

To P. Holbek  
0930/11

**821101**

FINAL REPORT - B.C. GOLD REGIONAL 1982

ANAHIM LAKE AREA, NTS 93 C 11, 14

BY

A.D. CLENDENAN

SUMMARY

The volcanics (GSC Map 1202A, NTS 93C) in the Itcha, Ilgachuz and Rainbow Ranges were examined as part of the programme set up to locate and evaluate potential Tertiary volcanic hosted epithermal precious metal deposits. An extensive area of favourable appearing clay alteration and iron oxide was noted in the Ilgachuz Range during an initial fixed wing reconnaissance of the area. Prospecting and sampling of this area suggest that a very high level epithermal system is present at the centre of the Ilgachuz Range. Although it is plausible (using Buchanan's 1981 model) that a precious metal deposit exists in the area, at some depth, the risk to reward factor is too high and no further work is recommended.

LOCATION

The Itcha, Ilgachuz and Rainbow Ranges are located in southwest central B.C. within a 25 mile radius east and north of the village of Anahim Lake. See figures 1, 2 and 3.

ACCESS

The initial reconnaissance was carried out using Dean River Airs single engine Cessna based at the Anahim air strip. An old Bell G2 helicopter was in Anahim but not licenced for commercial charter during 1982. The follow-up sampling and prospecting on Ilgachuz was carried out while a helicopter from Bella Coola (40 minutes one way by Hughes 500 D) shut down on the outcrop.

## GENERAL GEOLOGY

The Anahim belt stretches from the west coast northeasterly for 500 km into the Cariboo Plateau. Alkalic and Peralkalic volcanic rocks and sub-volcanic intrusions decrease in age and erosion level from west to east. Sub-volcanic syenites and monzonites on King Island are 12.6 M.A. in age (Baer, 1973) while large shield volcanoes of the Rainbow Range are between 6.7 and 8.7 M.A. old (Bevier, 1978). Other shield volcanoes include those of the Ilgachuz and Itcha Ranges.

Anahim belt rocks differ from the Pemberton and Garibaldi volcanics which are chemically calc-alkaline and of different ages. Detailed work on the belt has been restricted to the Rainbow Range, which was the subject of an MSc thesis at U.B.C. (Bevier, 1978) and sub-volcanic intrusives to the west, mapped by Baer, (1973). Bevier describes the rocks of the northern belt as flows, domes, tuffs, breccias and plugs of alkaline and peralkaline phonolites, trachytes, trachyandesites and minor rhyolite. Late trachybasalt and basanite cap much of the suite. Suggested origin for the Anahim belt is a mantle hot spot (Bevier, 1979) or an edge effect of the subducted Juan de Fuca plate (Souther) 1977). The hot spot theory includes the Massett rocks of the Queen Charlotte Islands in the Anahim belt; having been offset by right lateral faulting. However, chemistry of the Massett rocks, although inconclusive, favours a calc-alkaline affiliation.

Data on the economic potential of the Anahim area is not encouraging. A total of eleven showings have been reported for the entire map sheet NTS 93C. (This places the area in the same league as the Bowser Basin). Of these eleven only three are in young volcanics. The only one of significance is a small Cu - Au - Ag showing in a shear zone near Tsitsutl Park, now inside Tweedsmuir Park. (Tipper, 1957). Also of interest, is that Hawaiite lava flows of Anahim Park have been intruded, brecciated and altered by a small trachyte dome (Bevier, 1978).

### ITCHA RANGE

Fixed wing reconnaissance of the area revealed several red and ochre colour anomalies, however they all appear to be related to unit 15 and 14 basalt cinder cones and oxidization of flow tops. See G.S.C. map 1202A by Tipper 1957 (N.T.S. 93C) for geology. The area does not appear to be of further interest.

### RAINBOW RANGE

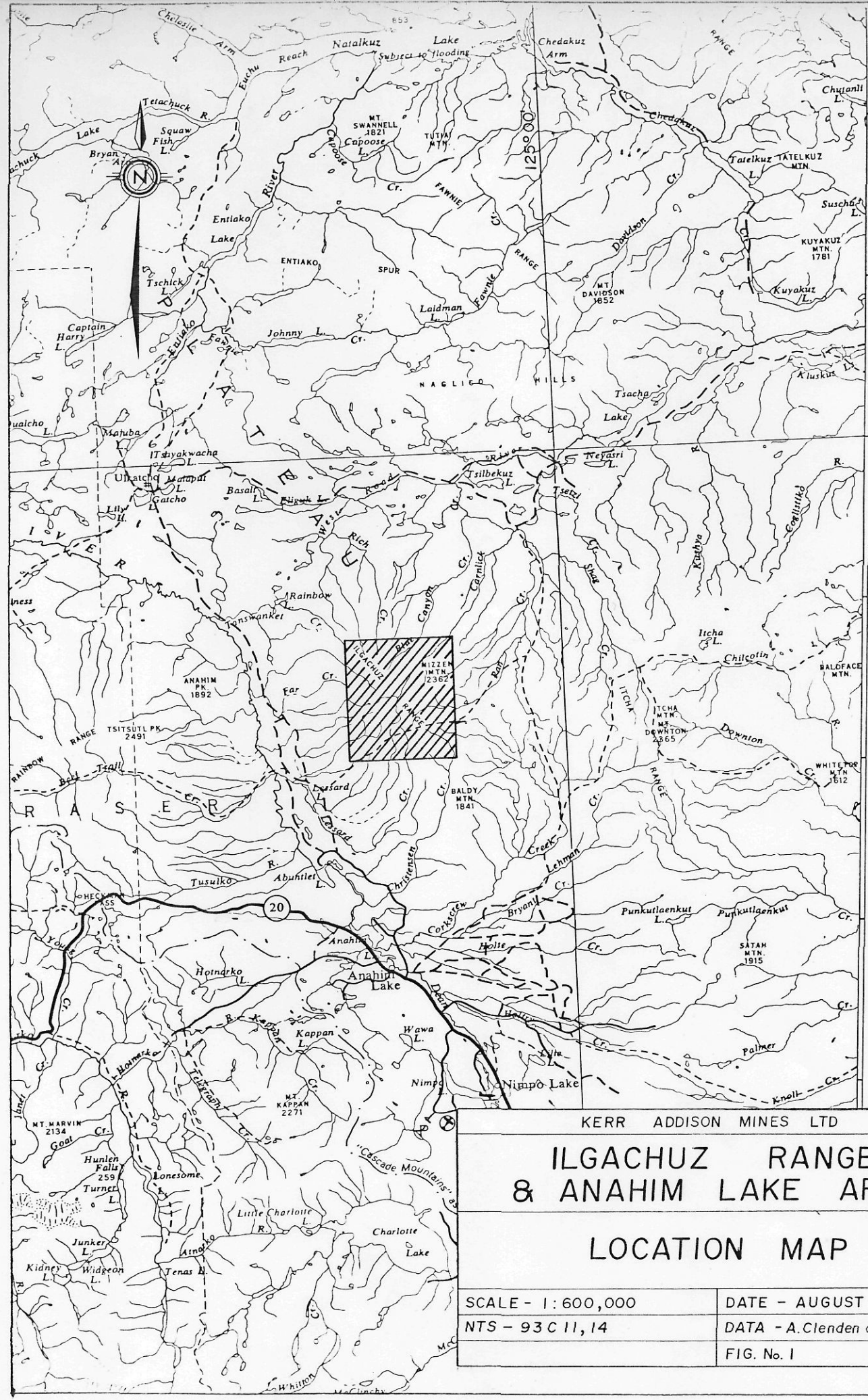
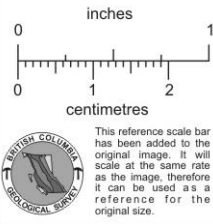
Two very interesting colour anomalies were noted on the north tributary of Beef Trail Creek, at Lat  $53^{\circ} 42'$  N Long  $125^{\circ} 51'$  W and Long  $125^{\circ} 49'$ . No colour anomaly was found to be associated with the Cu, Au, Ag, Mindep deposit 93C 3. Several colour anomalies were noted further to the west on N.T.S. 93D. Unfortunately all but the eastern most flanks of the Rainbow Range are within Tweedsmuir Park and no interesting looking areas outside the Park boundary were noted from the air. At present no ground follow-up is recommended, however there is a rumour that the Park boundaries or class may be changed.

### ANAHIM PEAK

The visible portion of this steep sided peak appears to consist of layer upon layer of #14 basalt flows with slightly oxidized cooling units. Unit 14 is mapped as overlying unit 9 rhyolites, dacites and breccias. The reported (Bevier 1978) intrusion, brecciation and alteration of #14 Hawaiite by a small trachyte dome was not seen and is assumed to be too small to be of significance.

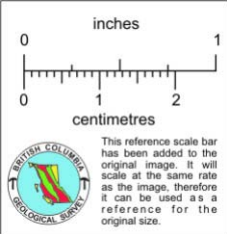
### ILGACHUZ RANGE

As mentioned in the summary an area of clay alteration and iron oxide was noted during the reconnaissance flight and later followed up by prospecting and sampling. See fig. 3, location, alteration, sample location, fig. 4 plotted, contoured As values, fig. 5 plotted, contoured Hg values and fig. 6 plotted, contoured Sb values.



KERR ADDISON MINES LTD	
<b>ILGACHUZ RANGE &amp; ANAHIM LAKE AREA</b>	
<b>LOCATION MAP</b>	
SCALE - 1 : 600,000	DATE - AUGUST, 1982
NTS - 93C 11, 14	DATA - A. Clendenan, P. Holbek
FIG. No. 1	





125° 00'

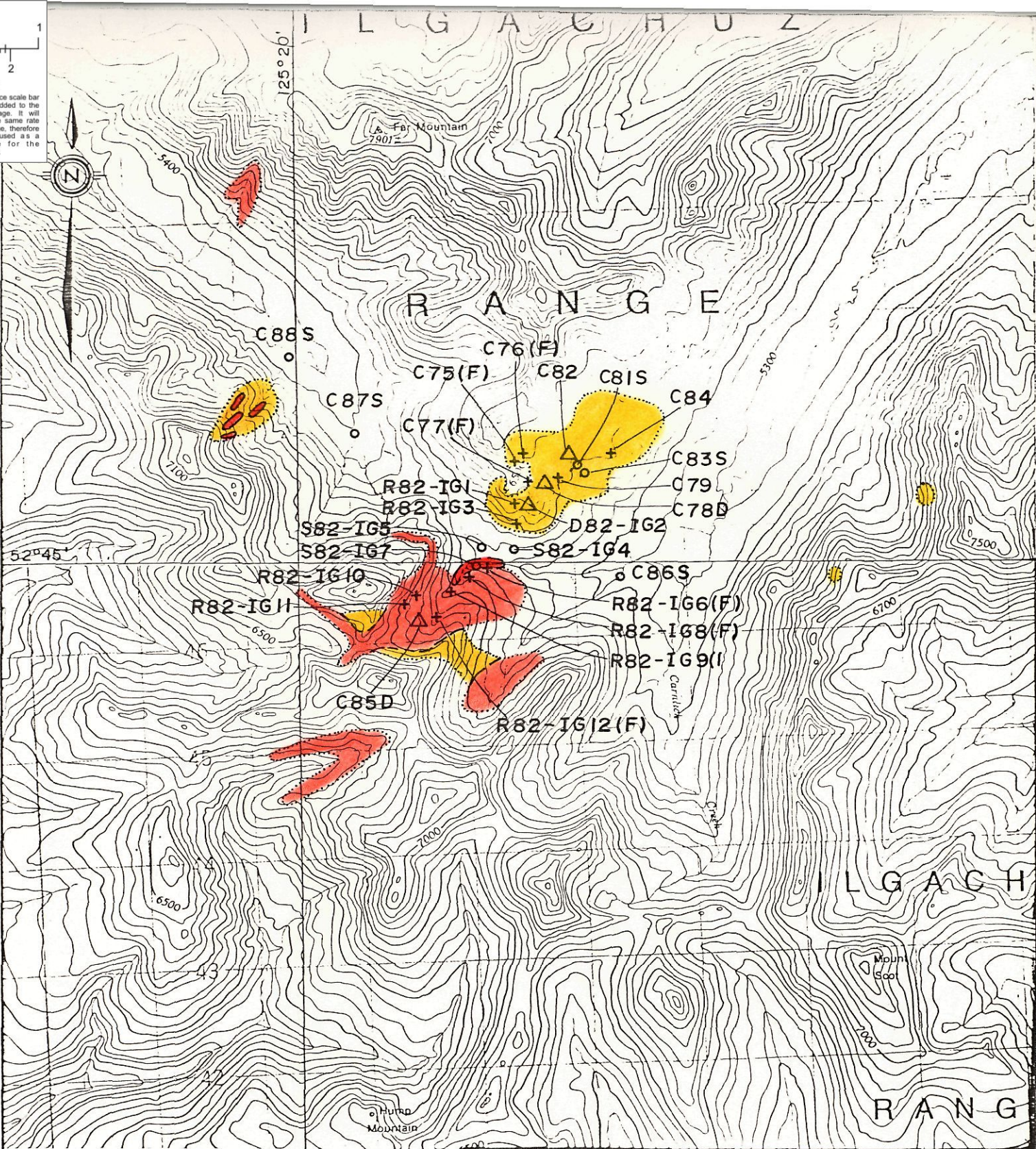
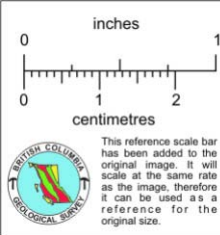


**LEGEND**

- TERTIARY**
- Late Miocene and/or Pliocene
  - 14 Vesicular and amygdaloidal andesite and basalt
  - Eocene to Miocene
  - 11 Thick, light coloured ash & breccia beds.
  - 12 Andesite, dacite, related tuffs & breccias. Minor rhyolite.

KERR ADDISON MINES LTD	
<b>ILGACHUZ RANGE &amp; ANAHIM LAKE AREA</b>	
<b>REGIONAL GEOLOGY</b>	
SCALE - 1:253,440	DATE - AUGUST, 1982
NTS - 93 C	DATA - GSC Map 1202 A
	FIG. No. 2



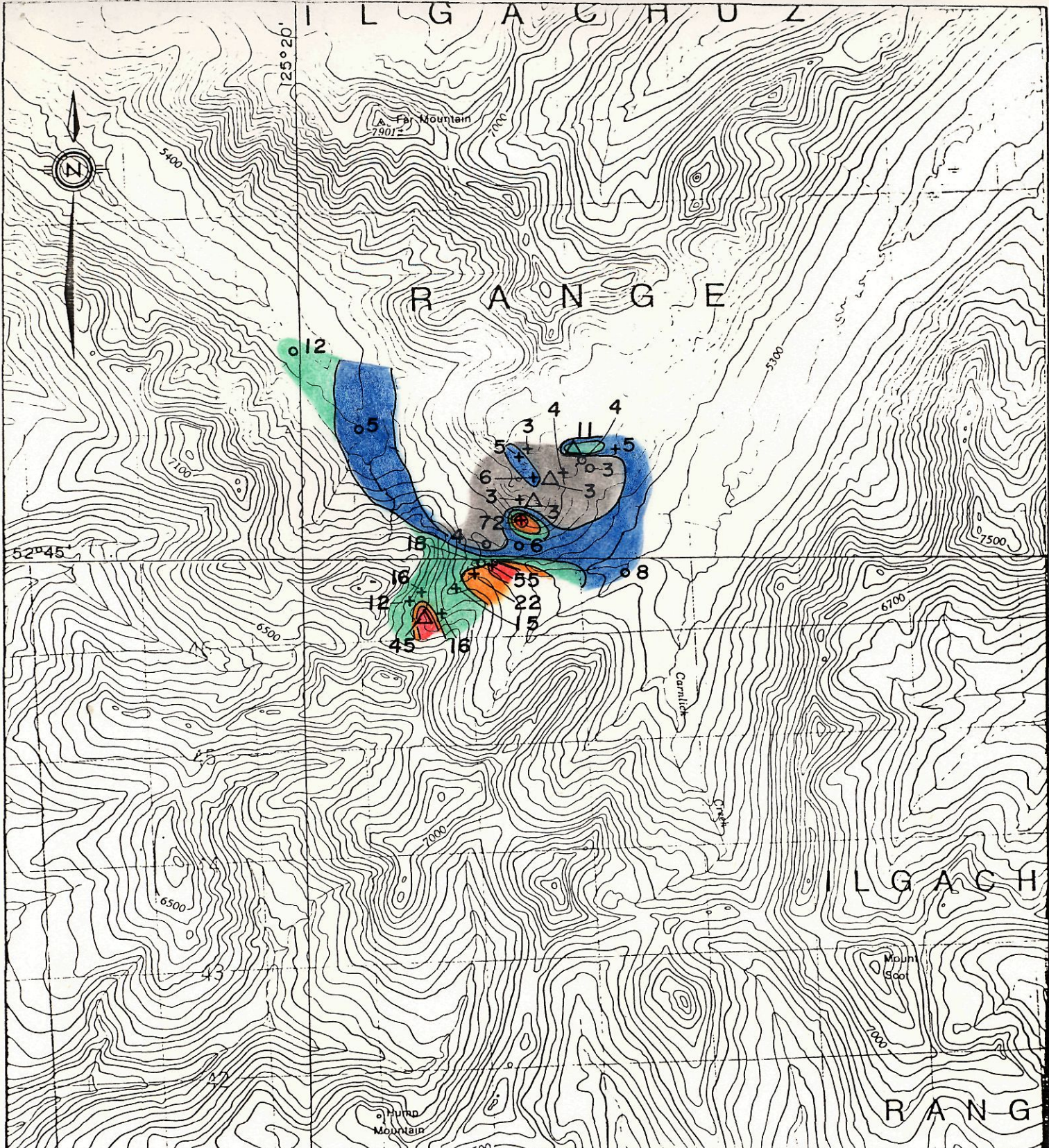


**LEGEND**

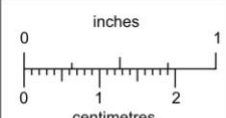
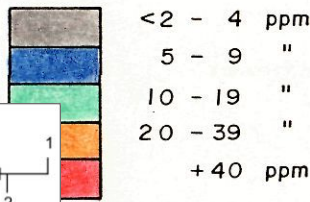
-  "Clay" Gossans / Alteration Zones
-  "Iron" Gossans
-  Ferricrete
-  Stream Sediment
-  Soil, talus fines
-  Rock Sample
-  Float

KERR ADDISON MINES LTD	
<b>ILGACHUZ RANGE &amp; ANAHIM LAKE AREA</b>	
<b>GEOLOGY &amp; SAMPLE LOCATIONS</b>	
SCALE - 1 : 50,000	DATE - AUGUST, 1982
NTS - 93 C 11, 14	DATA - A.Clendenan, P.Habek
FIG. No. 3	





LEGEND

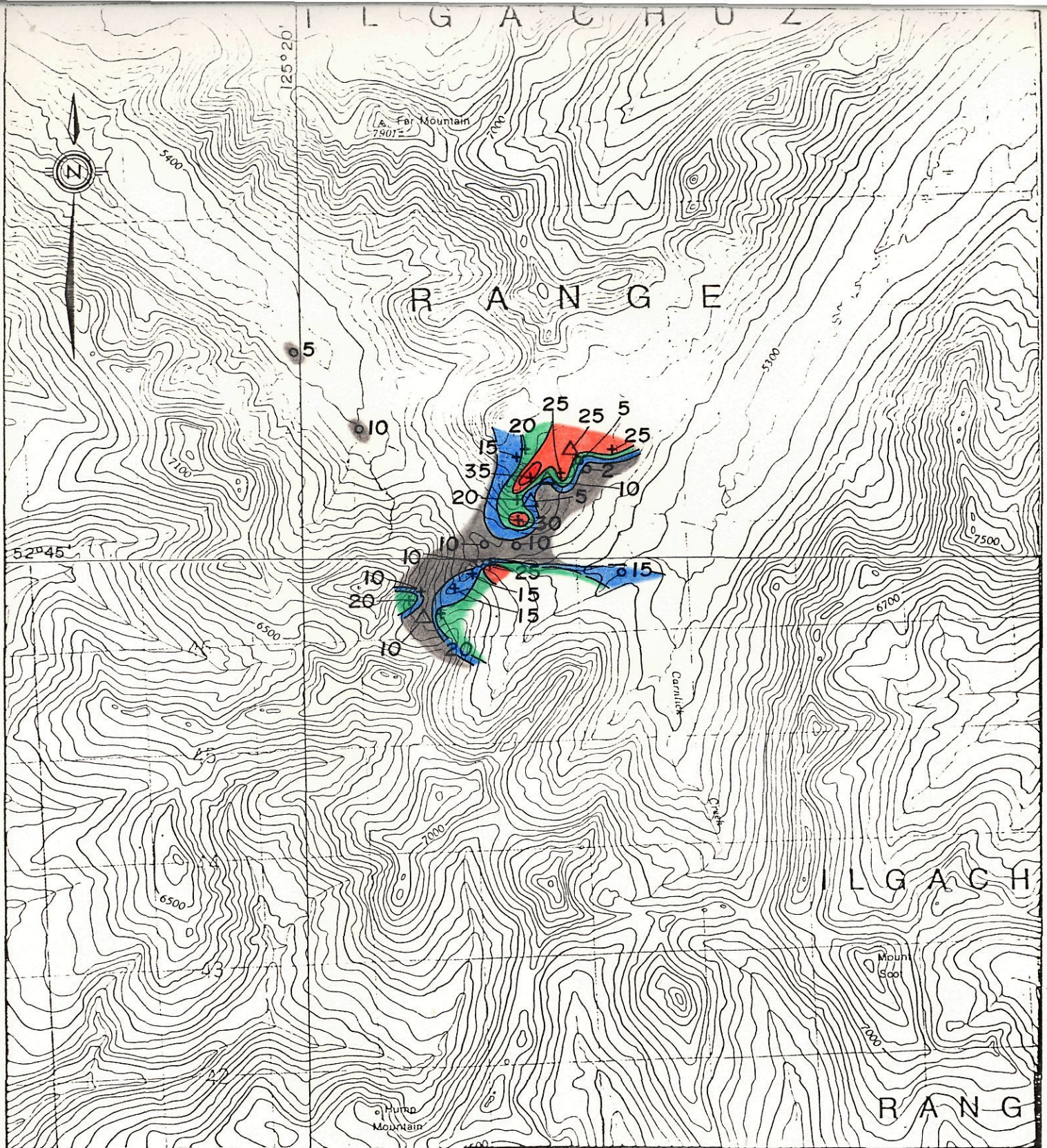


This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.



KERR ADDISON MINES LTD	
ILGACHUZ RANGE & ANAHIM LAKE AREA GEOCHEMISTRY As (ppm)	
SCALE - 1 : 50,000	DATE - AUGUST , 1982
NTS - 93 C 11, 14	DATA - A.Clendenan, P.Hdbek
FIG. No. 4	

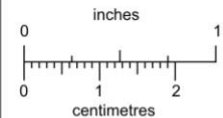




LEGEND



- < 5 - 10 ppb
- 11 - 15 "
- 16 - 24 "
- 25 - 34 "
- + 35 ppb



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

KERR ADDISON MINES LTD

## ILGACHUZ RANGE & ANAHIM LAKE AREA GEOCHEMISTRY Hg (ppb)

SCALE - 1 : 50,000

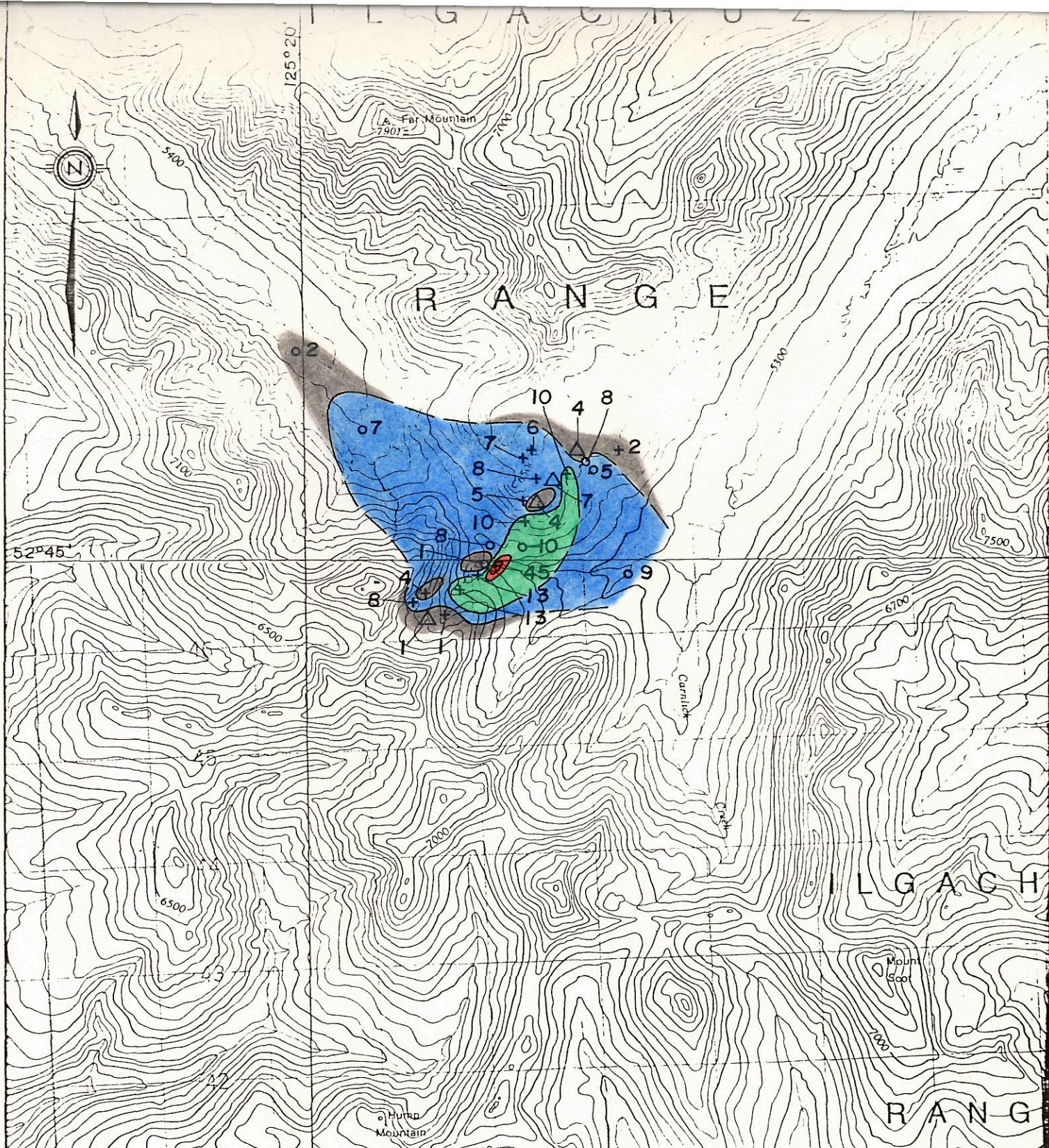
DATE - AUGUST, 1982

NTS - 93 C 11, 14

DATA - A.Clendenan, P.Habek

FIG. No. 5

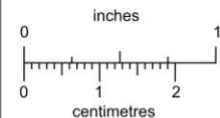




LEGEND



- 1 - 4 ppm
- 5 - 9 "
- 10 - 19 "
- 20 - 44 "
- +45 ppm



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.



KERR ADDISON MINES LTD	
<b>ILGACHUZ RANGE &amp; ANAHIM LAKE AREA GEOCHEMISTRY Sb (ppm)</b>	
SCALE - 1 : 50,000	DATE - AUGUST, 1982
NTS - 93 C 11, 14	DATA - A. Clendenan, P. Habek
FIG. No. 6	