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
9086	201 238	5	< 0.2	2	< 0.1	140	< 0.1	70	1	4	< 0.2	< 0.2	68		
9087	201 238	20	< 0.2	16	< 0.1	186	0.9	160	2	38	0.2	< 0.2	186		
9088	201 238	50	< 0.2	14	< 0.1	164	0.3	210	2	10	1.2	< 0.2	152		
9089	201 238	5	< 0.2	4	< 0.1	178	< 0.1	120	1	8	< 0.2	< 0.2	110		
9090	203 205	< 5	< 0.2	1	< 0.1	138	< 0.1	30	1	1	< 0.2	< 0.2	88		
9091	201 238	< 5	< 0.2	2	< 0.1	170	< 0.1	60	2	< 1	< 0.2	< 0.2	84		
9092	201 238	< 5	< 0.2	1	< 0.1	160	< 0.1	40	1	1	< 0.2	< 0.2	100		
9093	201 238	< 5	< 0.2	1	< 0.1	80	0.2	100	1	6	< 0.2	< 0.2	100		
9094	203 205	< 5	< 0.2	1	< 0.1	50	< 0.1	20	< 1	< 1	< 0.2	< 0.2	46		
9095	201 238	135	< 0.2	2	< 0.1	186	< 0.1	60	< 1	1	< 0.2	< 0.2	100		
9096	203 205	5	< 0.2	1	< 0.1	156	< 0.1	20	< 1	< 1	< 0.2	< 0.2	70		
9097	201 238	90	< 0.2	6	< 0.1	310	< 0.1	120	< 1	10	< 0.2	< 0.2	78		
9098	201 238	5	< 0.2	2	< 0.1	174	< 0.1	190	< 1	18	< 0.2	< 0.2	72		
9099	201 238	15	< 0.2	30	< 0.1	225	0.1	240	< 1	18	< 0.2	< 0.2	72		
90100	203 205	10	< 0.2	2	< 0.1	126	< 0.1	60	< 1	4	< 0.2	< 0.2	90		
90101	203 205	< 5	< 0.2	2	< 0.1	55	< 0.1	40	< 1	< 1	< 0.2	< 0.2	40		
90102	203 205	< 5	< 0.2	2	< 0.1	56	< 0.1	30	< 1	1	< 0.2	< 0.2	64		
90103	201 238	< 5	< 0.2	6	< 0.1	144	0.2	90	< 1	6	< 0.2	< 0.2	130		
90104	201 238	1380	7.0	62	0.1	350	0.5	2000	< 1	40	1.0	< 0.2	130		
90105	201 238	1490	9.0	96	0.1	400	0.6	1800	< 1	48	1.2	< 0.2	138		
90106	201 238	1200	5.9	60	0.1	360	0.6	1900	1	38	0.8	< 0.2	116		
90107	201 238	< 5	0.2	23	< 0.1	130	0.7	270	< 1	24	0.8	< 0.2	144		
90108	201 238	< 5	< 0.2	4	< 0.1	104	0.3	310	1	34	< 0.2	< 0.2	70		

CERTIFICATION:

*Hart Buchler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.  
N.VANCOUVER, BC  
V7G 1E5

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ARNEX RESOURCES LIMITED

Project: SORT  
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Samples submitted to our lab in Vancouver, BC.  
This report was printed on 25-NOV-90.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	17	Dry, sieve to -80 mesh
203	6	Dry, sieve to -35 mesh
205	6	Geochem ring to approx 150 mesh
238	23	NITRIC-AQUA REGIA DIGESTION
287	23	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	23	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	23	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	23	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	23	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	23	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	23	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	23	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	23	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	23	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	23	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	23	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	23	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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Invoice No.: I-9026804  
P.O. Number:

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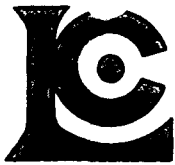
## CERTIFICATE OF ANALYSIS A9026804

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm		
26342	205 294	40	< 0.2	36	< 0.1	120	< 0.1	10	1	6	1.6	< 0.2	110		
26343	205 294	85	< 0.2	100	< 0.1	50	< 0.2	20	1	4	0.8	< 0.2	44		

CERTIFICATION:

*Hart Bichler*





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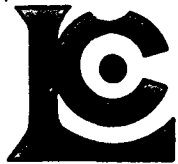
Samples submitted to our lab in Vancouver, BC.  
This report was printed on 23-NOV-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	2	Geochem ring to approx 150 mesh
294	2	Crush and split (0-10 pounds)
238	2	NITRIC-AQUA REGIA DIGESTION
287	2	Special dig'n with organic ext'n

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	2	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
6	2	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	2	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	2	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	2	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	2	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	2	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	2	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	2	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	2	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	2	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	2	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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N.VANCOUVER, BC  
V7G 1E5

Project : SORT  
Comments:

Page No. : 1  
Total Pages : 1  
Invoice Date: 28-NOV-90  
Invoice No. : I-9026805  
P.O. Number :

## CERTIFICATE OF ANALYSIS

A9026805

SAMPLE DESCRIPTION	PREP CODE	Au FA g/tonne	Ag g/tonne	Cu %	Pb %	Zn %						
26344	207 294	33.2	96.0	0.14	< 0.01	< 0.01						
26345	207 294	0.69	4.0	0.03	< 0.01	< 0.01						
26346	207 294	11.60	10.0	0.86	0.04	8.42						
26347	207 294	5.04	5.5	0.02	0.07	0.37						

CERTIFICATION:



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.  
N.VANCOUVER, BC  
V7G 1E5

A9026805

Comments:

**CERTIFICATE**

**A9026805**

ARNEX RESOURCES LIMITED

Project: SORT  
P.O. #:

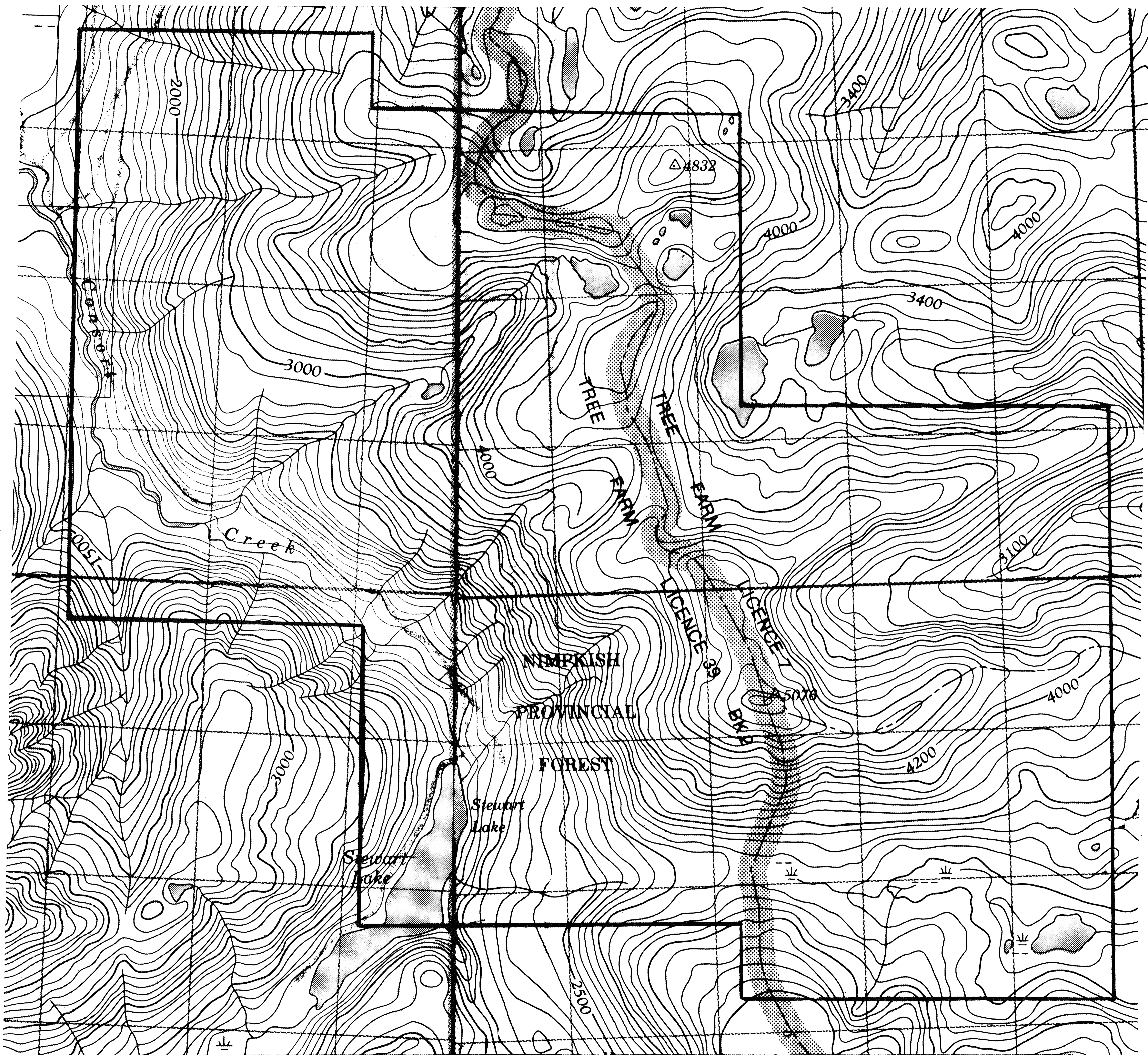
Samples submitted to our lab in Vancouver, BC.  
This report was printed on 28-NOV-90.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
207	4	Assay pulv, screen -150, roll
294	4	Crush and split (0-10 pounds)

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
1297	4	Au g/tonne: 2 assay ton	FIRE ASSAY	0.03	1000
386	4	Ag g/tonne: Aqua regia digestion	AAS	0.5	500
301	4	Cu %: HClO4-HNO3 digestion	AAS	0.01	100.0
312	4	Pb %: HClO4-HNO3 digestion	AAS	0.01	100.0
316	4	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0



Miles 1 0 1 2 3 Miles

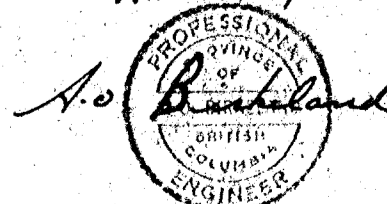
Metres 1000 0 1000 2000 3000 4000 Metres

SCALE 1:10,000

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

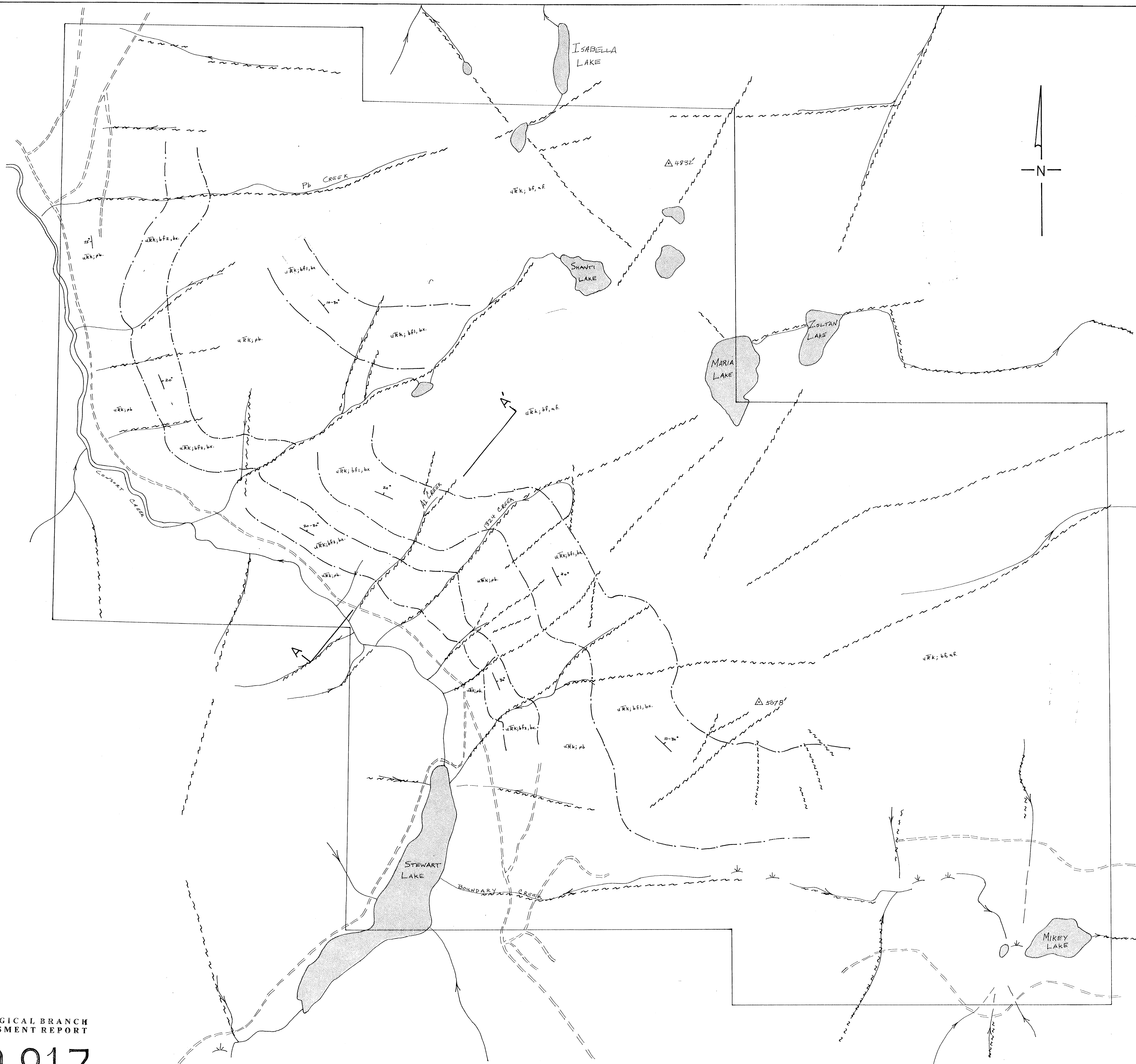
20,917

To ACCOMPANY  
GEOLOGICAL - GEOCHEMICAL  
ASSESSMENT REPORT, JANUARY 25, 1991



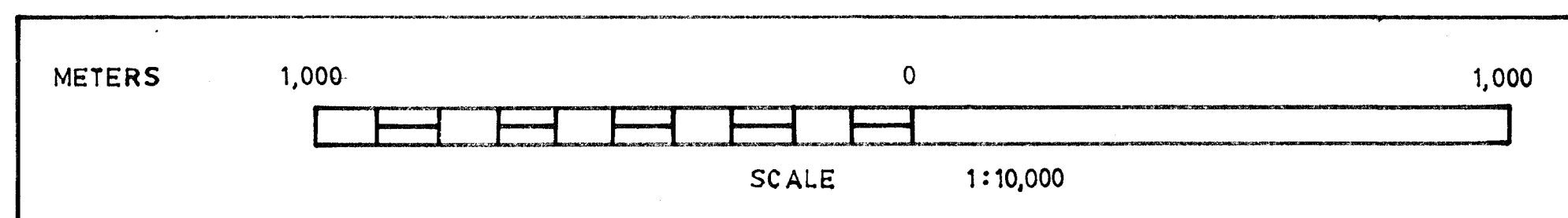
ARNEX RESOURCES LTD.  
SORT PROJECT  
TOPOGRAPHIC BASE MAP

DATE: 1991 NTS: 92L/E; 92K/W FIGURE 4



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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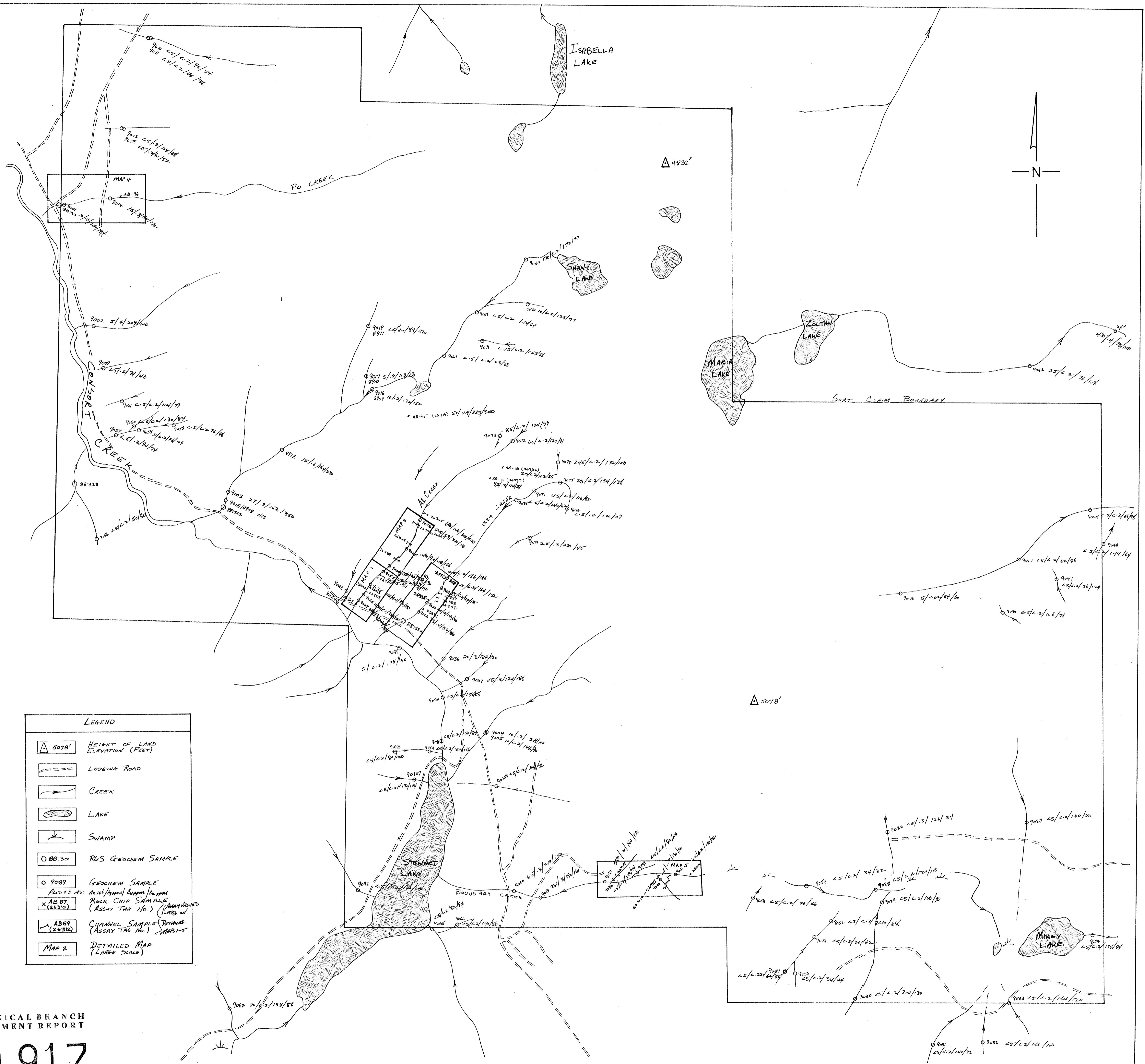


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ASSESSMENT REPORT JANUARY 25, 1991



Figure 9

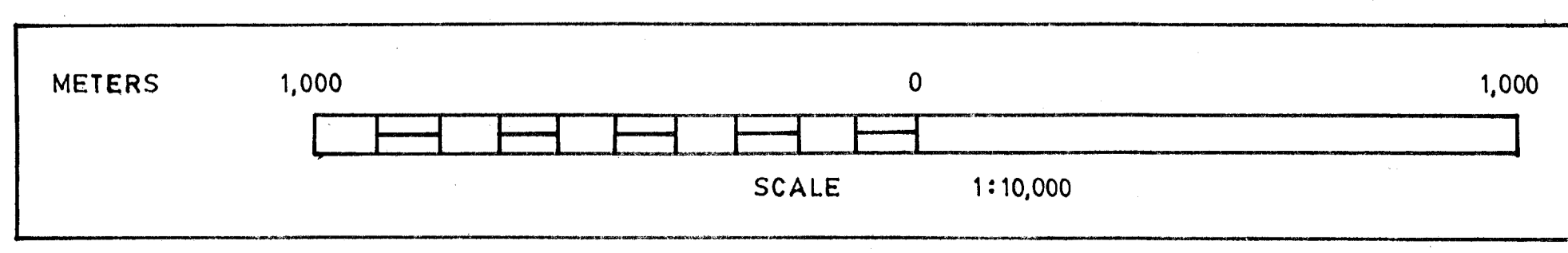
ARNEX RESOURCES LTD.		
SORT PROJECT		
GENERALIZED GEOLOGY MAP		
DATE: NOV, 1990	NTS: 92L/E, 92K/W	DRAWN BY: AOB



LEGEND	
$\Delta$ 5078'	HEIGHT OF LAND ELEVATION (FEET)
---	LOGGING ROAD
~	CREEK
○	LAKE
⊥	SWAMP
○ 88130	RGS GEOCHEM SAMPLE
○ 9089	GEOCHEM SAMPLE
PLT 253 AS: A1-A4 (A4) 2000 2000	ROCK CHIP SAMPLES (ASSAY TAG NO.)
X AB 27 (26310)	CHANNEL SAMPLE (ASSAY TAG NO.)
✓ AB 89 (26312)	CHANNEL SAMPLE (ASSAY TAG NO.)
MAP 2	DETAILED MAP (LARGE SCALE)

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,917



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ASSESSMENT REPORT, JANUARY 25, 1991

*A.O. Berman*  
PROFESSIONAL ENGINEER  
GEOLOGICAL ENGINEERING

Figure 12

ARNEX RESOURCES LTD.		
SORT PROJECT		
SAMPLE LOCATION MAP		
DATE: NOV, 1990	NTS: 92L/E; 92K/W	DRAWN BY: AOB