COMINCO LTD.

EXPLORATION
NTS: 92I/11W

WESTERN DISTRICT

ASSESSMENT REPORT

GEOCHEMICAL SURVEYS

ON THE

LOFAR PROPERTY

(LOFAR, HIFAR, AND SOFAR CLAIMS)

Kamloops Mining District

Latitude: 50°34'50"; Longitude: 121°18'50"

Period of Work: July 30 - September 4, 1978

OCTOBER 1978

D. BRABEC

TABLE OF CONTENTS

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ATTACHMENTS

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SUMMARY

The geochemical soil surveys were conducted over the Sofar and Lofar claims which form part of the Lofar property situated 25 km south of Cache Creek, B.C. Most of the samples were taken from the "B" soil horizon at 25 m intervals along lines spaced at 200m. A total of 377 soil samples were analysed for Cu, Pb, Zn and Hg. The highest values for Cu, Pb and Zn were registered over and adjacent to a gossan zone on the Lofar claims. No pattern is expressed in the distribution of Hg values. The samples from the Sofar claims show only sporadic marginally anomalous values for the elements analysed. The geochemical response from mineralization in some areas of the property including the vicinity of the gossan zones may be hampered by the presence of deep transported overburden.

INTRODUCTION

The Lofar property is situated along the Trans Canada Highway some 25 km south of Cache Creek, B.C. (Plates 1 and 2). This area has an altitude of 300-600 m. It is largely covered with sage brush and grass alternating with pine forest. Outcrop amounts to 2-3% on the Lofar claim, 10-20% on the Hifar claim and 5-10% on the Sofar claim. The overburden is transported and of variable thickness. In some areas it represents the alluvium of Thompson River and may have a thickness of 10 m or more.

The previous recorded work on the property, conducted by the El Paso Mining and Milling Co., included geological mapping, soil geochemistry and percussion drilling. Two shafts and an adit belong to an earlier period of exploration, apparently for gold in quartz veins.

The property, consisting of the Lofar claim (18 units), the Hifar claim (9 units) and the Sofar claim (12 units) is presently owned by Cominco Ltd. of Vancouver, B.C. The geochemical survey described in this report included collecting of a total of 377 soil samples.

GEOLOGY

Geology and mineralization on the property, described in detail in the Assessment Report on the Lofar, Hifar and

Sofar claims (Geology) by M.J. Casselman, will be summarized here only briefly.

The property overlies intermediate to silicic metavolcanics and related metasediments, both intruded locally by diorite, dacite and rhyolite plugs and dykes. Alteration zones, found particularly in the rhyolite on the Lofar claim, contain gypsum, pyrite and traces of barite, chalcopyrite and sphalerite. Some of these occurrences may have potential for the Zn-Pb-Cu-Ag-Au mineralization of the Kuroko type.

GEOCHEMICAL SURVEY

Field and Analytical Techniques

The field work consisted of soil sampling on the Sofar and Lofar claims. The samples were taken from the B soil horizon, usually found at a depth of 20-30 cm. The interval between stations was 25 m along lines spaced at 200 m. The locations of these grids are shown on Plate 2. A number of additional samples on the Lofar claim were also taken over and close to the gossan zones.

The samples were dried and sieved to minus 80 mesh and the fine fraction retained for analysis. Copper, lead and zinc contents in this material were determined by atomic absorption spectrophotometry following a digestion in 20% nitric acid. Mercury was analysed using a hot leach in a mixture of nitric and perchloric acid. The mercuric ions in the sample solutions were reduced and the resulting elemental mercury flushed out by air and passed through an atomic absorption mercury meter. All these analyses were carried out by the Cominco Exploration Research Laboratory in Vancouver, B.C. Mercury in the Lofar samples, sieved to minus 80 mesh, was analysed in the field using a gold film mercury detector (model 301, Jerome Instrument Corporation). In this procedure mercury is released from the sample by heating in a Pyrex combustion bulb. The resulting gas is carried into the detector in which the mercury is adsorbed on a gold collector. Subsequent heating of the latter releases the mercury into an air stream which is then split in half. One half, demercurified by passing through a sorbent is passed over a reference gold film. The other half goes to the sensor gold film which adsorbs the mercury. The difference in resistivity between the films, registered by a galvanometer, gives an interference-free reading of the mercury content (relative to the readings obtained by calibration - usually using known volumes of

mercury-saturated air). The sample weight used in this type of analysis was 0.2 g.

Results

The basic distribution parameters and the anomaly thresholds for the elements analysed are given in Table 1. The thresholds were determined on the basis of both the statistical data distribution and the experience gained in the other areas of similar geology.

The values for Cu, Pb, Zn and Hg in soil over the Sofar claims, plotted on Plates 3-6, show very little variation with only a few readings marginally higher than the threshold.

Most soil sites anomalous in Cu, Pb, and Zn on the Lofar claim are confined to the zone over and adjacent to the south part of a gossan in the northwest part of the area (Plates 7-9). Pb values are particularly anomalous (up to 55 times threshold). The values for Hg are slightly anomalous at a number of sites some of which occur over or close to the gossan zones (Plate 10).

CONCLUSIONS AND RECOMMENDATIONS

The only significant anomalies on the property are found over the northeast portion of the Lofar soil grid. These predominantly Pb-Zn anomalies are caused by the presence of a gossan zone and are confined to its south side. The sharp drop of values outside the gossan may be attributed to the deepening of overburden which could mask the anomaly, and/or the geometry of the mineralized zones. In view of the presence of deep transported overburden, such as river gravels, the surface geochemistry may not be very effective in outlining the target zones. The best results would probably be obtained using geophysical methods combined with trenching or overburden drilling. At this stage geochemistry could be used to follow the heavy metal variations in bedrock or the deeper parts of overburden.

Report by:

D. Brabec
Geochemist

Endorsed by:

G. Harden
Manager Exploration
Western District

DB/deb
12 October 1978
Distribution:
Mining Recorder (2)
Western District (1)
DB

IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF A GEOCHEMICAL PROGRAM CARRIED

OUT ON THE LOFAR, HIFAR AND SOFAR MINERAL CLAIMS

LOCATED IN THE KAMLOOPS MINING DIVISION

OF THE PROVINCE OF BRITISH COLUMBIA

More Particularly N.T.S. 92I/11W

STATEMENT OF EXPENDITURES

I, Dragan Brabec, of the City of Vancouver, in the Province of British Columbia, make oath and say:

1. That I am employed as a Geochemist by Cominco Ltd., and as such have a personal knowledge to the facts to which I hereinafter depose;

2. That annexed hereto and marked as "Exhibit A" to this statement is a true copy of expenditures of a geochemical program carried out on the Lofar and Hifar mineral claims;

3. That the said expenditures were incurred between the 30th day of July 1978 and the 4th day of September 1978 for the purpose of mineral exploration on the above noted claims.

D Brabec

Dragan Brabec
Geochemist

DB/deb
12 October 1978

EXHIBIT "A"

STATEMENT OF EXPENDITURES FOR A GEOCHEMICAL SURVEY ON THE LOFAR MINERAL CLAIM 1978

GEOCHEMISTRY		
D.J. Andrews	July 31 to August 2 and August 30 to September 4, 1978 (9 days at $96/day)	$ 864.00
D. Brabec	Report writing and drafting (2 days at $140/day)	280.00
S.J. Juras	July 31 to August 2, 1978 (3 days at $85/day)	255.00
D. Simpson	July 31, 1978 (1 day at $66/day)	66.00
DOMICILE		
	Accomodation and food in Cache Creek (13 days at $30/person/day)	390.00
TRANSPORTATION		
	Truck for 9 days plus gas	230.00
ASSAYS		
	273 soil samples @ 6.05/sample (Cu-Zn-Pb-Hg)	1,651.65
	TOTAL EXPENDITURES:	$3,736.65

EXHIBIT "A"

STATEMENT OF EXPENDITURES FOR A GEOCHEMICAL SURVEY ON THE SOFAR MINERAL CLAIM 1978

GEOCHEMISTRY:		
Salaries D. Simpson	July 30 and August 1 to August 30, 1978 (4 days at $66/day)	$ 264.00
D. Brabec	Report writing and drafting (1 day at $141/day)	140.00
DOMICILE		
	Accomodation and food in Vernon (4 days at $30/person/day)	120.00
TRANSPORTATION		
	Truck for 4 days plus gas	95.00
ASSAYS		
	104 soil samples @ 6.05/sample (Cu-Zn-Pb-Hg)	629.20
	TOTAL EXPENDITURES	$1,248.20

STATEMENT OF QUALIFICATIONS

I, Dragan Brabec, of the City of Vancouver, British Columbia, hereby certify:

1. That I am a geochemist residing at 1053 Lynn Valley Road, North Vancouver, British Columbia with a business address at 700-409 Granville Street, Vancouver, British Columbia.

2. That I graduated with B.Sc. equivalent degree in geology from the University of Belgrade, Yugoslavia in 1961, D.I.C. degree in applied geochemistry from the University of London, England in 1964 and a Ph.D. degree in geology from the University of British Columbia in 1971.

3. That I have practised geochemistry with Cominco Ltd. from 1974 to 1978.

DATED THIS 12th DAY OF OCTOBER, 1978, AT VANCOUVER, BRITISH COLUMBIA.

Signed: D Brabec

Dragan Brabec
Geochemist

DB/deb
12 October 1978

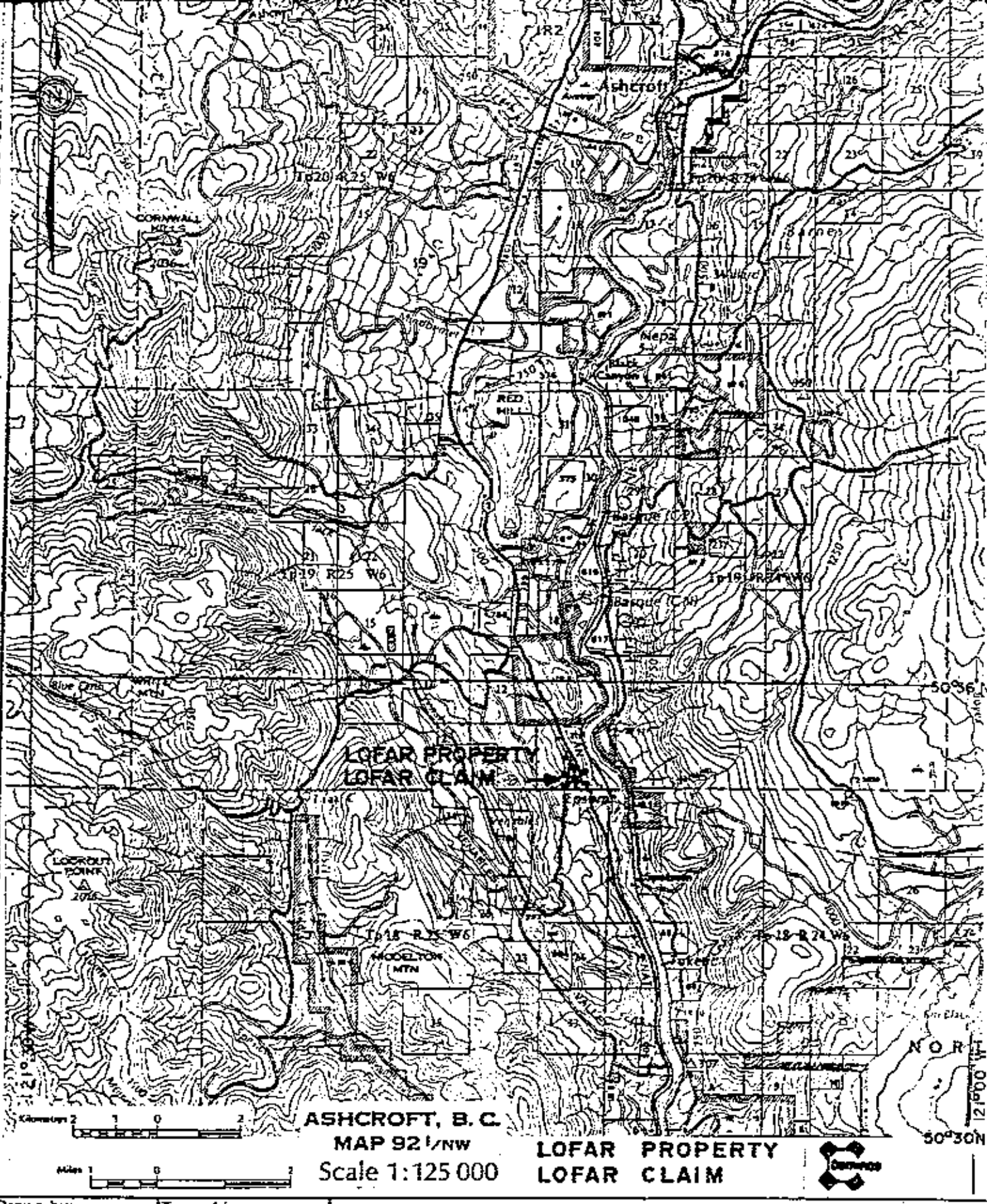
TABLE 1

DATA DISTRIBUTION PARAMETERS

	Range	G	Anomaly Threshold
SOFAR Claim (104 samples)			
Cu (ppm)	35 - 100	52	70
Pb (ppm)	2 - 8	3	4
Zn (ppm)	86 - 206	109	150
Hg (ppb)	8 - 110	32	30
LOFAR Claim (273 samples)			
Cu (ppm)	1 - 275	33	70
Pb (ppm)	2 -2260	2	4
Zn (ppm)	3 -1750	89	150
Hg (ppm)	6 - 88	n.c.	30

G = geometric mean
n.c. = not calculated

DB/deb
12 October 1978



ASHCROFT, B.C.
MAP 92 I/NW
Scale 1:125 000

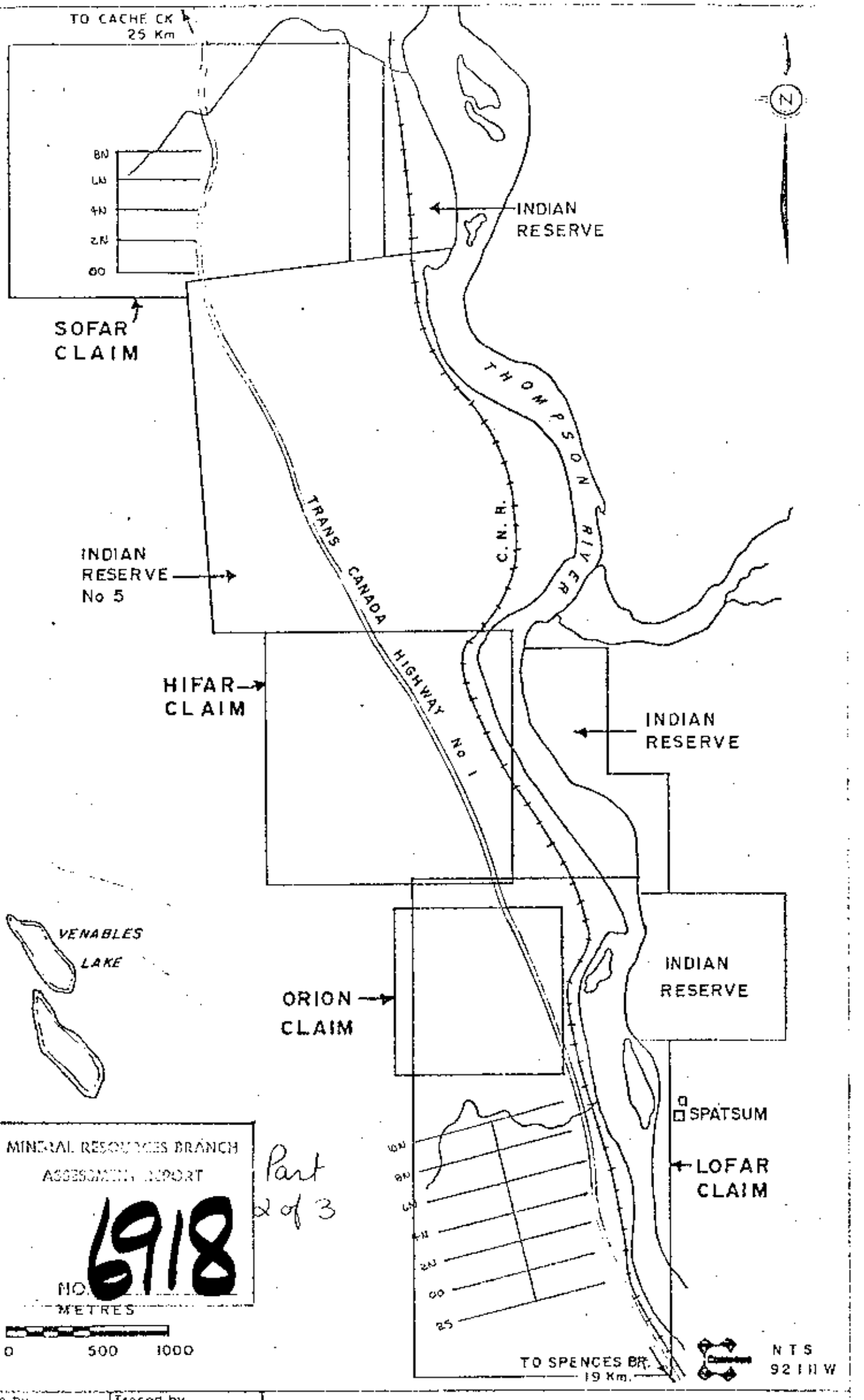
LOFAR PROPERTY
LOFAR CLAIM

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

LOCATION MAP

KAMLOOPS M.D., B.C.

Scale: 1:125,000 | Date: SEPT., 1978 | Plate: 1



Part 2 of 3

Drawn by | Traced by

Revised by Date

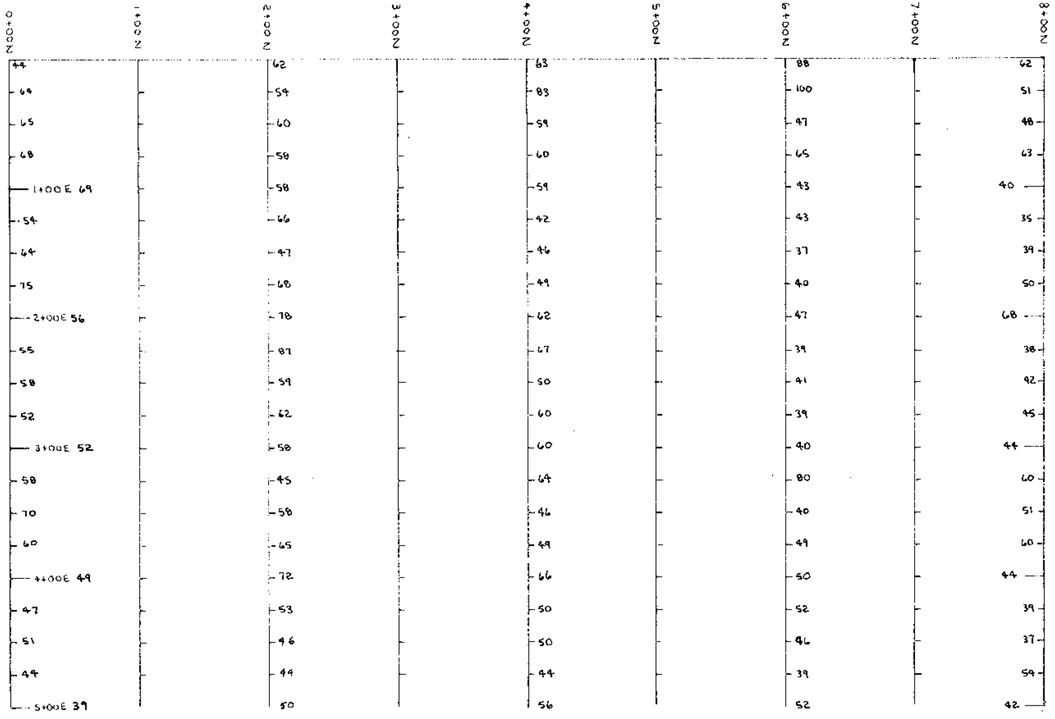
LOFAR PROPERTY

CLAIM MAP

KAMLOOPS M.D., B.C.

OZ

Scale [illegible] Date [illegible] Plate 2.



Anomolous > 70 ppm

Part 2 of 3

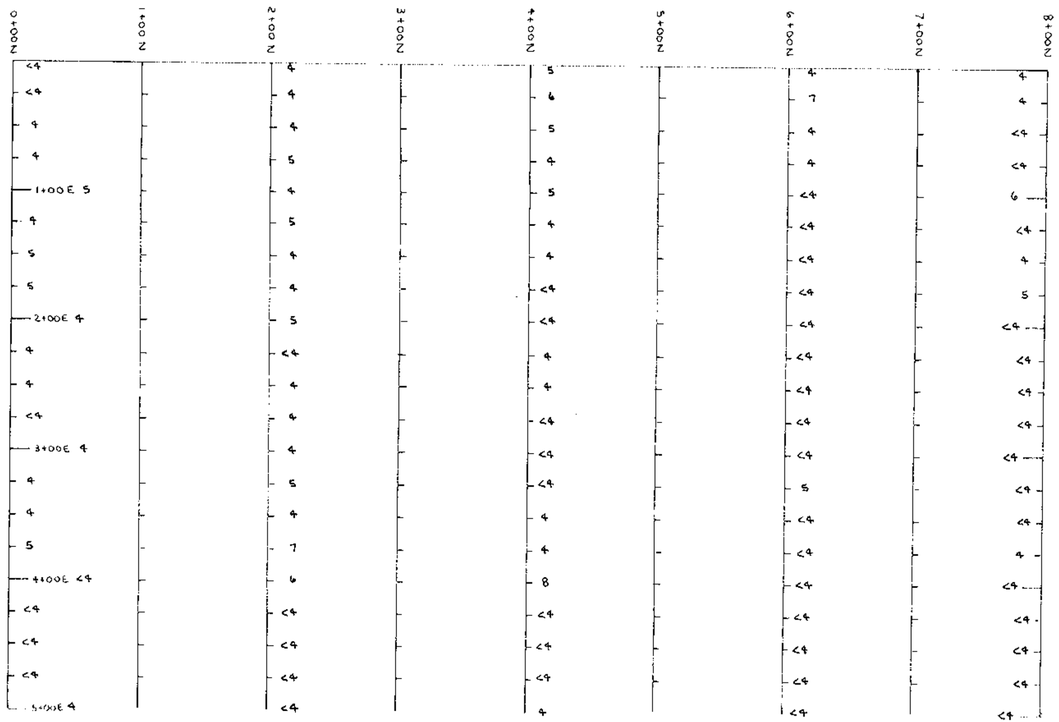
SCALE
0 50 100 200 300
METERS

LOFAR PROPERTY NTS 92 I/11W

Drawn: M.J.C. Surveyed by:

Cu GEOCHEMISTRY
SOFAR CLAIMS

Scale: 1cm = 25m Date: SEPT 1978 Plate: 3



Anomalous > 4 ppm

Part 2 of 3

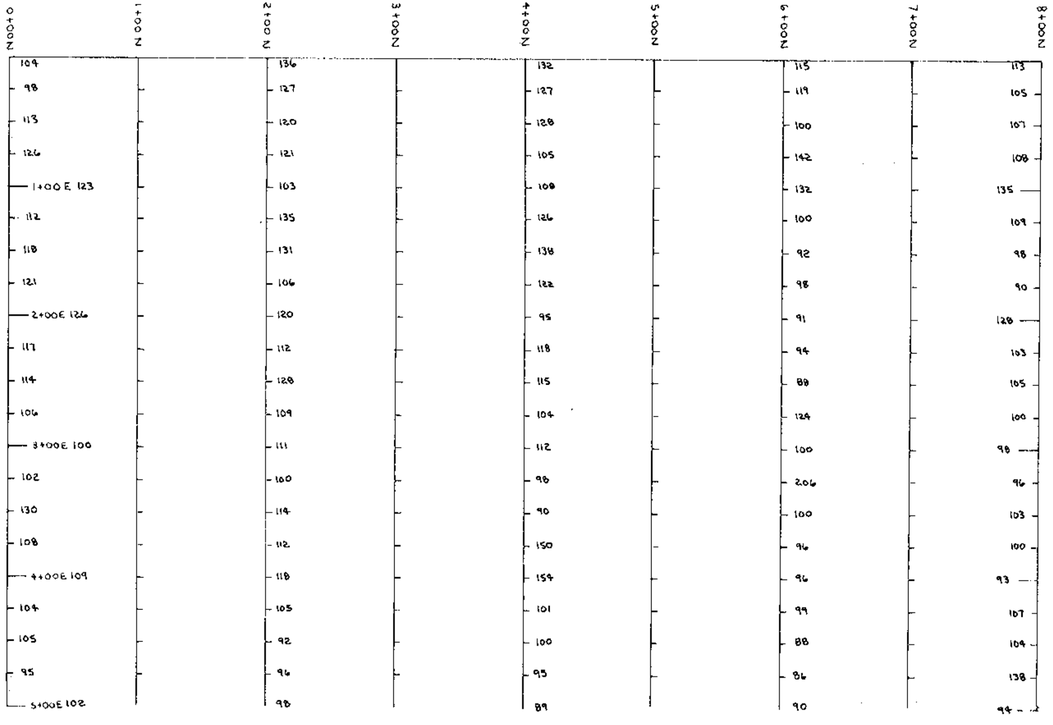
SCALE
0 50 100 200 300
METERS

LOFAR PROPERTY NTS 92 I/11W

M.J.C.

Pb GEOCHEMISTRY
SOFAR CLAIMS

1cm = 25m SEPT 1978 4



Anomalous > 150 ppm

Part 2 of 3

SCALE
0 50 100 200 300
METERS

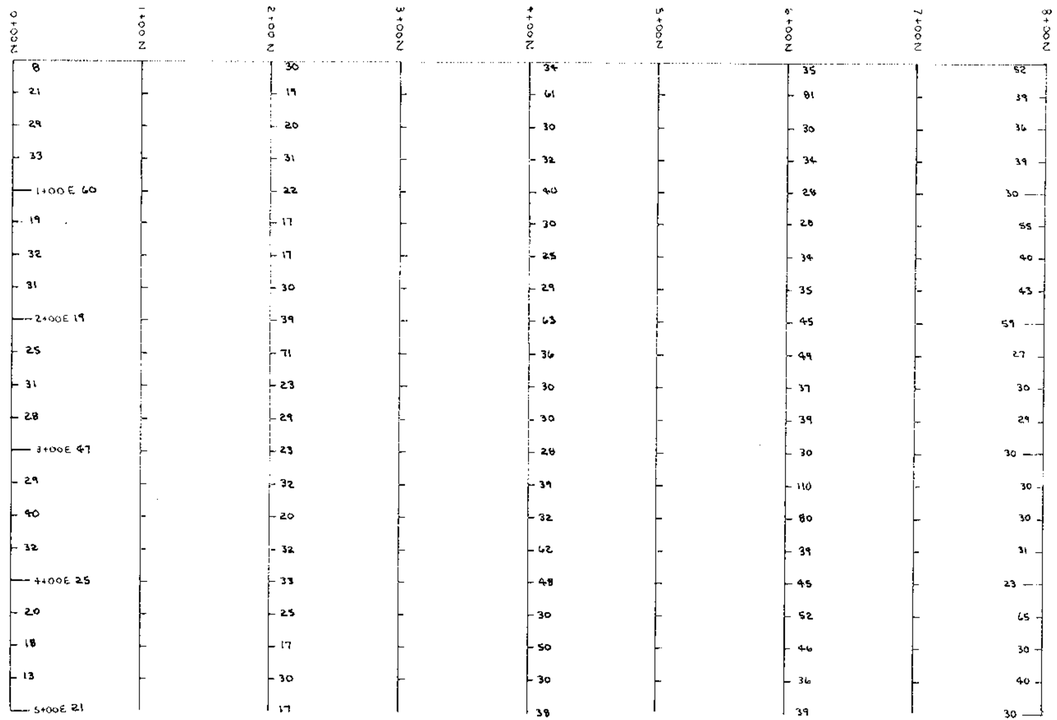
LOFAR PROPERTY NTS 92 I/11W

Drawn by M.J.C. Traced by

Zn GEOCHEMISTRY
SOFAR CLAIMS

Scale 1cm = 25m Date SEPT 1978

5



Anomalous > 30 ppb

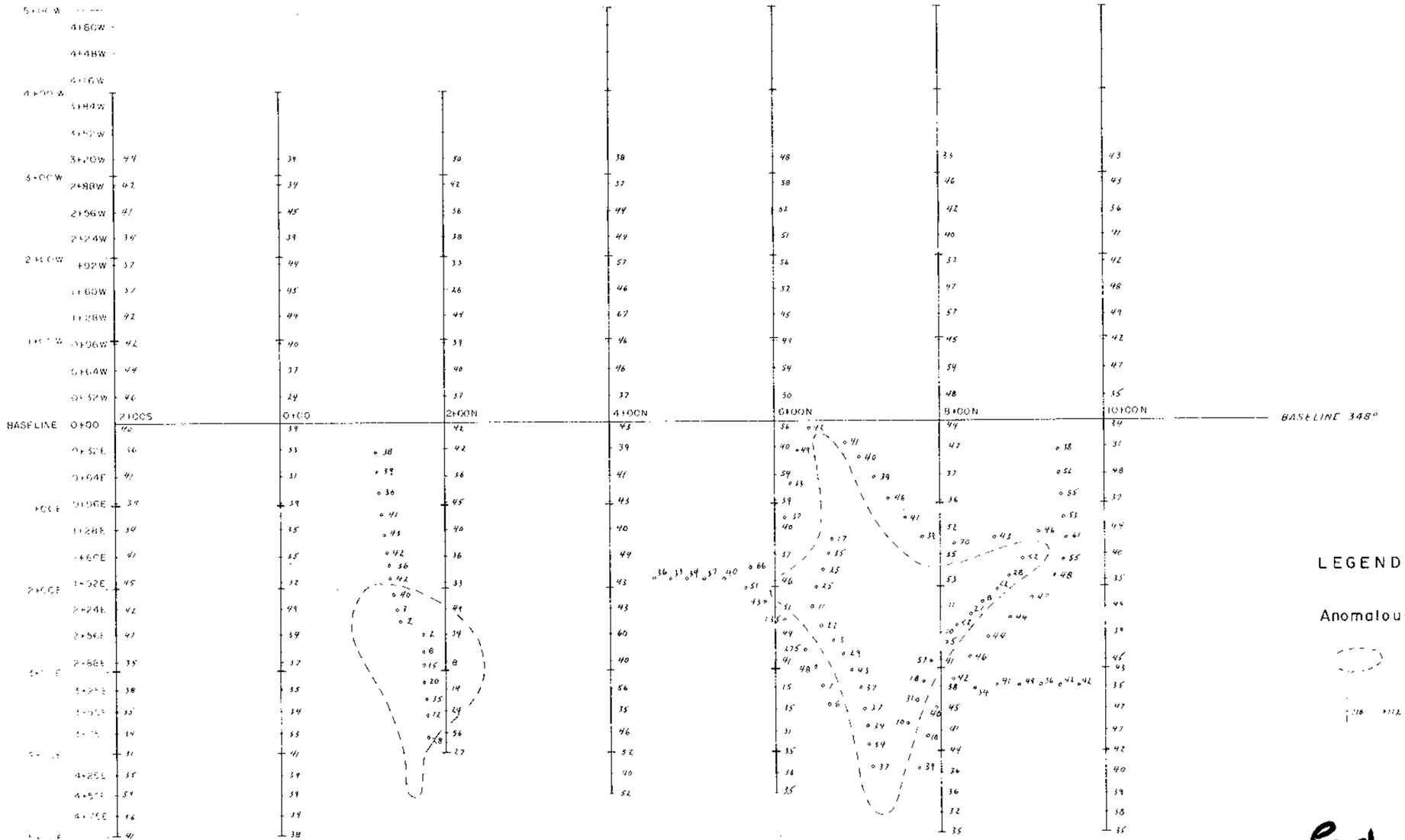
Part 2 of 3

SCALE
0 50 100 200 300
METERS

LOFAR PROPERTY NTS 92 I/11W

Hg GEOCHEMISTRY
SOFAR CLAIMS

Scale 1cm = 25 m Date SEPT 1978 Fig. 6



SCALE

0 50 100 200 300

METERS

LEGEND

Anomalous > 70 ppm

gosson

sample location

MINERAL RESOURCES ASSESSMENT REPORT

Part 2 of 3 NO. 6918

LOFAR PROPERTY NTS 92 I/11 W

Cominco

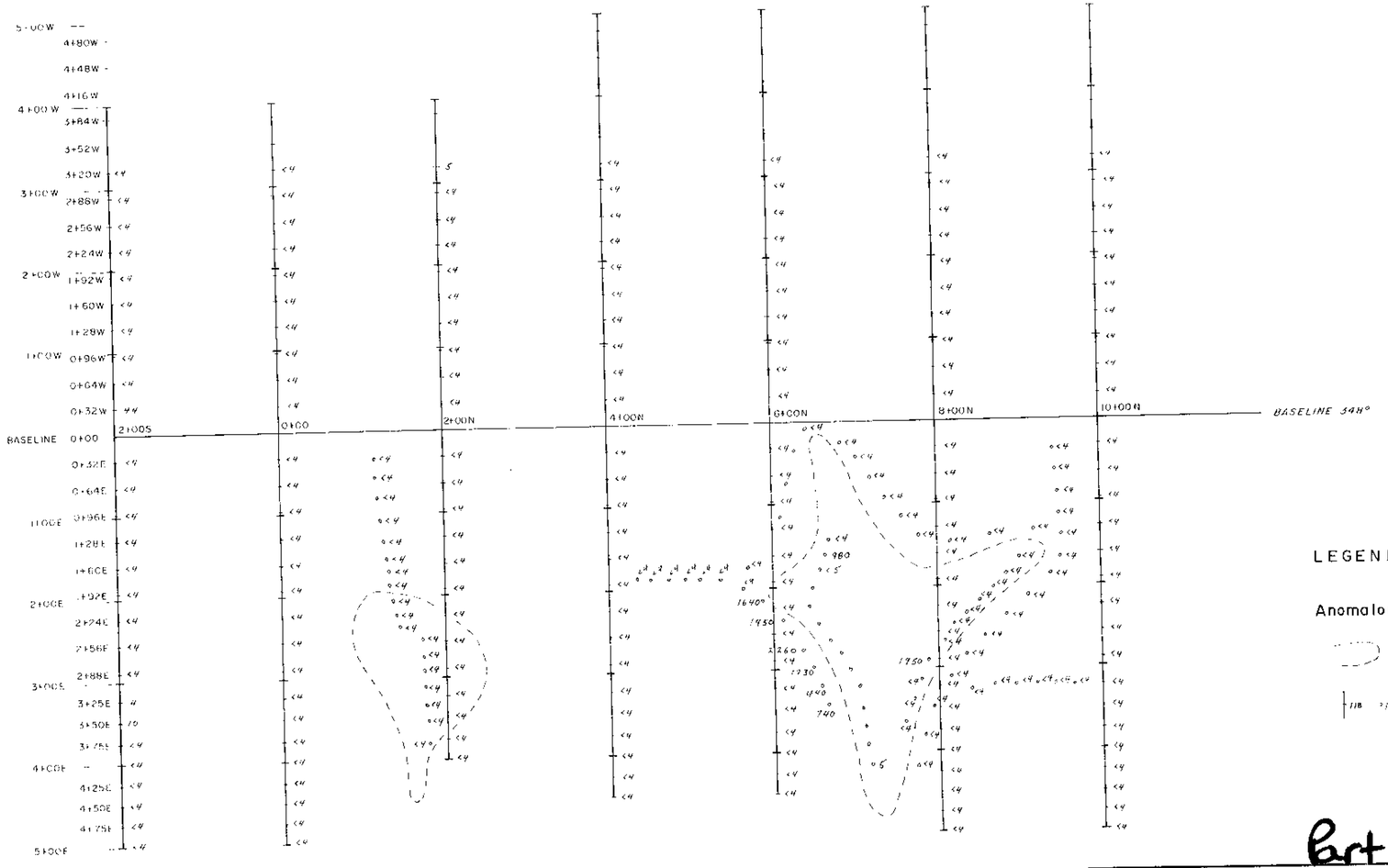
Drawn by D.M.C.	Traced by
Revised by Date	Revised by Date

Cu GEOCHEMISTRY
LOFAR CLAIMS

Scale cm = 40 m | Date SEPT 1978 | Plate 7

NGI-114-CL

#210-0640



LEGEND

Anomalous > 4 ppm

gossan

sample location

SCALE

0 50 100 200 300

METERS

MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

ASSESSMENT REPORT NO. 6918

Part 2 of 3

LOFAR PROPERTY NTS 92 I/11 W

Cominco

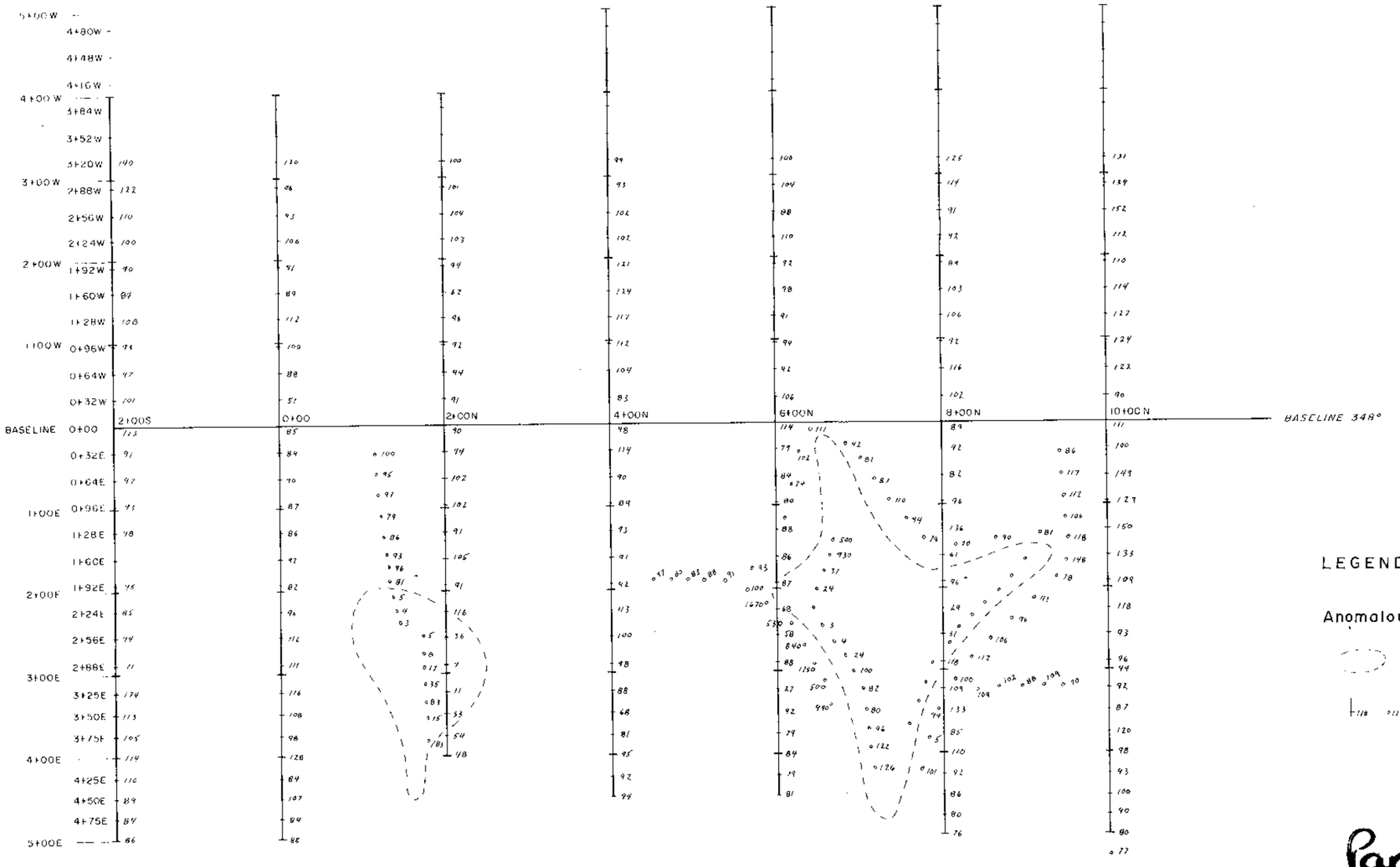
Drawn by S.M.C.	Traced by
Revised by Date	Revised by Date

Pb GEOCHEMISTRY

LOFAR CLAIMS

Scale 1 cm = 40 m Date SEPT 1978 Plate 8

#210 0640



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
6918

Part 2 of 3

LOFAR PROPERTY NTS 92 I/11W

Comaplex

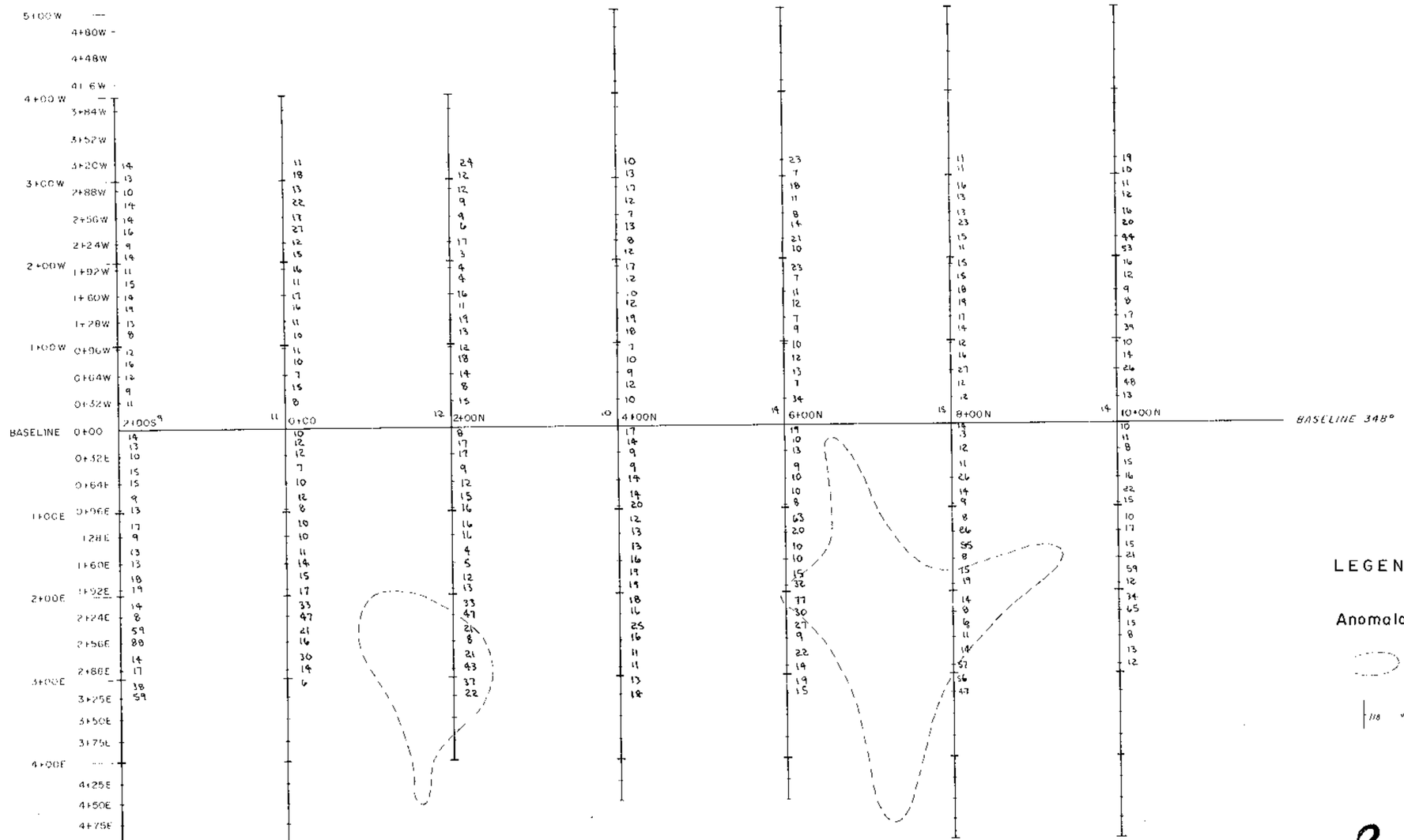
Drawn by: D.M.C	Traced by:
Revised by: Date	Revised by: Date

Zn GEOCHEMISTRY
LOFAR CLAIMS

Scale 1 cm = 40 m | Date SEPT 1978 | Plate 3

#210-0640

NCI - 114 - CL



LEGEND

Anomalous > 30 ppb

gossan

118 / 112 sample location

SCALE

0 50 100 200

METERS

LOFAR PROPERTY NTS 92 I/11W

Drawn by: D.M.C

Traced by:

Revised by: Date

Revised by: Date

Hg GEOCHEMISTRY
LOFAR CLAIMS

Scale: 1 cm = 40 m Date SEPT 1978 Plate 10

#210-0640

NCI 114 CI