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ALVISA MINES LTD.

1031/9E

103I-85

PROPERTY FILE

103 I 085-07

~~IVAN~~

~~TODD~~

~~LUMBER SALES LTD.~~

642 Clark Dr.

~~1198 WEST PENDER STREET~~

VANCOUVER B.C.

~~TELEX 04-5317~~

~~PHONE 684-7471~~

2558488

ALVIJA MINERAL CLAIMS  
Kleanza River  
Omineca Mining Division, B.C.

ALRAE EXPLORATION LTD.

June 7, 1967

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MAP

Scale

Alvija claims sampling plan

1" = 50 ft.

Alvija claim location map

1" = 4 miles

## INTRODUCTION

The writer, accompanied by Messrs. I. Todd, J. Greer, and J. McCulloch, examined the Alvija claims on May 27th and 28th, 1967. The purpose of the investigation was to evaluate copper mineralization occurring on the claims which had been located by Messrs. Greer and McCulloch.

Union Carbide Exploration Ltd. of Toronto, Ontario had examined and mapped the mineralized occurrences on these claims during 1966 and copies of their work sheets and assay results were available. The writer confirmed their mapping and sampling during the examination and investigated the geology of the sulphide mineral emplacement.

## LOCATION AND ACCESS

The Alvija claims are located approximately 18 miles easterly from Terrace, B.C. and are immediately north of the junction of the Kleanza River and Kipulta Creek. The Skeena River, Canadian National Railway, and the main provincial highway from Prince George to Prince Rupert are approximately nine miles to the west of the claims at the mouth of the Kleanza River.

Present access to the claims is by helicopter from Terrace, or by foot path from the end of logging roads on the Kleanza River, approximately seven miles west of the claims. A helicopter landing may be made at a small natural clearing,

approximately 1,000 feet north of the adits and mineralized zone on claims # 1 and # 2.

CLAIMS

Claims and their record numbers are as follows:

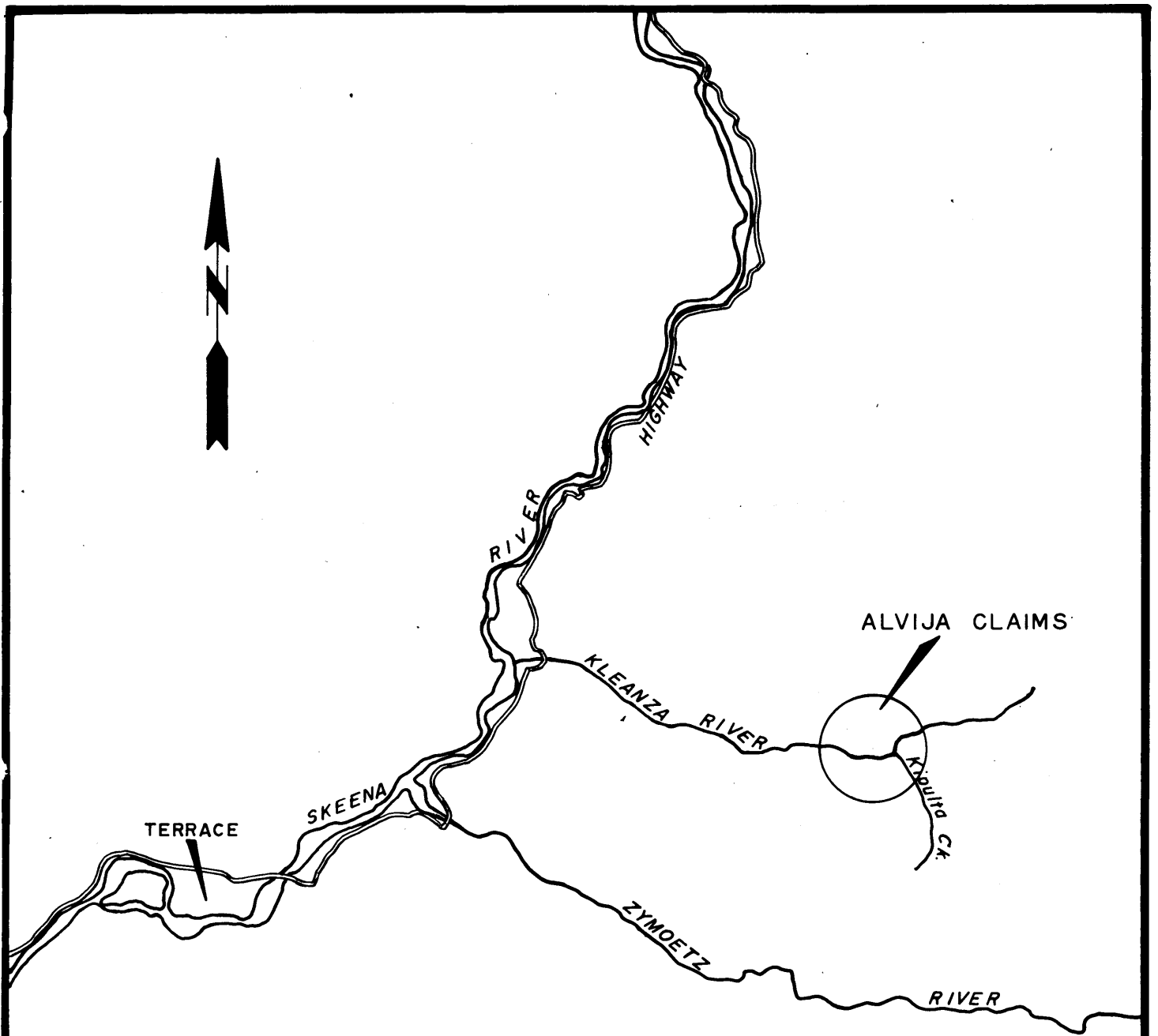
<u>Claim Name</u>	<u>Record Number</u>
Alvija # 1 & 2	30775 & 30776
Alvija # 5 - 12	32347 - 32354
Alvija # 13 - 18	40458 - 40463
Alvija # 19 - 22	Located May 28, 1967. Record numbers not yet issued.

Claim # 1 to # 12 are held by owners J. Greer, J. McCulloch, and J. Felber. Claim # 13 to # 18 are registered in the name of J. Greer and J. McCulloch. All 22 claims are within the Omineca Mining Division.

HISTORY

Bornite and chalcocite mineralization was discovered on the present claims in 1908 by Mr. Fred Forrest of Usk, B.C. In 1924 Federal Mining and Smelting Company drove a short adit (upper adit) and 1929 Consolidated Mining and Smelting Company drove the lower adit. Chief interest at the time was for gold and work was discontinued when only low gold content was encountered.

The original name of this property was the Idaho claim. The Lucky Jim claim was approximately 1,000 feet south east of the Idaho adits and would now be held by the Alvija 1 claim. Work on



ALRAE EXPLORATION LTD.	
LOCATION MAP	
ALVIJA CLAIMS	
Date : MAY 1967	Scale : 1" = 4 Miles
Designed : R.G.J.	Dwg.No. :

the Lucky Jim claim consisted of a 7 by 7 foot inclined shaft 20 feet in depth. This shaft is at elevation 1,650 feet.

#### GEOLOGY

The Alvija claims are underlain by Jurassic andesite breccia and rhyolite. Fragments in the breccia are up to ten inches in diameter and are angular to sub-rounded in character. The matrix is of similar texture and colour as the fragments making distinction of any one fragment rather difficult. The brecciated character of the rock is most readily evident on clean weathered surfaces.

Diorite dykes were noted in the area of the adits and several hundred feet north of trench 2. One such dyke, at least three feet in width, occurs at the portal of the lower adit. These dykes are poorly exposed but do not appear to be mineralized with bornite or chalcocite.

Potassium feldspar phenocrysts occur throughout the matrix and fragments and appears to have been introduced into the rock. Some fragments contain concentrations of these phenocrysts. Individual crystals of feldspar are up to one eighth of an inch long and are generally fresh and unaltered. Epidote and minor chlorite were noted, the epidote occurs in veinlets and vugs, particularly in mineralized area.

Copper mineralization consists of bornite and chalcocite, finely disseminated throughout the breccia and occurring in increased concentrations in highly fractured zones, particularly in the adit area. These sulphides appear to have been emplaced in the breccia later than the feldspar phenocrysts. Small veinlets and disseminations of bornite cut through some of the feldspar phenocrysts in the most heavily mineralized zone.

Two short Adits have been driven into the mineralized zone, the lower adit at elevation 2,080 feet is approximately 155 feet in length. The upper adit at elevation 2,130 feet is 45 feet in length. Both adits have copper mineralization in their present faces. These were driven during the 1920's and, although the portals are partially caved, it is possible to enter both levels. A short winze has been started on the upper level immediately inside the portal on a pocket of high grade copper mineralization. Although this was water filled at the time of the writer's visit, it is apparent that this winze is only approximately six feet in depth. A small amount of high grade is stockpiled near the portal of the upper adit.

The most heavily mineralized zone above the adits strikes northwesterly and appears to have a steep dip. Width of the zone varies from a few feet up to 30 feet at trench #1. As may be seen



on the accompanying sampling plan which shows the location of all recent sampling on this property, the grade and width of the zone varies considerably over the 200 foot vertical extent exposed. This well mineralized zone appears to be a shattered zone through the breccia. Numerous small cross-fractures are mineralized for several tens of feet outside of this northwesterly trending linear mineralized structure. Wall rock samples away from the highly mineralized zone, as much as one half mile distant, assayed from 0.10 to 0.22 percent copper.

Bornite and chalcocite occur as very finely disseminated particals throughout the breccia and have apparently been concentrated in shattered zones through the host rock.

Malachite is notably absent from outcrops containing disseminated copper mineralization in this region. Malachite occurs in fractures at a depth greater than one foot from surface. This condition may be caused by acid ground water. In several instances apparently barren outcrops, when blasted, exhibited quite obvious malachite staining on fracture planes.

#### CONDLUSIONS AND RECOMMENDATIONS

The nature of the occurrence of widespread bornite and chalcocite within the andesite breccia indicates this to be a prospect with merit not only as a high grade deposit but as a possible large tonnage, low grade, type of occurrence. Copper

sulphides appear to have been introduced into the entire rock unit and are concentrated in zones of most intense fracturing. An exploration program incorporating methods suited to both high grade and large low grade occurrences is indicated.

To further evaluate the claims, and the known occurrence, the following work is recommended:

- A Construction of a six mile access road to the mineralized zone.
- B Geological mapping and prospecting of outcrops within the claim group.
- C Aerophoto interpretation of fracture density.
- D Induced polarization survey.
- E Rock trenching, sampling and assaying.
- F Diamond drilling of the known mineralized zone and its extensions.
- G Diamond or percussion drilling of I.P. survey anomalies.

COST ESTIMATE

Approximate cost of the above recommended work would be as follows:

Road Construction	\$ 10,000.00
Mapping, prospecting and air photo interpretation	4,000.00
Induced polarization survey	16,000.00
Diamond drilling of mineralized zone	15,000.00
Rock trenching, sampling and assaying	10,000.00
I.P. anomaly drilling	25,000.00
	<u>\$ 80,000.00</u>

Should the above recommended work encounter broad zones of copper mineralization, much more work would be required to fully evaluate such a discovery.

Respectfully submitted:

"Rae G. Jury"

Rae G. Jury, P. Eng.

(Seal)

103I/9E

103I-85

# ALVIJA MINES LTD. (N.P.L.)

642 CLARK DRIVE, VANCOUVER 6, B.C.

TELEPHONE : 255-8488

## SAMPLING PLAN

LOCATION: 17 MILES N.E. TERRACE, B.C.  
ON KLEANZA CREEK

Date: JUNE 1967  
Designed: R.G.J.

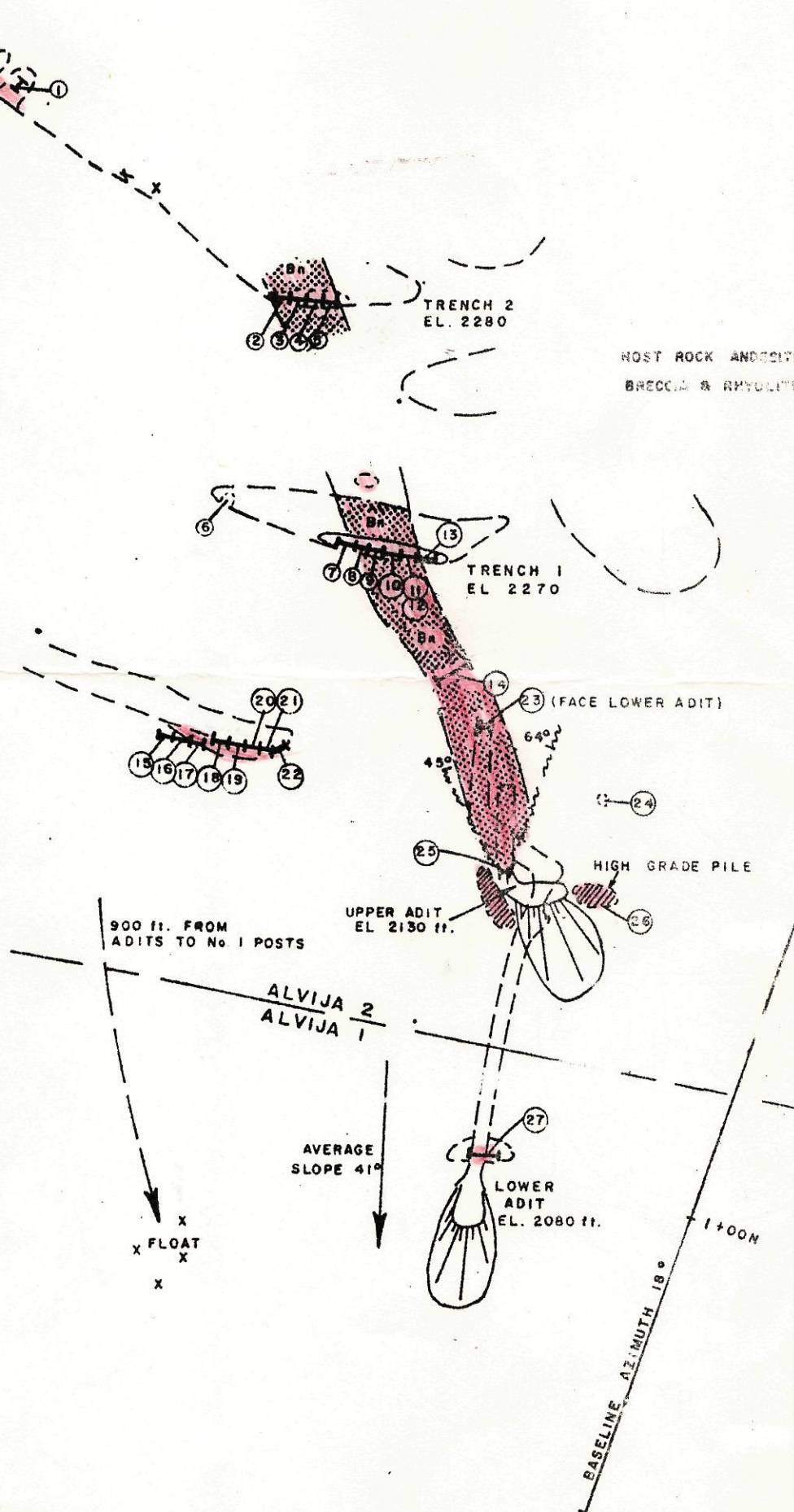
Scale: 1" = 50'  
Drawn: M.R.L.



PITS  
M. C.C.  
EL 2310

SAMPLE - GRAB  
3500' WEST  
Cu 0.18%

SAMPLE NO.	WIDTH ft.	Au oz/T	Ag oz/T	Cu %
1	5.0			0.12
2	5.0	tr.	0.2	0.21
3	5.0	tr.	0.2	0.76
4	5.0	tr.	0.7	2.13
5	5.0	0.01	0.7	1.24
6	grab			0.10
7	5.0	tr.	tr.	0.08
8	5.0	tr.	2.2	4.24
9	5.0	tr.	1.1	2.51
10	5.0	tr.	1.9	3.77
11	5.0	0.01	2.3	4.90
12	5.0			4.65
13	5.0	tr.	1.0	1.29
14	12.0		0.90	0.50
15	5.0	tr.	0.4	0.30
16	5.0	tr.	0.3	0.29
17	5.0	tr.	0.5	0.76
18	5.0	tr.	0.8	0.98
19	5.0	tr.	tr.	0.82
20	5.0	tr.	tr.	0.80
21	5.0	tr.	0.4	0.89
22	5.0	tr.	0.7	0.94
23	5.0	tr.	0.3	0.99
24	grab			0.22
25	6.0		2.60	5.60
26	grab		4.7	15.98
27	10.0			0.60
28	grab			0.11

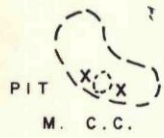


HOST ROCK ANDOSITE  
BRECCIA & AMPHOLITE

### LEGEND

- xx Mineralized
- c.c. Chalcocite
- M Malachite
- Bornite
- Sampled Interval

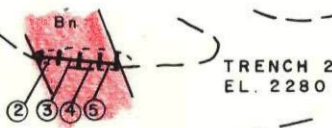
SAMPLE GRAB AT EL. 1950



PIT  
M.  
C.C.  
EL. 2360

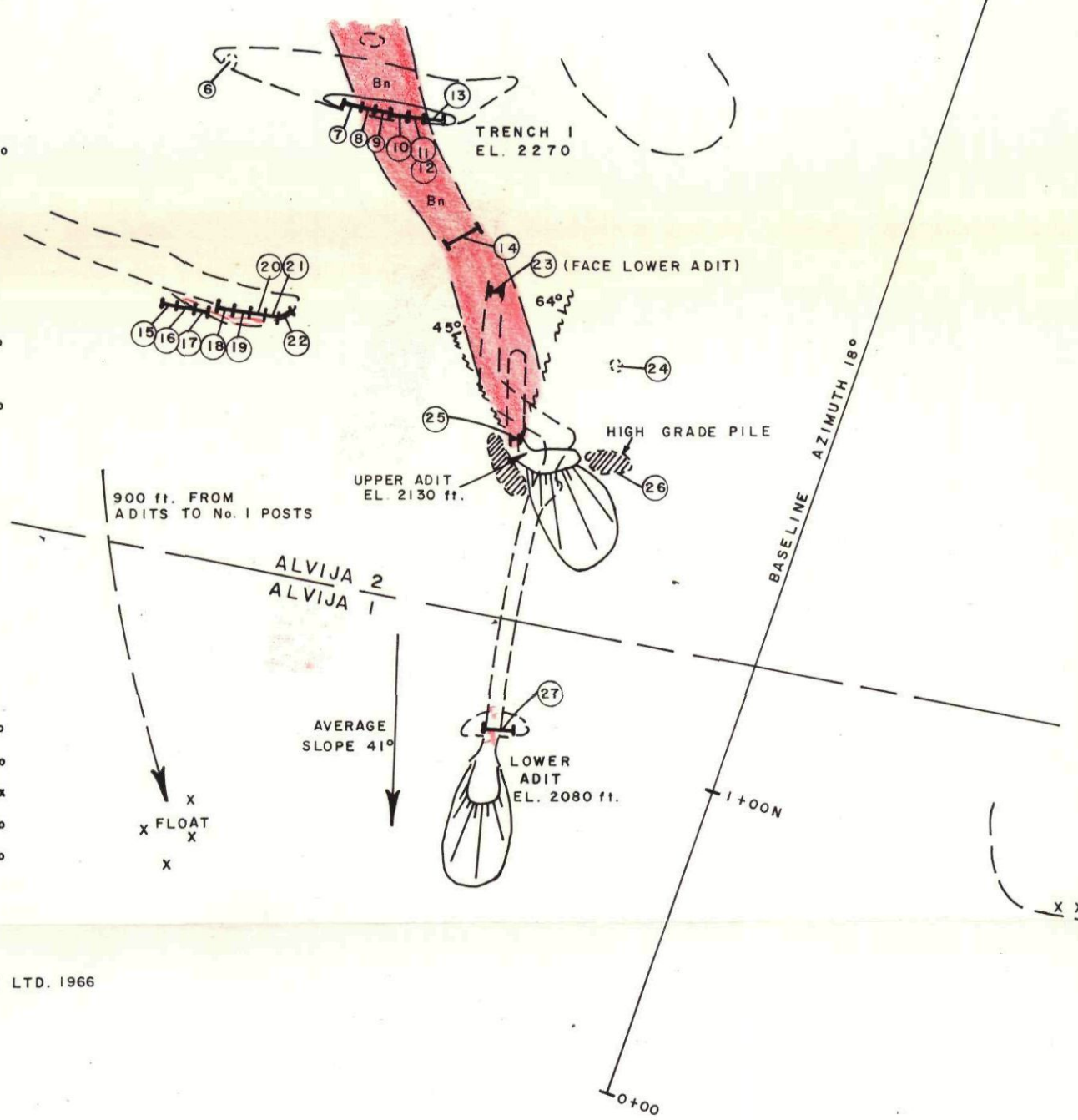


PITS  
M. C.C.  
EL. 2310



HOST ROCK ANDESITE  
BRECCIA AND RHYOLITE

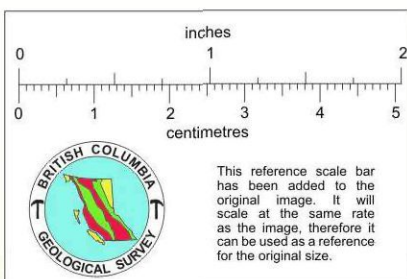
SAMPLE NO.	WIDTH ft.	Au oz/T	Ag oz/T	Cu %	
1	5.0			0.12	o
2	5.0	tr.	0.2	0.21	
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4	5.0	tr.	0.7	2.13	
5	5.0	0.01	0.7	1.24	
6	grab			0.10	o
7	5.0	tr.	tr.	0.08	
8	5.0	tr.	2.2	4.24	
9	5.0	tr.	1.1	2.51	
10	5.0	tr.	1.9	3.77	
11	5.0	0.01	2.3	4.90	
12	5.0			4.65	o
13	5.0	tr.	1.0	1.29	
14	12.0		0.90	0.50	o
15	5.0	tr.	0.4	0.30	
16	5.0	tr.	0.3	0.29	
17	5.0	tr.	0.5	0.76	
18	5.0	tr.	0.8	0.98	
19	5.0	tr.	tr.	0.82	
20	5.0	tr.	tr.	0.80	
21	5.0	tr.	0.4	0.89	
22	5.0	tr.	0.7	0.94	
23	5.0	tr.	0.3	0.99	
24	grab			0.22	o
25	6.0		2.60	5.60	o
26	grab		4.7	15.98	x
27	10.0			0.60	o
28	grab			0.11	o



o SAMPLES BY R. JURY.  
x SAMPLE BY J. McCULLOCH  
REMAINDER BY UNION CARBIDE EXPLORATION LTD. 1966

**LEGEND**

- xx Mineralized
- c.c Chalcocite
- M Malachite
- Bn Bornite
- ▬ Sampled Interval



ALRAE EXPLORATION LTD.	
<b>ALVIJA CLAIMS Sampling Plan</b>	
Date : JUNE 1967	Scale : 1" = 50'
Designed : R.G.J.	Dwg. No. :