

LOG NO:	NOV 22 1991	RD.
ACTION:		
FILE NO:		

GEOCHEMICAL REPORT ON THE BAT 1 CLAIM

Liard Mining Division  
NTS 104 G / 8 W

Latitude: 57°23' North  
Longitude: 130°27' West

A Report prepared for

**RECEIVED**  
NOV - 6 1991  
Gold Commissioner's Office  
VANCOUVER, B.C.

Chris Graf, P. Eng.  
307 - 475 Howe Street  
Vancouver, B.C.  
V6C 2B3

By

David St. C. Dunn, P. Geo.  
2348 Palmerston Avenue  
West Vancouver, B.C.  
V7V 2W1

October, 1991

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,848**

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## INTRODUCTION

A one day geochemical program was carried out by a two person crew on August 26, 1991 on the Bat 1 claim. The objects of this program were to confirm six samples anomalous in zinc (365 ppm - 717 ppm) taken in 1990 (Waskett-Myers, 1990) and to attempt to locate the source of these anomalies. Three rock, ten pan concentrate and ten silt samples were taken.

The Bat 1 claim was staked to cover part of a Jurassic Belt of rocks thought to be co-eval with the "Eskay Creek Facies". The "Eskay Creek Facies" hosts the Eskay Creek deposit, a polymetallic massive sulphide ore body located approximately 70 km south of the Bat 1 claim.

Noranda is presently exploring a large block of claims immediately east of the Bat 1 claim.

## PROPERTY DEFINITION

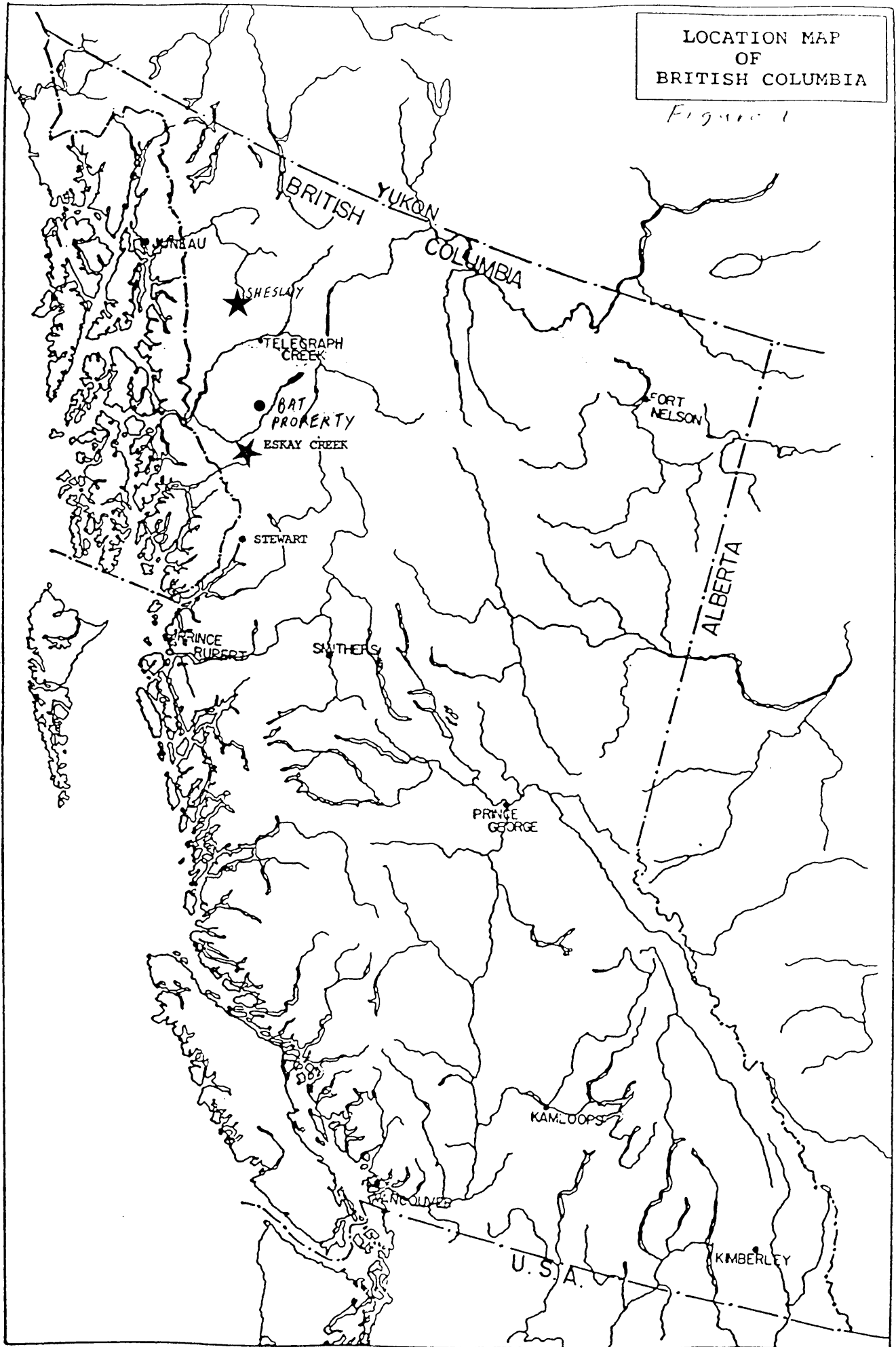
The Bat 1 claim is a located mineral claim consisting of 20 units with a record number of 6752. The claim is owned by Chris Graf and has an expiry date of February 21, 1992.

## LOCATION AND ACCESS

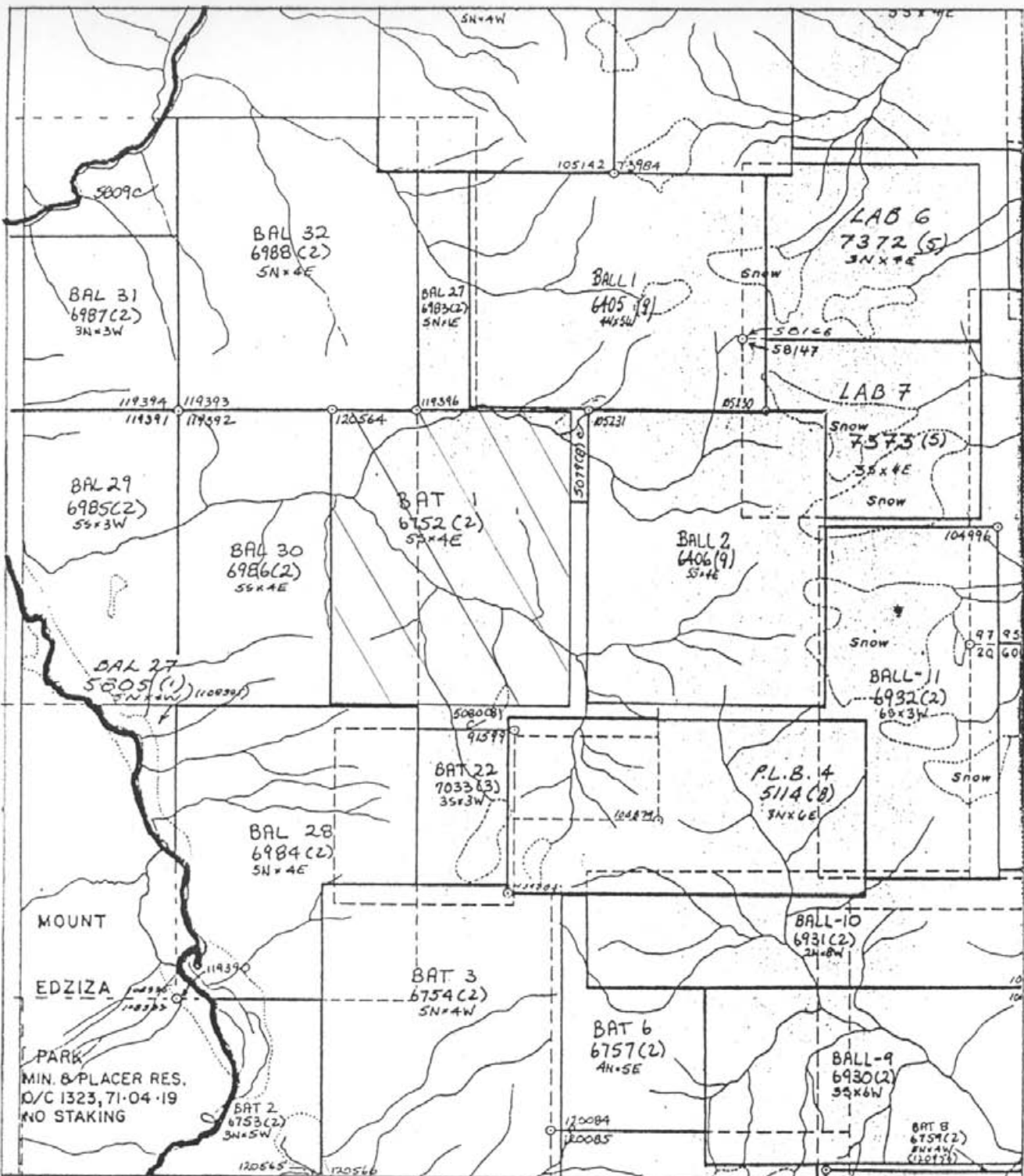
The Bat 1 claim is located 21 km southwest of the south end of Kiniskan lake in the Iskut River watershed of northwestern B.C. (See Figures 1 & 2). Access was achieved by helicopter set out from Bob Quinn Lake on Highway 37 approximately 50 km southeast of the property.

LOCATION MAP  
OF  
BRITISH COLUMBIA

Figure 1



TO WEST SEE MAP 104G/7E

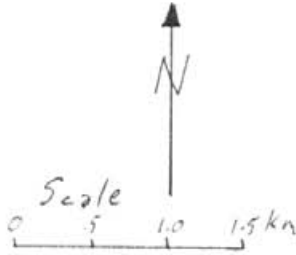


ACTIVE MINERALS LTD.

Stikine Gold Project

Bat 1 Claim

Part of 104 G/8W



Scale:  
1:50,000

Date:  
October, 1991

Figure:  
2

## TOPOGRAPHY AND VEGETATION

Topography on the Bat 1 claim is moderate with elevations ranging from 1300 m elevation on the north western claim boundary to 1740 m elevation on the southern claim boundary.

Ninety percent of the claim is above treeline with the remainder covered by sub-alpine spruce.

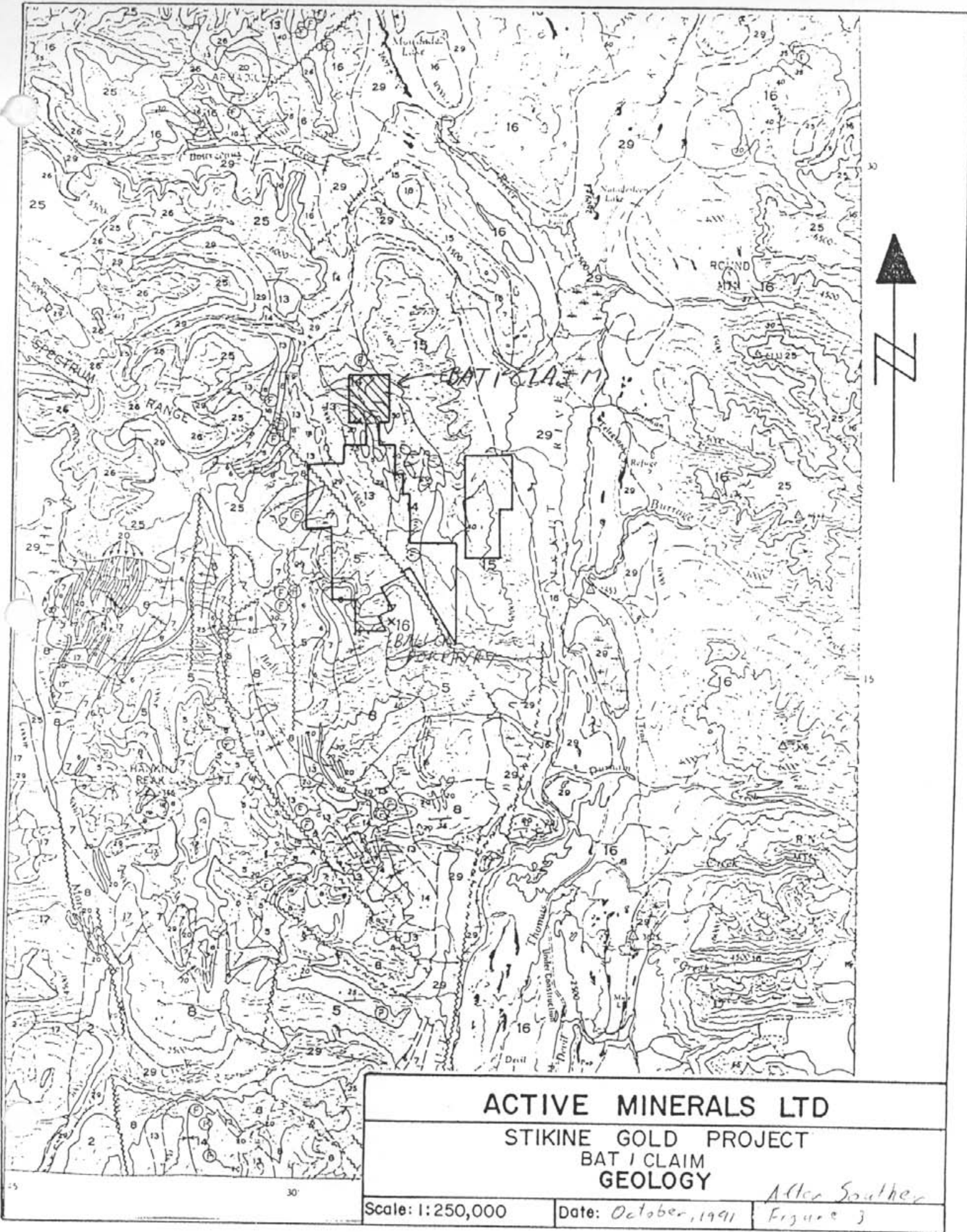
## REGIONAL GEOLOGY

The Bat 1 claim lies in the Intermontane Tectonic Belt approximately 20 km east of its boundary with the Coast Plutonic complex. The claim covers part of a Jurassic volcano-sedimentary package dominated by shale and pillow basalt. A minor but economically significant member of this package are rhyolite pyroclastics. This sequence is thought to be co-eval with the "Eskay Creek Facies", the host of a major ore body located approximately 70 km south of the Bat 1 claim. The bedded sequence generally strikes north westerly and dips shallowly east.

## PROPERTY GEOLOGY

Most of the Bat 1 claim is underlain by a Lower and Middle Jurassic shale unit. This unit is conformably overlain by Middle Jurassic basalt and related volcanoclastic rocks in the northeast quadrant of the claim. The basalt unit hosts a number of prominent gossans on and over the eastern and northern claim boundaries.

These bedded rocks trend north north west and dip shallowly to moderately east.



**ACTIVE MINERALS LTD**  
**STIKINE GOLD PROJECT**  
**BAT I CLAIM**  
**GEOLOGY**

*After Souther*

Scale: 1:250,000      Date: October, 1991      Figure 3

LEGEND

CENOZOIC

QUATERNARY

PLEISTOCENE AND RECENT

- 29 Fluvial gravel; sand, silt; glacial outwash, till, alpine moraine and colluvium
- 28 Hot-spring deposit, tufa, aragonite
- 27 Olivine basalt, related pyroclastic rocks and loose tephra; younger than some of 29

TERTIARY AND QUATERNARY

UPPER TERTIARY AND PLEISTOCENE

- 26 Rhyolite and dacite flows, lava domes, pyroclastic rocks and related subvolcanic intrusions; minor basalt
- 25 Basalt, olivine basalt, dacite, related pyroclastic rocks and subvolcanic intrusions; minor rhyolite; in part younger than some 26

CRETACEOUS AND TERTIARY

UPPER CRETACEOUS AND LOWER TERTIARY

SLOKO GROUP

- 24 Light green, purple and white rhyolite, trachyte and dacite flows, pyroclastic rocks and derived sediments
- 22, 23 22. Biotite leucogranite, subvolcanic stocks, dykes and sills  
23. Porphyritic biotite andesite, lava domes, flows and (?) sills

SUSTUT GROUP

- 21 Chert-pebble conglomerate, granite-boulder conglomerate, quartzose sandstone, arkose, siltstone, carbonaceous shale and minor coal
- 20 Felsite, quartz-feldspar porphyry, pyritiferous felsite, orbicular rhyolite; in part equivalent to 22
- 19 Medium-to coarse-grained, pink biotite-hornblende quartz monzonite

JURASSIC AND/OR CRETACEOUS

POST-UPPER TRIASSIC PRE-TERTIARY

- 18 Hornblende diorite
- 17 Granodiorite, quartz diorite; minor diorite, leucogranite and migmatite

JURASSIC

MIDDLE (?) AND UPPER JURASSIC

BOWSER GROUP

- 16 Chert-pebble conglomerate, grit, greywacke, subgreywacke, siltstone and shale; may include some 13

MIDDLE JURASSIC

- 15 Basalt, pillow lava, tuff-breccia, derived volcanoclastic rocks and related subvolcanic intrusions

LOWER AND MIDDLE JURASSIC

- 14 Shale, minor siltstone, siliceous and calcareous siltstone, greywacke and ironstone

LOWER JURASSIC

- 13 Conglomerate, polymictic conglomerate; granite-boulder conglomerate, grit, greywacke, siltstone; basaltic and andesitic volcanic rocks, peperites, pillow-breccia and derived volcanoclastic rocks



MESOZOIC

TRIASSIC AND JURASSIC  
POST-UPPER TRIASSIC PRE-LOWER JURASSIC

12 Syenite, orthoclase porphyry, monzonite, pyroxenite

HICKMAN BATHOLITH

10 11 10. Hornblende granodiorite, minor hornblende-quartz diorite 11. Hornblende, quartz diorite, hornblende-pyroxene diorite, amphibolite and pyroxene-bearing amphibolite

TRIASSIC  
UPPER TRIASSIC

9 Undifferentiated volcanic and sedimentary rocks (units 5 to 8 inclusive)

8 Augite-andesite flows, pyroclastic rocks, derived volcaniclastic rocks and related subvolcanic intrusions; minor greywacke, siltstone and polymictic conglomerate

7 Siltstone, thin-bedded siliceous siltstone, ribbon chert, calcareous and dolomitic siltstone, greywacke, volcanic conglomerate, and minor limestone

6 Limestone, fetid argillaceous limestone, calcareous shale and reefoid limestone; may be in part younger than some 7 and 8

5 Greywacke, siltstone, shale; minor conglomerate, tuff and volcanic sandstone

MIDDLE TRIASSIC

4 Shale, concretionary black shale; minor calcareous shale and siltstone

PALEOZOIC

PERMIAN  
MIDDLE AND UPPER PERMIAN

3 Limestone, thick-bedded mainly bioclastic limestone; minor siltstone, chert and tuff

PERMIAN AND OLDER

2 Phyllite, argillaceous quartzite, quartz-sericite schist, chlorite schist, greenstone, minor chert, schistose tuff and limestone

MISSISSIPPIAN

1 Limestone, crinoidal limestone, ferruginous limestone; maroon tuff, chert and phyllite

B Amphibolite, amphibolite gneiss; age unknown probably pre-Upper Jurassic

A Ultramafic rocks; peridotite, dunite, serpentinite; age unknown, probably pre-Lower Jurassic

- Geological boundary (defined and approximate, assumed) .....
- Bedding (horizontal, inclined, vertical, overturned) .....
- Anticline .....
- Syncline .....
- Fault (defined and approximate, assumed) .....
- Thrust fault, teeth on hanging-wall side (defined and approximate, assumed) .....
- Fossil locality .....
- Mineral property .....
- Glacier .....

## DISCUSSION OF 1991 FIELDWORK

Not enough samples were taken to determine anomalous levels by statistical means. Anomalous levels were determined from past work in the area and discussion with other geoscientists familiar with the region.

Ten pan concentrate, ten silt samples and three rock samples were taken. The three rock samples did not return any values anomalous in base or precious metals. The stream sediments returned values ranging from 143 ppm zinc to 749 ppm zinc. These values are similar to the values returned in the 1990 program. Zinc values in this range are quite common in samples taken from creeks draining shale units.


## CONCLUSION

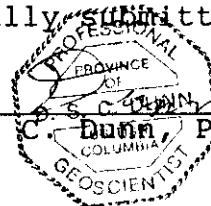
Zinc values in the hundreds of ppm range probably represent high background zinc levels in the black shale unit which underlies the bulk of the property. No other base or precious metals anomalies were detected.

## RECOMMENDATIONS

No further work is recommended on this property at this time.

Respectfully submitted by:

  
David St. C. Dunn, P. Geo.



## BIBLIOGRAPHY

- Gabrielse, H. et al, 1971, Department of Energy, Mines and Resources, O.F. 707
- Gabrielse, H., Souther, J.G., 1962, Geological Survey of Canada, Map 29-1962 and Descriptive Notes
- Souther, J.G., 1971, Telegraph Creek Map Area Paper 71-44
- Waskett-Myers., Graf, C., 1990, Geological Report on Stikine Gold Project

**APPENDIX "A"**  
**ASSAY CERTIFICATES**

Geochemical Analysis Certificate

1V-0964-RG1

Company: **ACTIVE MINERALS LTD.**  
Project: **STIKINE GOLD SYNDICATE BAT-1**  
Attn: **DAVID DUNN**

Date: **SEP-06-91**  
Copy 1. ACTIVE MINERALS, VANCOUVER, B.C.

*We hereby certify* the following Geochemical Analysis of 3 ROCK samples submitted AUG-30-91 by DAVID DUNN.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	PB PPM	ZN PPM
1-00126	1	0.1	17	11	13
1-00270	2	1.3	10	17	94
1-00275	1	1.7	22	20	89

Certified by \_\_\_\_\_



MIN-EN LABORATORIES



COMP: ACTIVE MINERALS LTD.  
 PROJ: STIKINE GOLD SYNDICATE BAT-1  
 ATTN: C.GRAF/D.DUNN

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: 1V-0964-PJ1  
 DATE: 91/09/06  
 \* PAN CONCENTRATES \* (ACT:F31)

SAMPLE NUMBER	AG PPM	AL PPM	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA PPM	CD PPM	CO PPM	CU PPM	FE PPM	K PPM	LI PPM	MG PPM	MN PPM	MO PPM	NA PPM	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI PPM	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	AU-FIRE PPB	WT-GM
1-00114	.5	16820	2	4	1489	1.2	8	5550	3.9	14	49	46870	2960	11	6380	654	7	470	15	1270	15	1	35	1	1126	95.2	546	1	1	2	14	5	31.31
1-00116	.2	14220	2	1	1230	1.0	4	4150	.4	9	34	30070	3640	13	4970	406	3	450	14	880	16	1	39	1	290	61.7	308	1	1	1	11	4	33.65
1-00118	.4	11540	2	1	2117	.7	11	6830	2.8	14	45	50860	2770	8	4300	631	21	140	40	910	17	1	38	1	1699	103.2	651	1	2	1	10	3	35.84
1-00120	.1	22010	1	2	441	1.3	7	13460	.1	23	63	75960	3780	27	7780	857	1	120	7	1300	20	1	40	1	731	84.1	303	1	1	1	10	14	33.78
1-00122	.1	21200	1	1	766	1.4	5	10680	.1	15	50	51690	4090	22	7030	679	2	140	11	1170	19	1	37	1	449	79.3	260	1	1	1	11	8	47.95
1-00124	1.2	20470	1	1	512	.2	22	10890	.1	23	37	70900	2120	13	12900	863	3	170	8	1250	12	1	22	1	4107	201.0	418	1	3	3	13	6	32.11
1-00271	1.4	24280	1	1	342	.1	39	10930	.1	38	51	113800	1820	14	18130	1502	5	170	13	1300	4	1	20	1	7641	267.3	639	1	5	5	24	4	17.59
1-00273	1.5	33240	1	1	86	.1	42	14900	.1	37	31	106230	1220	14	26840	1529	1	110	1	1290	1	1	15	1	8255	317.8	148	1	5	5	7	3	20.99
1-00276	1.1	23850	1	1	236	.1	30	11020	.1	30	44	91300	1620	13	17680	1170	5	130	12	1320	8	1	20	1	5642	240.7	536	1	4	4	14	3	37.99
1-00277	.5	22620	1	1	347	.2	24	10890	.1	25	43	77760	1280	14	16230	1017	4	130	10	1320	10	1	20	1	4215	209.6	460	1	4	3	12	7	47.44

**APPENDIX "B"**  
**SAMPLING METHODOLOGY**



## SAMPLING METHODOLOGY

### ROCK SAMPLES

Approximately 5 kg of rock chips were placed in a 6 mil plastic bag with a sample tag; the bag was marked with the tag number and the samples shipped to Min-En Laboratories in North Vancouver.

### SILT SAMPLES

Approximately 0.5 kg of fine sediment was collected from the active stream channel, placed in a standard kraft bag with a sample tag and the tag number written on the bag. The sample was then dried and shipped to Min-En Laboratories in North Vancouver.

### SOIL SAMPLES

Approximately 0.5 kg of B horizon soil was collected from 10 cm to 25 cm depth, put in a standard kraft bag with a sample tag and the tag number written on the bag. The sample was then dried and shipped to Min-En Laboratories in North Vancouver.

### PAN CONCENTRATE SAMPLES

Two pans of material were collected from the active stream channel, sieved to -1.25 cm and panned to a black sand concentrate. One pan of moss was washed with the resulting residue panned to a black sand concentrate. These concentrates were combined and placed in a 6 mil plastic bag with a sample tag. The bag was labelled with the tag number and shipped to Min-En Laboratories in North Vancouver.



**APPENDIX "C"**

**STATEMENT OF QUALIFICATIONS**

STATEMENT OF QUALIFICATIONS

I, David St. Clair Dunn, with a business address of 2348 Palmerston Avenue, West Vancouver, B.C. declare that:

1. I am a Professional Geoscientist registered under the Professional Engineers and Geoscientists Act of the Province of British Columbia.
2. I am a Fellow of the Geological Association of Canada.
3. I am an affiliate member of the Association of Exploration Geochemists.
4. I have practised my profession as a prospector and geologist in Canada, U.S.A. and Australia for over 20 years.
5. I personally supervised the work on the Bat claims.
6. I do not hold any interest in the Bat claims nor do I expect to receive any.

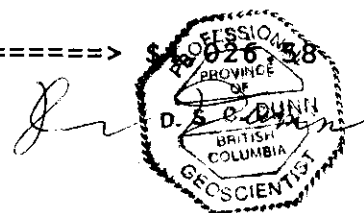
   
David St. Clair Dunn, P. Geo.

**APPENDIX "D"**  
**STATEMENT OF COSTS**

STATEMENT OF COSTS

Project Preparation		\$ 87.23
Mob Demob		463.21
Project Expenses:		
Wages: D. Dunn 1.5 days @ \$250/day + GST (August 24 & 26, 1991)		401.25
B. Goad 1.5 days @ \$150/day + GST (August 24 & 26, 1991)		240.75
Room and Board		216.70
Helicopter		1,467.83
Truck Rental		189.11
Analytical charges:		
3 rocks	55.50	
10 silts	145.00	
10 pan con	160.00	
	<hr/>	
	360.50	360.50
Report preparation		600.00

TOTAL =====>



**APPENDIX "E"**  
**ANALYTICAL METHODS**



**MINERAL  
• ENVIRONMENTS  
LABORATORIES**

Division of Assayers Corp. Ltd.

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ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK

PROCEDURE FOR AU, PT OR PD FIRE GEOCHEM

Geochemical samples for Au Pt Pd are processed by Min-En Laboratories, at 705 West 15th St., North Vancouver, B.C., laboratory employing the following procedures:

After drying the samples at 95 C, soil and stream sediment Samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer or ring mill pulverizer.

A suitable sample weight; 15.00 or 30.00 grams is fire assay preconcentrated. The precious metal beads are taken into solution with aqua regia and made to volume.

For Au only, samples are aspirated on an atomic absorption spectrometer with a suitable set of standard solutions. If samples are for Au plus Pt or Pd, the sample solution is analyzed in an inductively coupled plasma spectrometer with reference to a suitable standard set.



**MINERAL  
• ENVIRONMENTS  
LABORATORIES**

Division of Assayers Corp. Ltd.

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ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

-----  
PROCEDURE FOR AG, CU, PB, ZN, NI, CO OR CD GEOCHEM  
-----

Samples are processed by Min-En Laboratories at 705 West 15th Street, North Vancouver, employing the following procedures.

After drying the samples at 95 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by jaw crusher and pulverized on a ring mill pulverizer.

0.50 gram of the sample is digested for 2 hours with an aqua regia mixture. After cooling samples are diluted to standard volume.

The solutions are analysed on atomic absorption spectrometers using the appropriate standard sets. A background correction can be applied to Ag, Pb, and Cd if requested.

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OFFICE AND LABORATORIES:  
705 WEST FIFTEENTH STREET, NORTH VANCOUVER, B.C.  
CANADA V7M 1T2

PHONE: (604) 980-5814 (604) 988-4524  
TELEX: VIA USA 7601067  
FAX: (604) 980-9621





**MINERAL  
• ENVIRONMENTS  
LABORATORIES**

Division of Assayers Corp. Ltd.

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

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PROCEDURE FOR 31 ELEMENT TRACE ICP  
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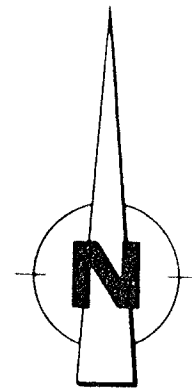
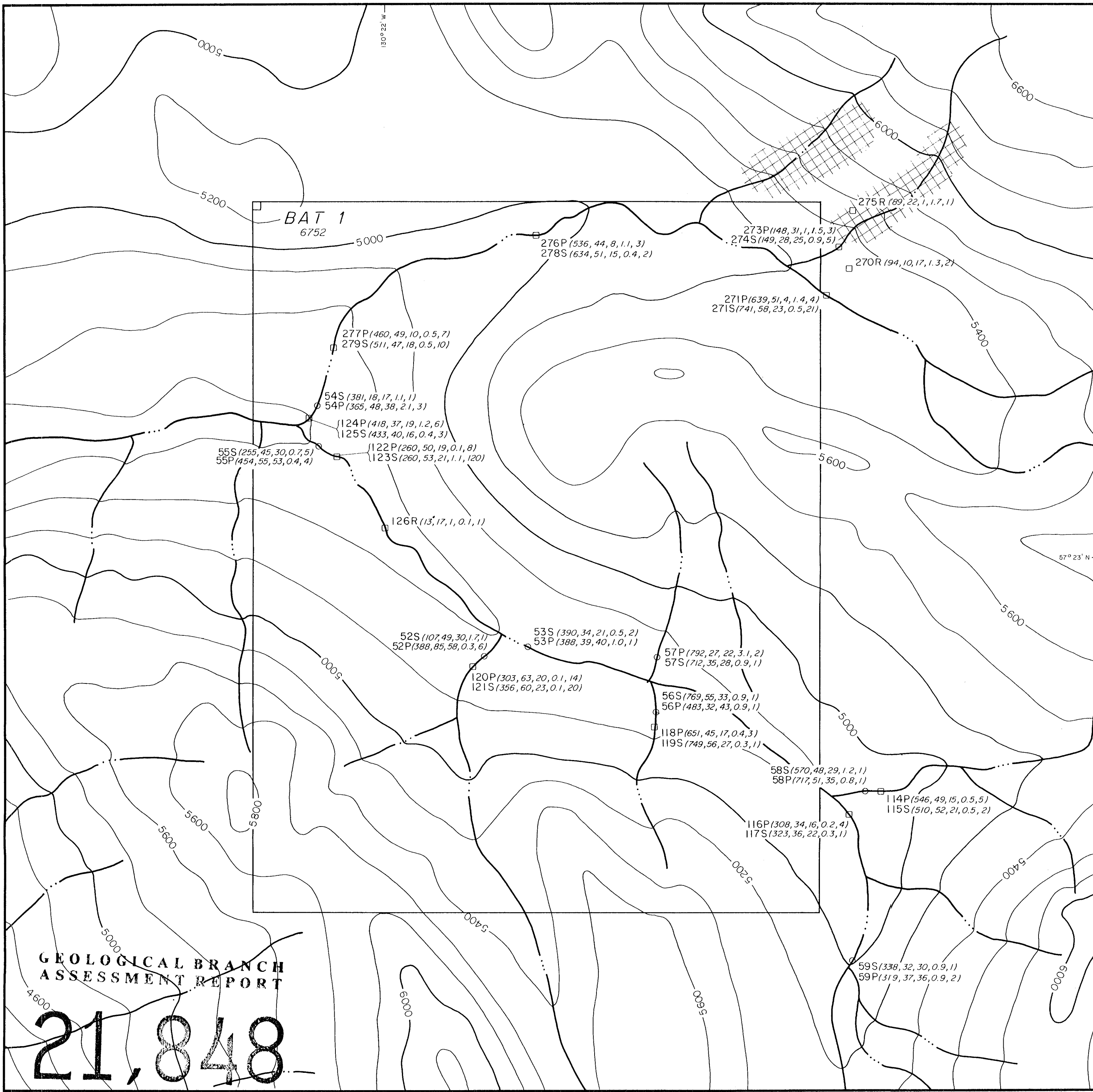
Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cu,  
Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb,  
Sr, Th, Ti, V, Zn, Ga, Sn, W, Cr

Samples are processed by Min-En Laboratories, at 705 West 15th Street, North Vancouver, employing the following procedures.







After drying the samples at 95 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer.

0.5 gram of the sample is digested for 2 hours with an aqua regia mixture.

After cooling samples are diluted to standard volume. The solutions are analysed by computer operated Jarrall Ash 9000 ICAP or Jobin Yvon 70 Type II Inductively Coupled Plasma Spectrometers. Reports are formatted and printed using a dot-matrix printer.



**LEGEND**

-  gossan zone
-  creek
-  contours (200ft interval)
-  1990 sample
-  1991 sample
- 99R rock sample
- 99P pan concentrate sample
- 99S silt sample
- (190, 91, 19, 0.9, 9) geochemistry values  
(Zn ppm, Cu ppm, Pb ppm, Ag ppm, Au ppb)
-  claim boundary with L.C.P.



ACTIVE MINERALS LTD.

BAT 1 CLAIM

**Sample Locations**

SCALE 1 : 10 000	DATE Oct. 1991	FIGURE 4
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GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**21,848**