

81-A772-9488

GEOCHEMICAL & ELECTROMAGNETIC SURVEY
ON THE
FRENCH PEAK SILVER PROPERTY

Silver Claim Group: Silverado, Eldorado,
Silver Iron, Mag Hi, Ute 5-8

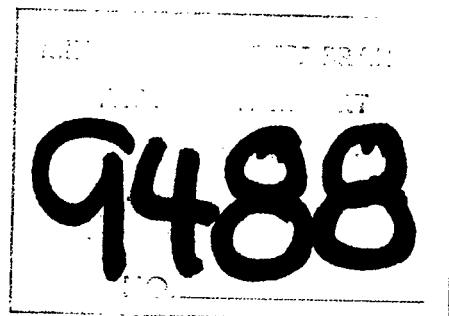
Omineca Mining Division
93M/7W

55° 21' N 126° 48' W

OWNER & OPERATOR: SILVERADO MINES LTD.

AUTHOR: A.M. Homenuke, P.Eng. (Geol.)

SUBMITTED: September 30, 1981.



Tri-con Mining Ltd.

VANCOUVER, B.C. CANADA

TABLE OF CONTENTS

I.	INTRODUCTORY NOTES	
	Location and Access	1
	Physical Features	1
	Claims & Ownership	1
	History	3
	Economic Assessment	5
	Present Work & Distribution	5
II.	GRID	5
III.	GEOLOGY & MINERAL DEPOSITS	5
IV.	ELECTROMAGNETIC SURVEY	6
V.	GEOCHEMICAL SURVEY	7
	CONCLUSIONS & RECOMMENDATIONS	11
	CERTIFICATE	13
	REFERENCES	14
	COST STATEMENT	15

TABLE 1. GEOCHEMICAL DATA

Fig. 1	Location Map	2
Fig. 2	Claim & Index Map	4
Fig. 3	EM-16 Survey - Raw Data Profiles	in pocket
Fig. 4	EM-16 Survey - Filtered Data	in pocket
Fig. 5	Interpretation Map	10

APPENDIX--GEOCHEMICAL MAPS

GC-1	Antimony
GC-2	Arsenic
GC-3	Boron
GC-4	Calcium
GC-5	Copper
GC-6	Iron
GC-7	Lead
GC-8	Manganese
GC-9	Molybdenum
GC-10	Nickel
GC-11	Silver
GC-12	Tungsten
GC-13	Uranium
GC-14	Zinc

I. INTRODUCTORY NOTES

LOCATION AND ACCESS

The Silver Group of mineral claims is located on the southeast slope of French Peak (FIG. 1) 10 kilometres west of the north end of Babine Lake and 65 kilometres northeast of Smithers.

Access is by gravel road from Smithers along the route to Smithers Landing, the Nilkitkwa Forest access road and a 4-wheel drive road, constructed in 1976, a total distance of 120 kilometres.

PHYSICAL FEATURES

Elevation on the property ranges between 1000 metres and 1500 metres. Relief is gentle to the north and more abrupt to the south as Tsezakwa Creek, the major drainage in the area, is approached.

Outcrop is generally scarce, with the major exposures being in creek banks and topographic highs. Further exposures have been provided by trenches.

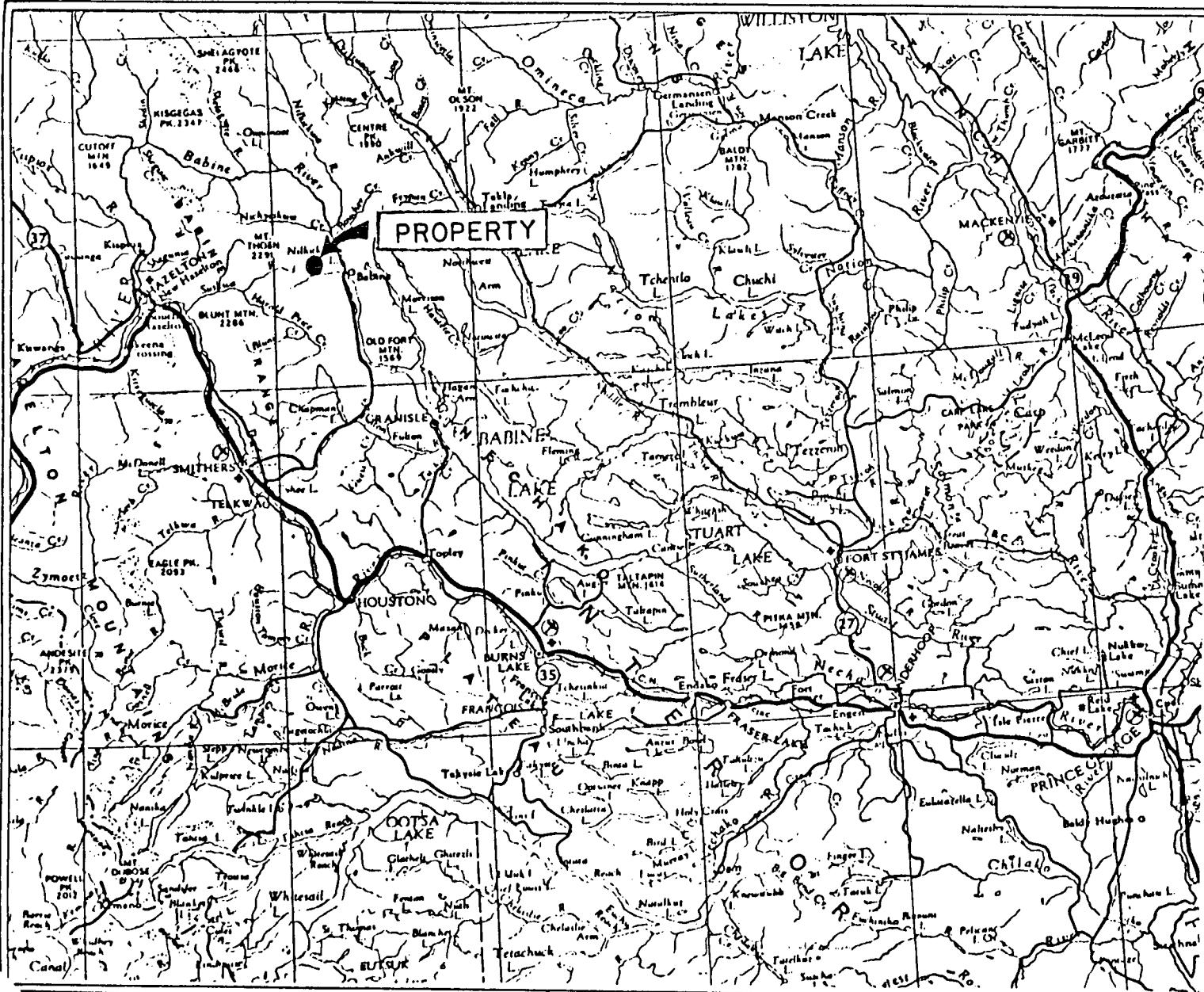
Rainfall is relatively low, but snowfall exceeds 1.5 metres most years and lasts from late October to May or June.

Vegetation consists mainly of subalpine fir with spruce in flatter areas and poplar and alder to the south. Old burnt areas are presently covered with a dense regrowth. Flat areas tend to be swampy.

CLAIMS AND OWNERSHIP

The Silver Group consists of the following mineral claims, totalling 34 units (FIG. 2).

Name	Record No.	Record Date
UTE 5-8 (4)	104288-91	September 17
Silverado (9)	298	May 26
Eldorado (9)	299	May 26
Mag Hi (6)	348	July 9
Silver Iron (6)	349	July 9



FRENCH PEAK
SILVER PROPERTY

LOCATION MAP

0 20 40 60
km

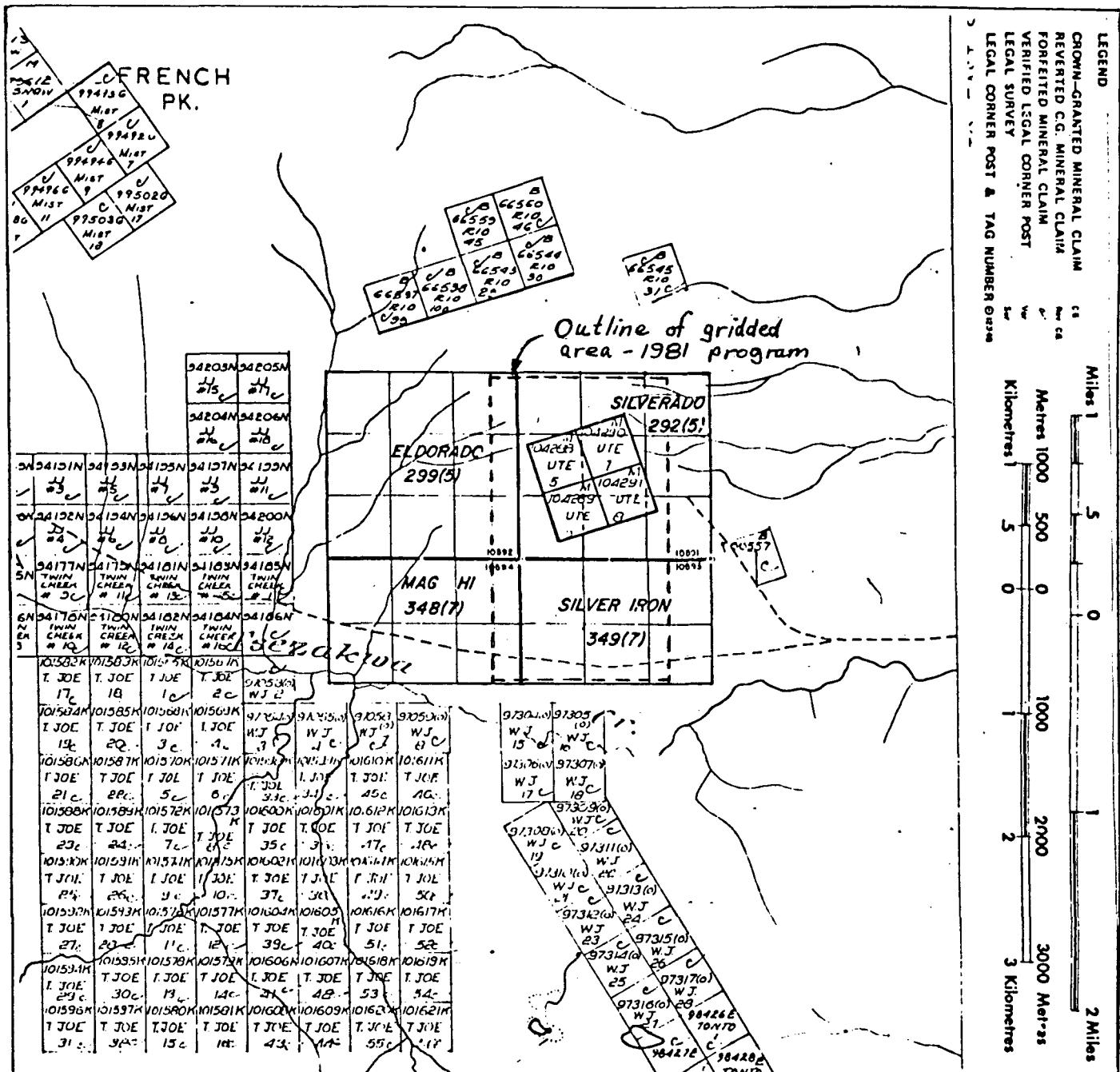
FIG. I

Silverado Mines Ltd. holds title to the claims.

HISTORY

The following list summarizes the history of the property.

- 1955 - "High-grade" silver mineralization discovered by Rio Tinto Canadian Exploration Ltd.
- 1956 - Rio Tinto carried out mapping, trenching, sampling, a self-potential survey and 1737 feet of diamond drilling in 11 holes.
- 1964-5 - S. Homenuke and H. Gilleland leased the property and shipped 20 tons of hand sorted ore yielding over 6,000 oz. of silver and over 7,000 lbs. of lead.
- 1974 - S. Homenuke and J. Sargent, now owners of the property, shipped 28 tons of hand-sorted ore. This shipment yielded 3423 oz. of silver, 2 oz. of gold, 8010 lbs. of lead, 2755 lbs. of copper and 1023 lbs. of zinc.
 - In July, the writer visited the property and did some preliminary geological and geophysical investigations. This work resulted in Can-Ex Resources Ltd. (a private company) optioning the property.
 - In the Fall, Rennicks Resources Ltd. (N.P.L.) optioned the property from Can-Ex and through Tri-Con Exploration Surveys Ltd., carried out a program of mapping, sampling and EM-16 surveying. Some backhoe trenching was also done. Rennicks allowed the option to lapse due to commitments elsewhere.
- 1976 - Aalenian Resources Ltd. (now Silverado Mines Ltd.) optioned the property and commenced a major diamond drill program. 30 holes were drilled totalling 2646 feet. An access road was constructed and detailed mapping and magnetometer surveying were done on the main mineralized area. Reconnaissance geochemistry, prospecting and air-photo interpretation were carried out over the rest of the claims and surrounding area. All work to the end of 1976 was summarized in Homenuke (1977).
- 1977 - 1980 - The property was optioned to Mohawk Oil Co. Ltd. Assessment work included linecutting, a petrographic study (Homenuke, 1979) and metallurgical testing (Homenuke, 1980). A preliminary feasibility study for a small mining operation was completed (Homenuke, 1980a), however, due to commitments elsewhere, Mohawk returned the property to Silverado.



FRENCH PEAK SILVER PROPERTY
CLAIM & INDEX MAP

FIG. 2

ECONOMIC ASSESSMENT

The production record and drilling results indicate that the French Peak Silver Property has potential as a high-grade silver producer. Some of the drilling and mapping indicates possibilities for larger tonnage, mineralized zones.

PRESENT WORK AND DISTRIBUTION

During the 1981 Field Season, 36 line-kilometres of EM-16 surveying and soil sampling were accomplished. 747 samples were taken and run for 26 elements by ICP analysis. Data plotting was done by a computer. The outline of the gridded area is shown on Fig. 2 and covers a third of the property from north to south.

II. GRID

8.5 kilometres of line were cut in 1979, including the base line. The balance of the 36 kilometres was done by flagging and chaining machine during the course of the present surveys. Three control lines were run to correct or establish the location of the grid lines. There are problems in running compass lines due to magnetic deflections of as much as 30 degrees.

III. GEOLOGY AND MINERAL DEPOSITS (Homenuke, 1977/Richards, 1980)

The French Peak Silver Property is underlain by a series of subaerial to subaqueous tuffs, flows and intravolcanic sediments belonging to the Upper Cretaceous Brian Boru Formation and the Jurassic Hazelton Group. Bulkley intrusions of late Cretaceous Age outcrop nearby. The area is structurally complex with block faulting being the predominant style.

There are three known mineral occurrences on the property. The Ute and Rio Vein Systems have received the most attention to date. Some shipments of high grade (200 oz./ton) silver ore have been made from the Ute Vein. It has been traced on surface for 450 metres. The vein strikes westerly with intersecting veins or splays in north-easterly direction. The Rio Vein is 100 metres south of the Ute,

strikes northeasterly and dips moderately to the northwest. It is conformable with a tuff horizon, but appears to be controlled by bedding plane shearing. Both veins contain varying amounts of chalcopyrite, galena, tetrahedrite and sphalerite.

The Hematite zone occurs about a kilometre to the southeast. It consists of bands of massive specular hematite and some silver and copper mineralization has been noted. Little work has been done.

These deposits are shown in Fig. 5.

IV. ELECTROMAGNETIC SURVEY

Instrumentation and Procedure

The survey was conducted with a Geonics "Ronka EM-16", which is a VLF-EM receiver using submarine communications station as transmitter source. The station for this survey was Cutler, Maine. Readings were taken at 20-metre intervals, facing north on lines generally 100 metres apart. The results were filtered and contoured using the Fraser Method.

Survey

Known mineralization occurs in, or related to, structures trending easterly and northeasterly. The lithologic trend is northeast. Some key cross structures trend northwesterly. To cross as many as possible of these features at a reasonable angle, survey lines were run north-south. The data have been plotted in profile form (Fig. 3) and on a contoured plan following filtering by the Fraser Method (Fig. 4). It was anticipated that the survey would aid interpretation of the structural geology and locate possible areas of mineralization indicated by the concurrent soil sampling.

Discussion of Results

EM-16 conductors may be produced from a great variety of geologic conditions. Conductive trends and interruptions of trends are both interpreted as being caused primarily by faults. Some conductive lithologies may also be present, but current geologic knowledge does

not permit any conclusions in this direction. Whether any of the conductors represent actual mineralization will not be known until some trenching and drilling have been done.

A preliminary interpretation of the structural pattern suggested by the EM-16 survey is shown on Fig. 5. The major trends are discussed below.

1. Northwesterly Trend - This trend is primarily related to conductors, but some disruptions are also evident. This is a major regional block fault direction. Numerous northwesterly trending faults offset formations in the Ute and Rio Vein System area.
2. East-West Trend - This trend is entirely related to conductors. It is also a major block fault direction. The main part of the Ute Vein System follows this trend.
3. Northeasterly Trend - There are some weak conductors in this direction, but it is primarily defined by disruptions. This is the general lithologic trend and also the trend of the Rio Vein System.

In general, the interpretation indicates a complexly faulted area which provides many trends and intersections of trends as possible controls for ore mineral deposition. Much interpretation remains to be done, but will have to wait until further geologic data have been obtained. Some further discussion will follow in the section on the geochemical survey.

V. GEOCHEMICAL SURVEY

Procedure

Soil samples were taken from the "B" horizon, where possible. Stations were at 50-metre intervals on lines generally 100 metres apart. They were placed in kraft envelopes and marked as to location. The samples were delivered to Acme Labs in Vancouver, B.C., where they were subjected to the following procedures:

1. Preparation - dried at 60°C and sieved to -80 mesh.
2. Digestion - 0.5 grams of sample digested with hot aqua regia for one hour, then diluted to 10 ml. with water.

3. Analysis - Solution aspirated and analyzed for 26 elements by inductively coupled argon plasma (ICP). This is a computer assisted, multi-element spectral analysis. Analytical results are printed by Telex.

Elements include molybdenum, copper, lead, zinc, silver, nickel, cobalt, manganese, iron, arsenic, uranium, thallium, cadmium, antimony, bismuth, vanadium, calcium, phosphorus, lanthanum, indium, magnesium, barium, titanium, boron, aluminum and tungsten.

Iron, calcium, phosphorus, magnesium, barium, titanium and aluminum are reported in percent, all others in parts per million.

The digestion is partial for aluminum, calcium, lanthanum, magnesium, phosphorus, titanium and tungsten. Very little barium is dissolved.

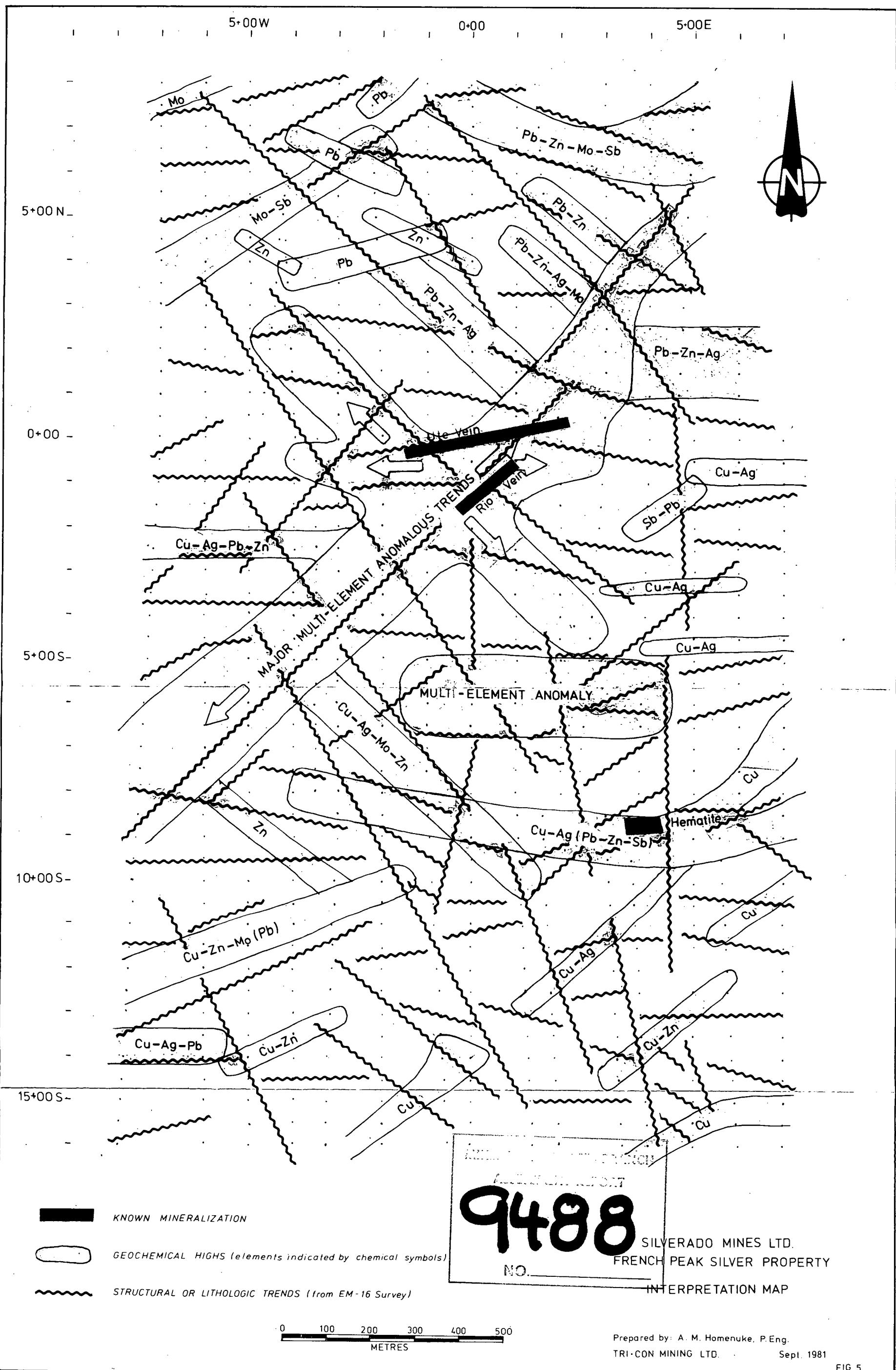
Certified geochemical standards are used to monitor analysis and for each 40 samples, one sample, at random, is rerun, including digestion. Certain corrections are also made, due to interferences.

The data from the laboratory were delivered to Multiple Access Computer Group. The geochem values for each element were sorted from highest to lowest to allow a rapid choice of contour intervals. The mean and standard deviation were also determined. Time did not permit preparation of cumulative frequency distributions, although one was done for silver. 14 elements were chosen for map presentation. The maps were prepared on an 11"x17" digital plotter. The results were initially contoured by a least squares computer program, with the final contours being smoothed by hand, including minor trend re-interpretation.

The following table lists the pertinent data for each element.

TABLE 1
GEOCHEMICAL DATA

ELEMENT	RANGE		UNITS ppm or %	MEAN	STANDARD DEVIATION	MAP NO.	CONTOUR THRESHOLD	INTERVAL SELECTED ANOMALOUS
	HIGH	LOW						
Molybdenum	11.0	0.0	ppm	1.4	1.07	GC-9	2.0	3.0
Copper	116	3.2	ppm	18.4	13.2	GC-5	20	30
Lead	1954	2.4	ppm	25.0	74.4	GC-7	25	40
Zinc	790	8.2	ppm	78.9	49.7	GC-14	100	150
Silver	10.7	0	ppm	0.5	0.86	GC-11	0.7	2.2
Nickel	97	1.0	ppm	8.6	5.6	GC-10	12	17
Cobalt	32	0.4	ppm	8.1	4.3	no map	-	-
Manganese	12701	24	ppm	663	861	GC-8	500	1000
Iron	7.20	0.05	%	2.45	0.96	GC-6	3%	4%
Arsenic	224	0.1	ppm	10.7	11.4	GC-2	17	28
Uranium	40	0.1	ppm	3.3	2.6	GC-13	5.0	10
Thallium	3.0	0	ppm	0.36	0.34	no map	-	-
Cadmium	8.8	0	ppm	0.65	0.64	no map	-	-
Antimony	38	0	ppm	1.5	2.0	GC-1	3.0	5.0
Bismuth	38	0	ppm	.7	1.5	no map	-	-
Vanadium	254	1.1	ppm	53	23	no map	-	-
Calcium	2.2	.01	%	0.30	0.38	GC-4	0.5%	1.0%
Phosphorus	0.35	0.01	%	0.10	0.04	no map	-	-
Lanthanum	64	0.3	ppm	11.1	6.4	no map	-	-
Indium	12.0	0.1	ppm	3.4	1.2	no map	-	-
Magnesium	1.00	0.03	%	0.19	0.10	no map	-	-
Barium	0.13	0.00	%	0.02	0.02	no map	-	-
Titanium	0.07	0.00	%	0.01	0.01	no map	-	-
Boron	19	0.5	ppm	4.0	2.0	GC-3	5.5	7.0
Aluminum	3.60	0.04	%	1.46	0.58	no map	-	-
Tungsten	5.0	0	ppm	0.6	0.4	GC-12	1.0	1.4



Discussion of Results

The contoured plans for 14 elements are shown on a series of maps in the Appendix. In general, the economic elements, copper, lead, zinc and silver show a grouping of anomalous values over a roughly circular area, a kilometre in diameter in the center of the grid. Molybdenum and antimony also show highs in this area with molybdenum trending to the southwest. Uranium and arsenic show sharply defined trends. Iron and manganese are anomalous along trends of the economic elements. Nickel follows some trends and also general higher values to the south, perhaps indicating more mafic lithologies. Calcium is enriched to the south. Boron forms a halo of higher values around the concentration of anomalous metals. Tungsten shows a wider scatter.

More specifically, all elements mapped seem to follow discrete trends in northeasterly, northwesterly and westerly directions. As shown on Fig. 5, some of these trends indicate continuation of known mineralization with many more parallel to it. Northeasterly trends correspond to the known lithologic trend and may be of interest for possible stratabound targets. The above map also shows preliminary interpretation of the EM-16 data and it can be seen that some of the geochem trends are coincident with electromagnetic conductors.

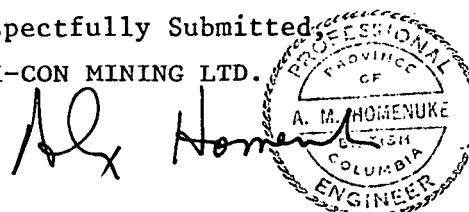
Considerably more detailed interpretation will be required to define all the targets. Some fieldwork will be required to correlate anomalies with topography, soil depths and further geologic data.

CONCLUSIONS AND RECOMMENDATIONS

1. Geochemical and electromagnetic anomalies show north-easterly, northwesterly and westerly trends. These correspond to known structural and lithologic directions.
2. Several major and many more minor geochemical anomalies in copper, lead, zinc and silver indicate continuation of known mineralization and many new target areas for follow-up exploration.

3. A general concentration of copper, lead, zinc and silver anomalies over a one-kilometre area surrounded by a boron halo suggests an epigenetic mineralizing center with implications for much greater total size than presently developed.
4. Geochemical anomalies following the known lithologic direction suggests some form of stratigraphic control for some of the targets.
5. Preparation of a detailed topographic map and field examination of anomalous areas will be required for final interpretation, although some of the most intense anomalies may be considered ready for trenching or drilling.

Respectfully Submitted,
TRI-CON MINING LTD.



A. M. HOMENUKE
C. H. HOMENUKE
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA

A.M. HOMENUKE, P.Eng.

September 30, 1981

CERTIFICATE OF QUALIFICATION

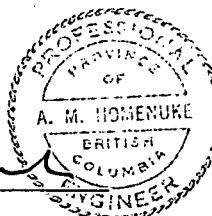
I, ALEXANDER M. HOMENUKE, DO HEREBY CERTIFY:

1. THAT I am a member in good standing of the Association of Professional Engineers of British Columbia.
2. THAT I received the Degree of Bachelor of Science in Geological Engineering from the Colorado School of Mines in 1974.
3. THAT I received a Diploma of Technology in Mining from the B.C. Institute of Technology in 1969.
4. THAT I have been employed in various aspects of mining exploration for 12 years and am presently employed by Tri-Con Mining Ltd., of #2580 - 1066 West Hastings Street, Vancouver, British Columbia.
5. THAT I presently reside at 29825 Harris Road, Mt. Lehman, British Columbia.
6. THAT this Report is based on work supervised or conducted by myself.

DATED at Vancouver, British Columbia, this 30th day of September, 1981.



A.M. HOMENUKE, P.Eng.
Geological Engineer



R E F E R E N C E S

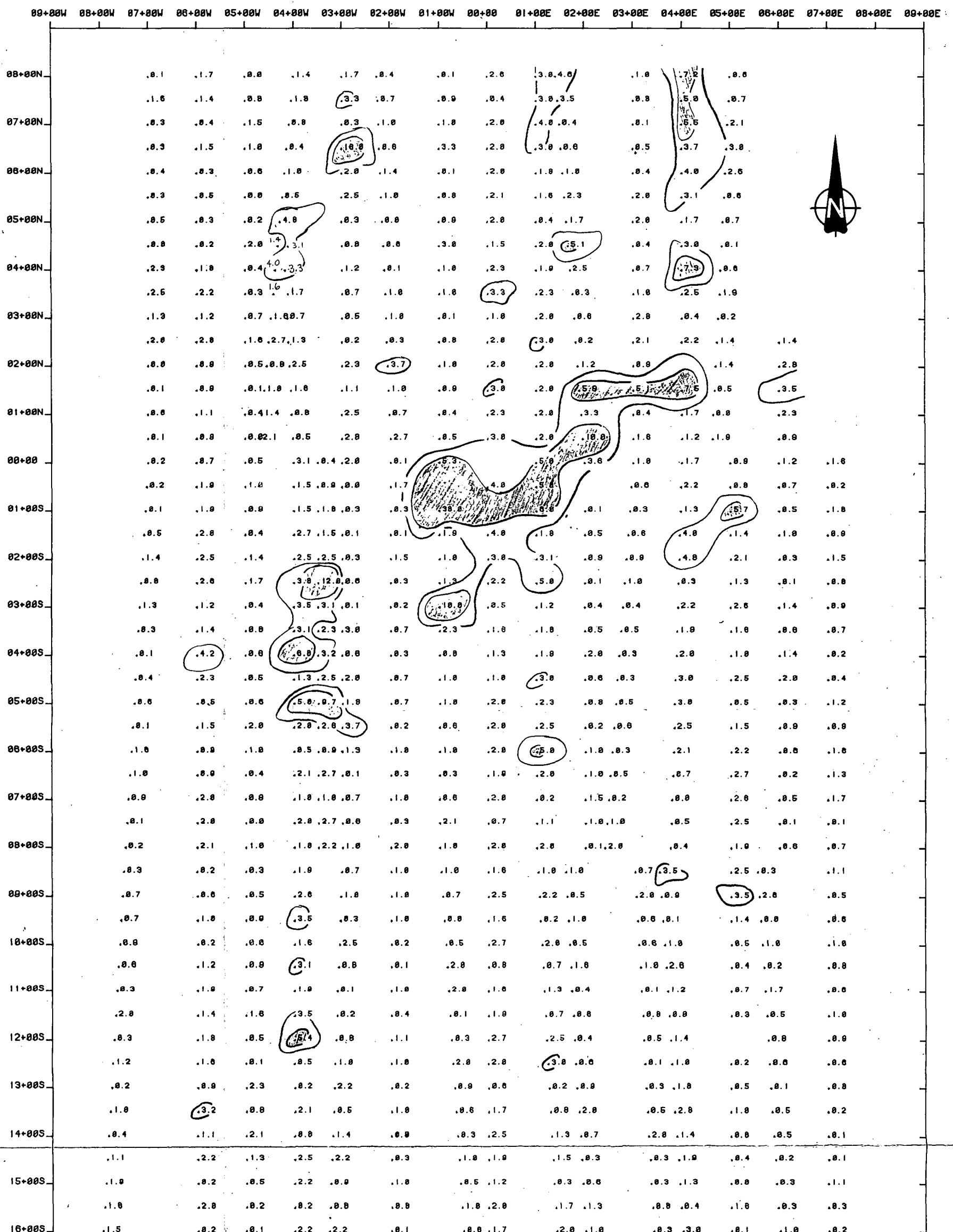
- Homenuke, A.M., 1977, Compilation Report on the French Peak Silver Property (Private Report)
- 1979, Petrographic Study, French Peak Silver Property (Assessment Report)
- 1980a, Metallurgical Testing on Ute Vein System (Assessment Report)
- 1980b, French Peak Project, Proposed Operating Plan (For Mohawk Oil Co. Ltd.)
- Richards, T.A., 1980, Geology of Hazelton Map Area, Geol. Sur. of Canada, Open File 720 (Map)

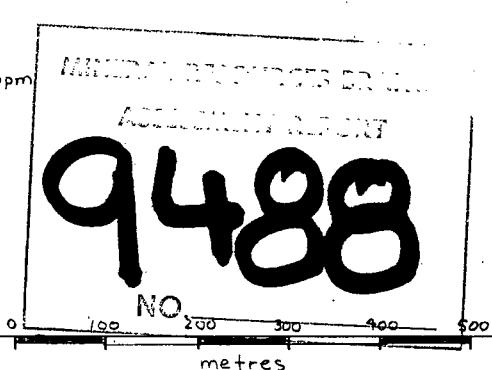
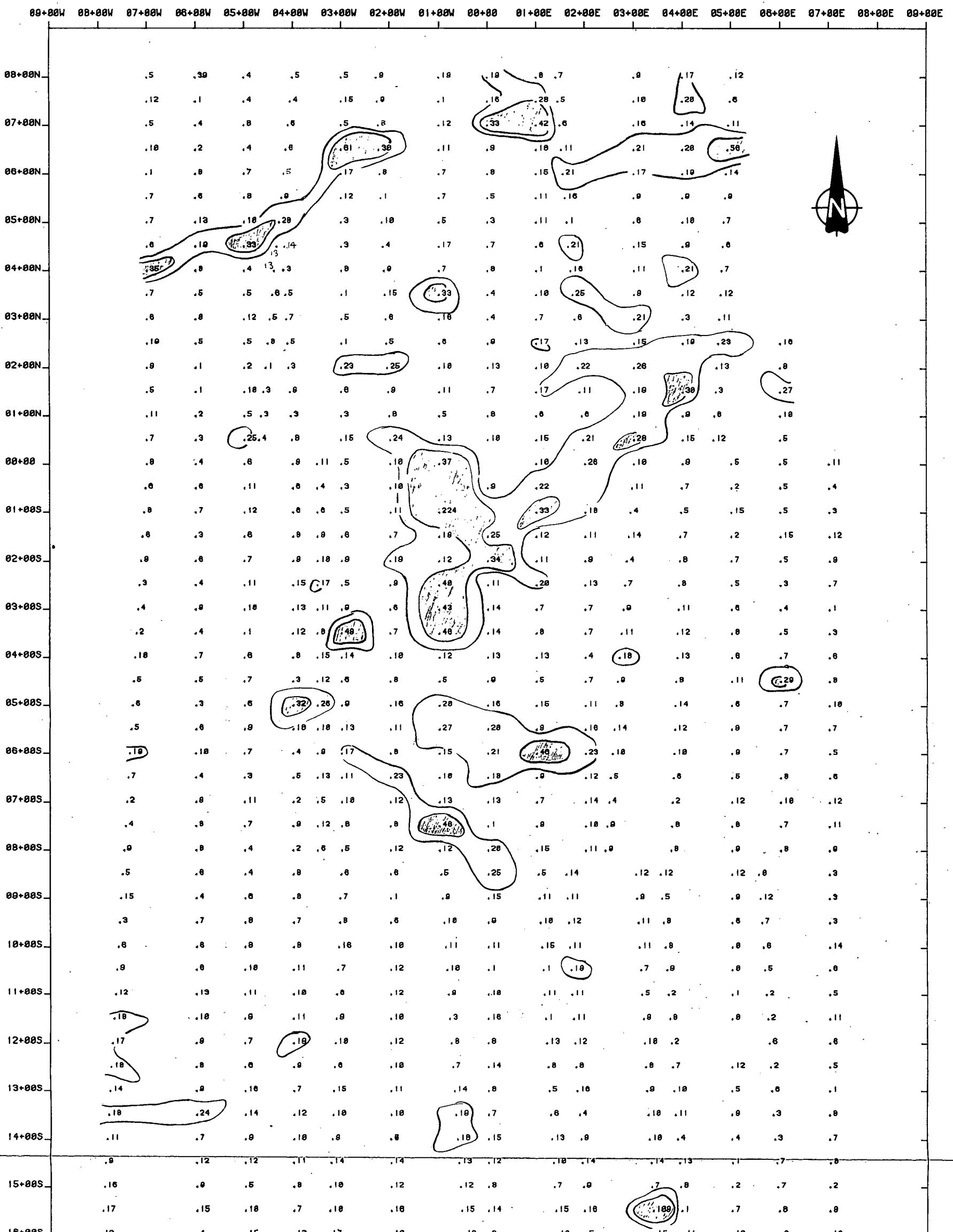
COST STATEMENT

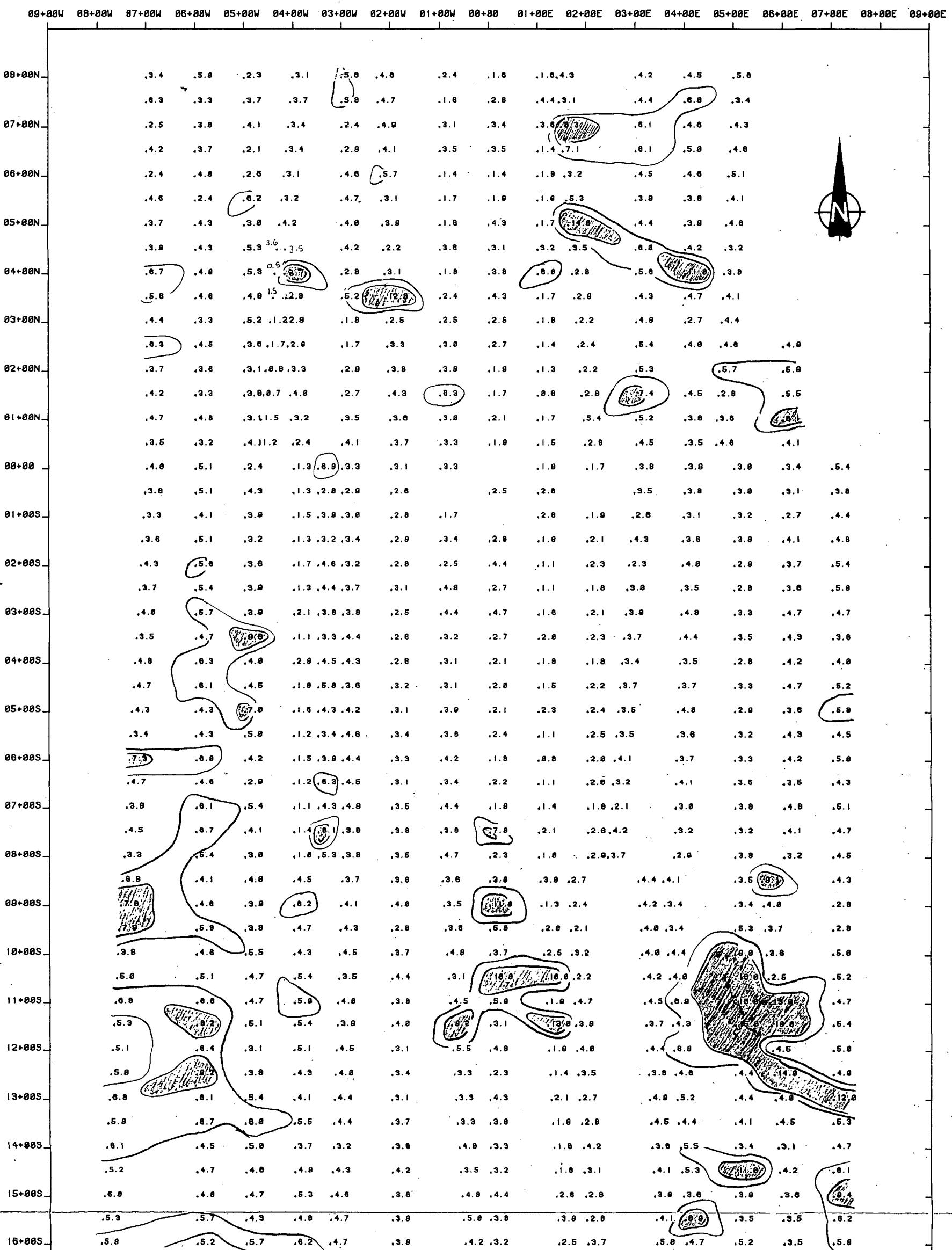
A. Homenuke, P.Eng.	- Supervision, Interpretation and Report - June 24-26, July 5,6,19-31, August 4,11,12,20- 31, September 4,6,17-30	
	19 days total @\$250./day	\$ 4,750.00
Party Chief	- June 25 - July 16 20 days @ \$175./day	3,500.00
Field Assistant	- June 25 - July 16 20 days @ \$80./day	1,600.00
Vehicle	- 20 days @ \$35./day	700.00
Camp & Food	- 40 man-days @ \$30./man-day	1,200.00
Geochemical Analysis	- 26-element ICP 747 samples @ \$5.90/sample	4,407.30
EM-16 Rental	- 1 month @\$300./month	300.00
	- Computer time on geochemical data and output of 14 maps	2,500.00
Draughting		400.00
Miscellaneous Materials (Flagging, string, sample bags)		175.00
Reproduction		60.00
Secretarial		<u>80.00</u>
	<u>TOTAL</u>	<u>\$19,672.30</u>

NOTE: For some of the claims, the assessment due date was July 9, 1981. \$2,400.00 work was recorded to July 8, 1981. The approximate cost to this date was \$5,000.00.

APPENDIXGEOCHEMICAL MAPS







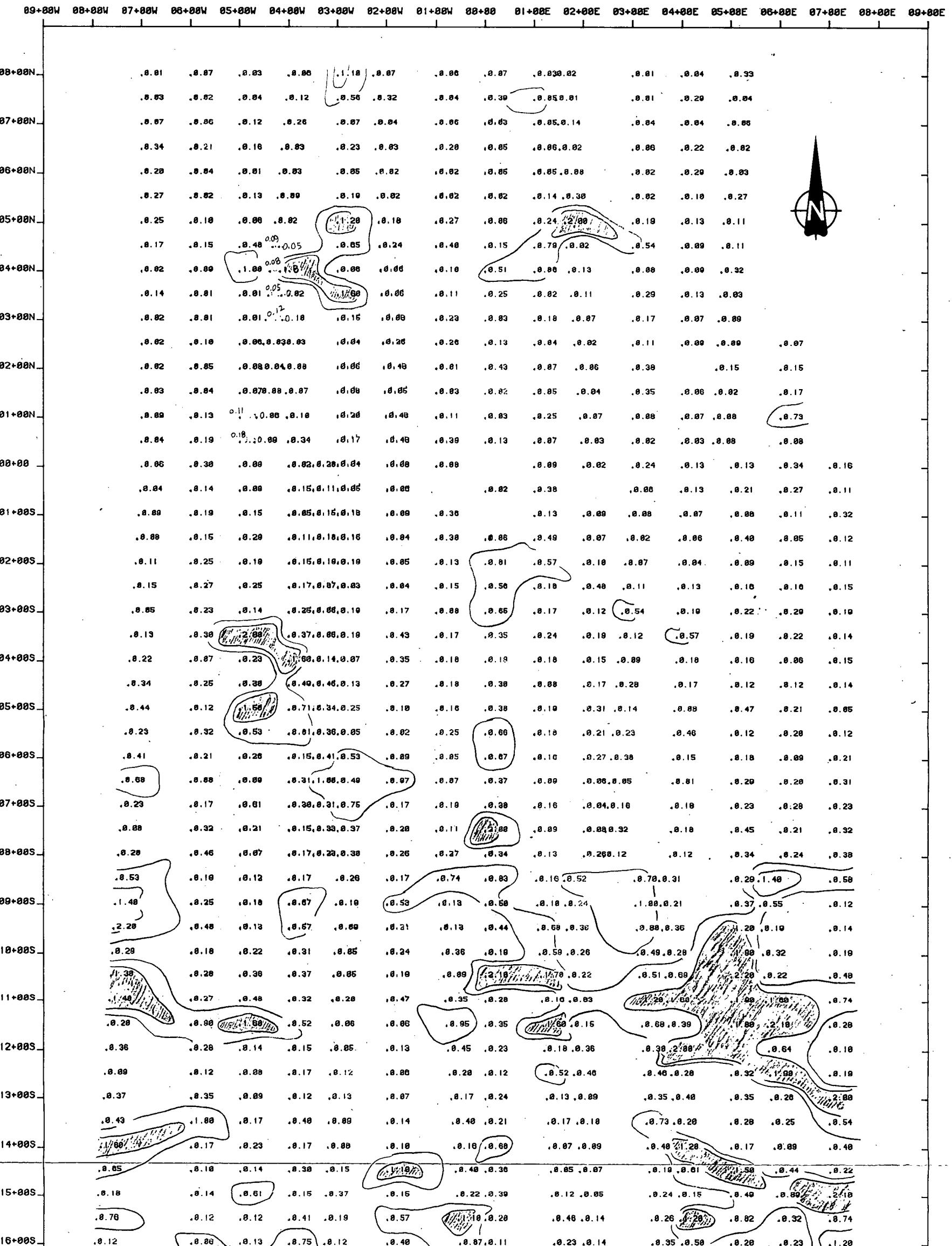
•13 Soil Sample Site & value - ppm

contours

~~7.0 ppm~~ - Anomalous

— 5.5 ppm - Threshold

10



•13 Sample site & value - %

contours

1.0 %

0.5 %

FRENCH PEAK SILVER PROPERTY
GEOCHEMICAL SURVEY

CALCIUM

SILVERADO MINES LTD.
FRENCH PEAK SILVER PROPERTY
CHINECA MINING DIVISION, B.C.

GEOCHEMICAL SURVEY

CALCIUM

PREPARED BY- A.M. HOMENIUK, P.ENG

SEPT., 1981

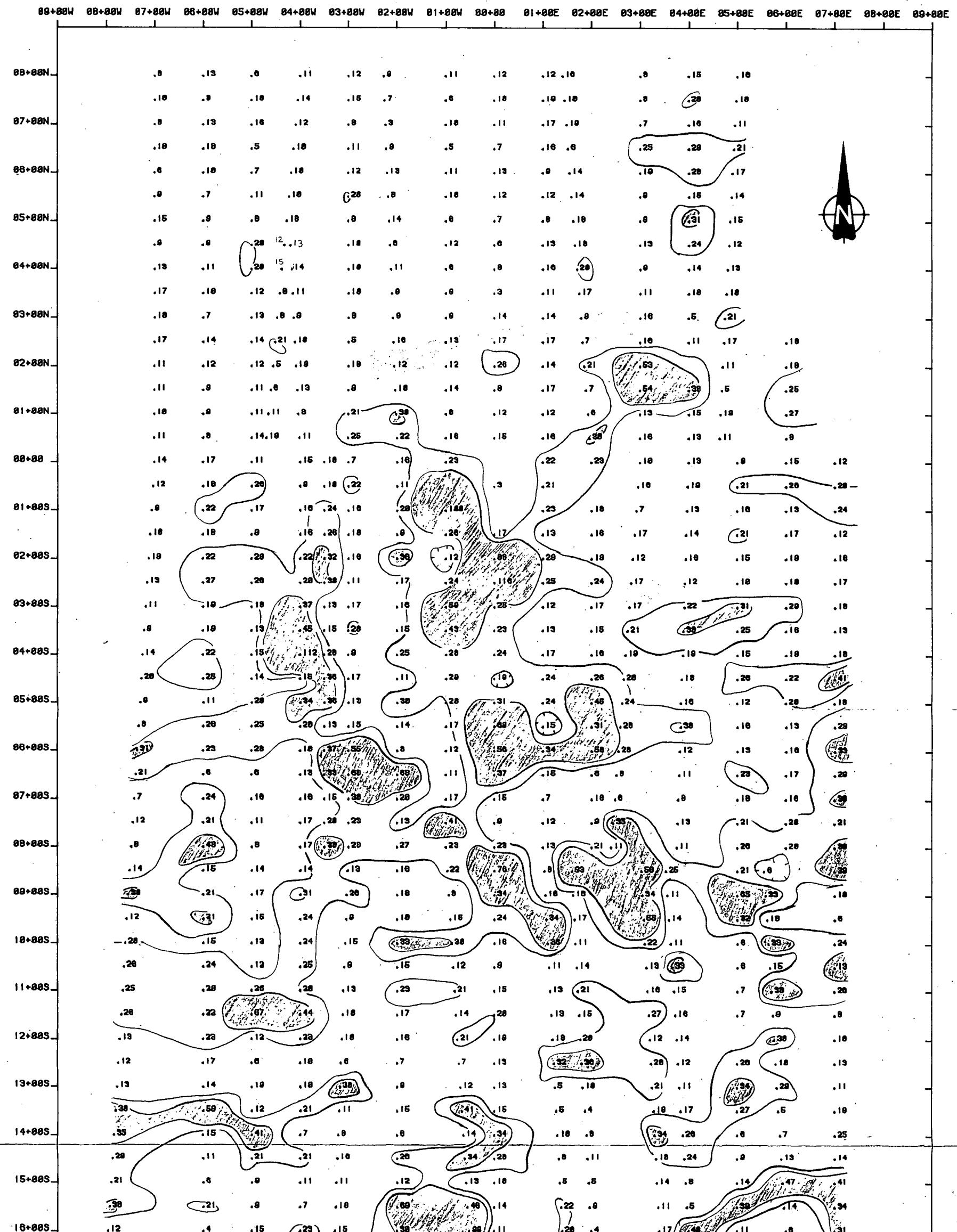
TRI-CON MINING LTD.

FIG. GC-4

9488

0 100 200 300 400 500

metres



.13 Soil Sample Site & value - ppm
contours

30 ppm - Anomalous
— 20 ppm - Threshold

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

9488

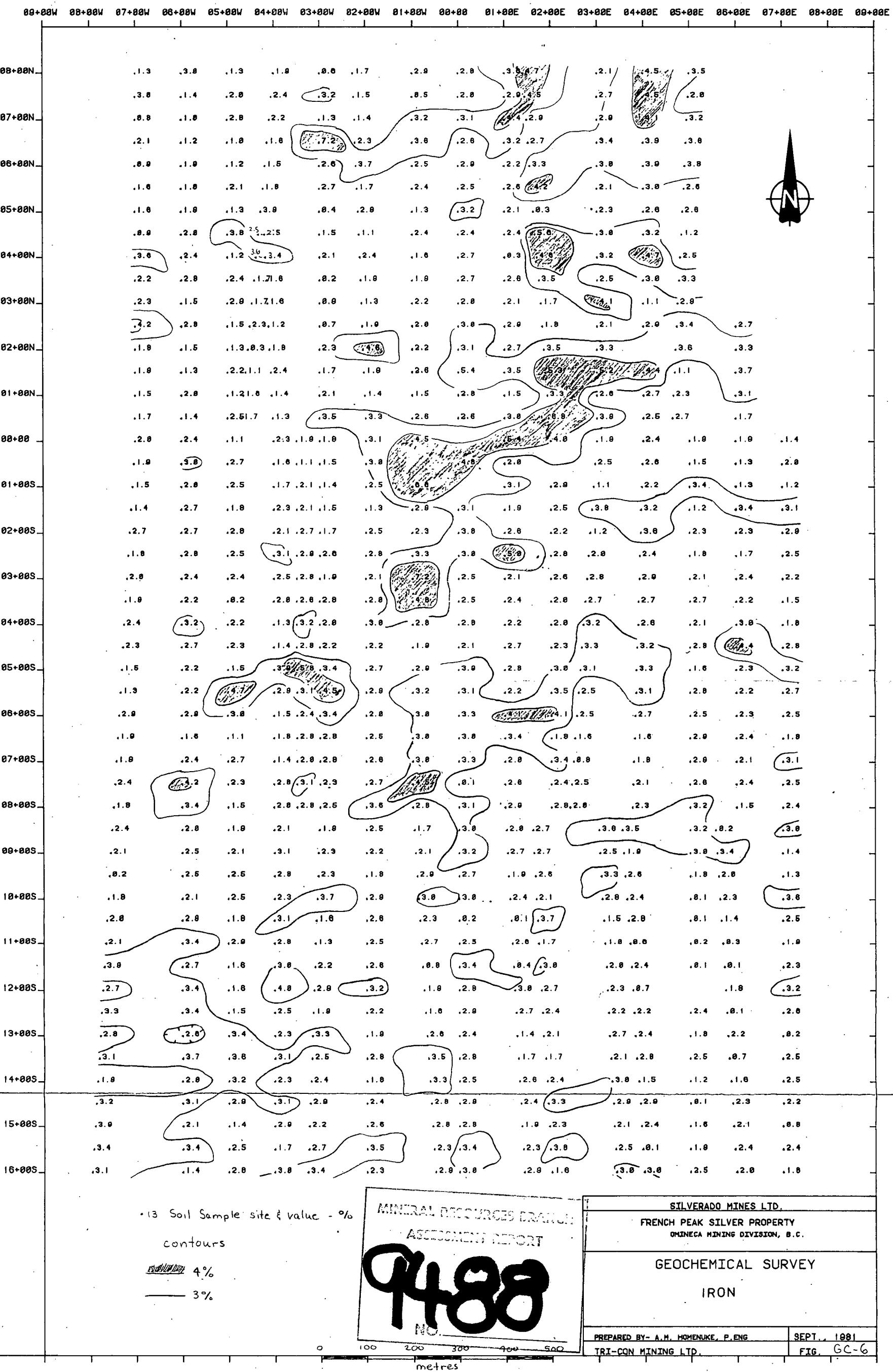
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Metres

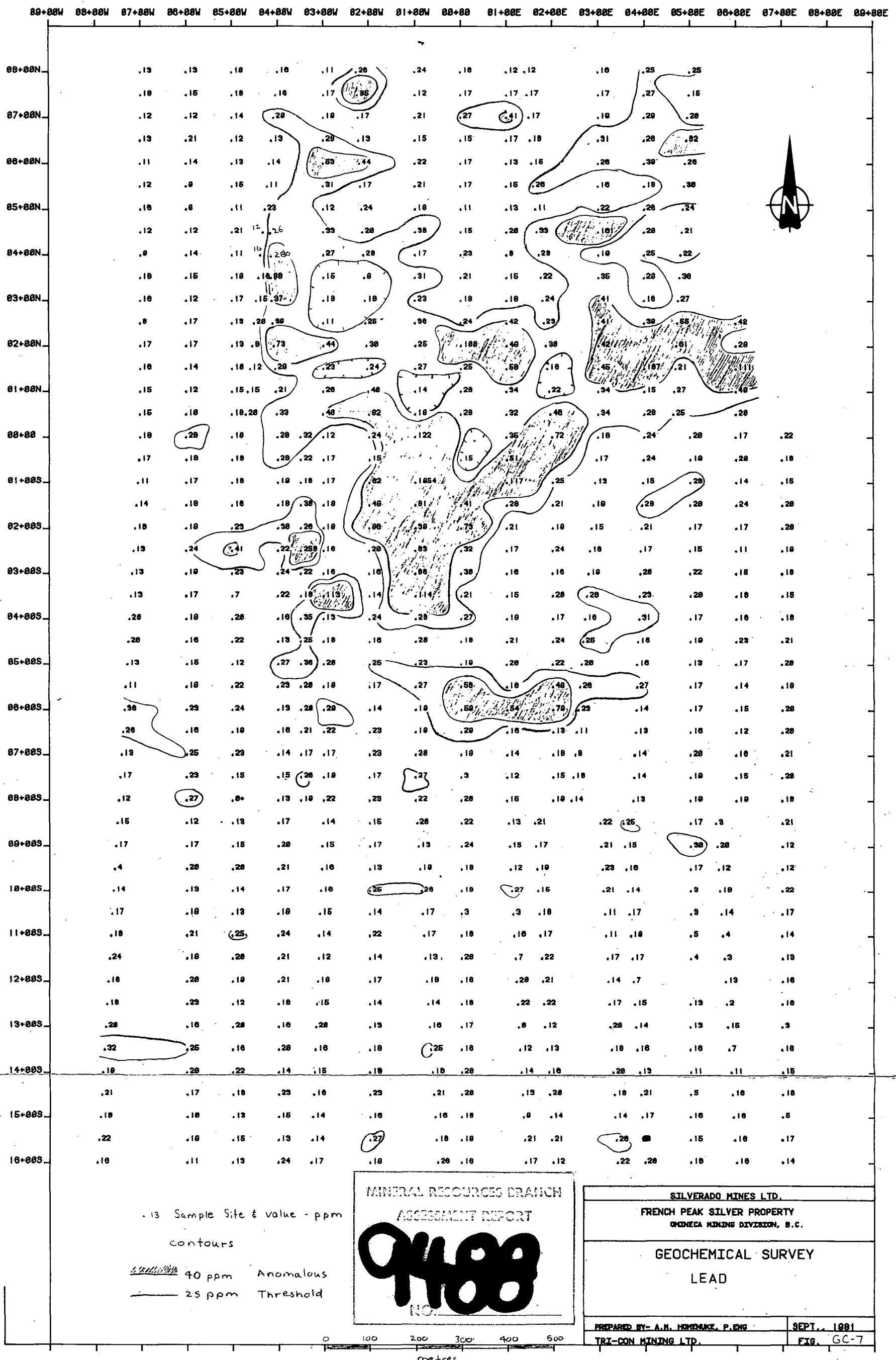
SILVERADO MINES LTD.
FRENCH PEAK SILVER PROPERTY
OMINECA MINING DIVISION, B.C.

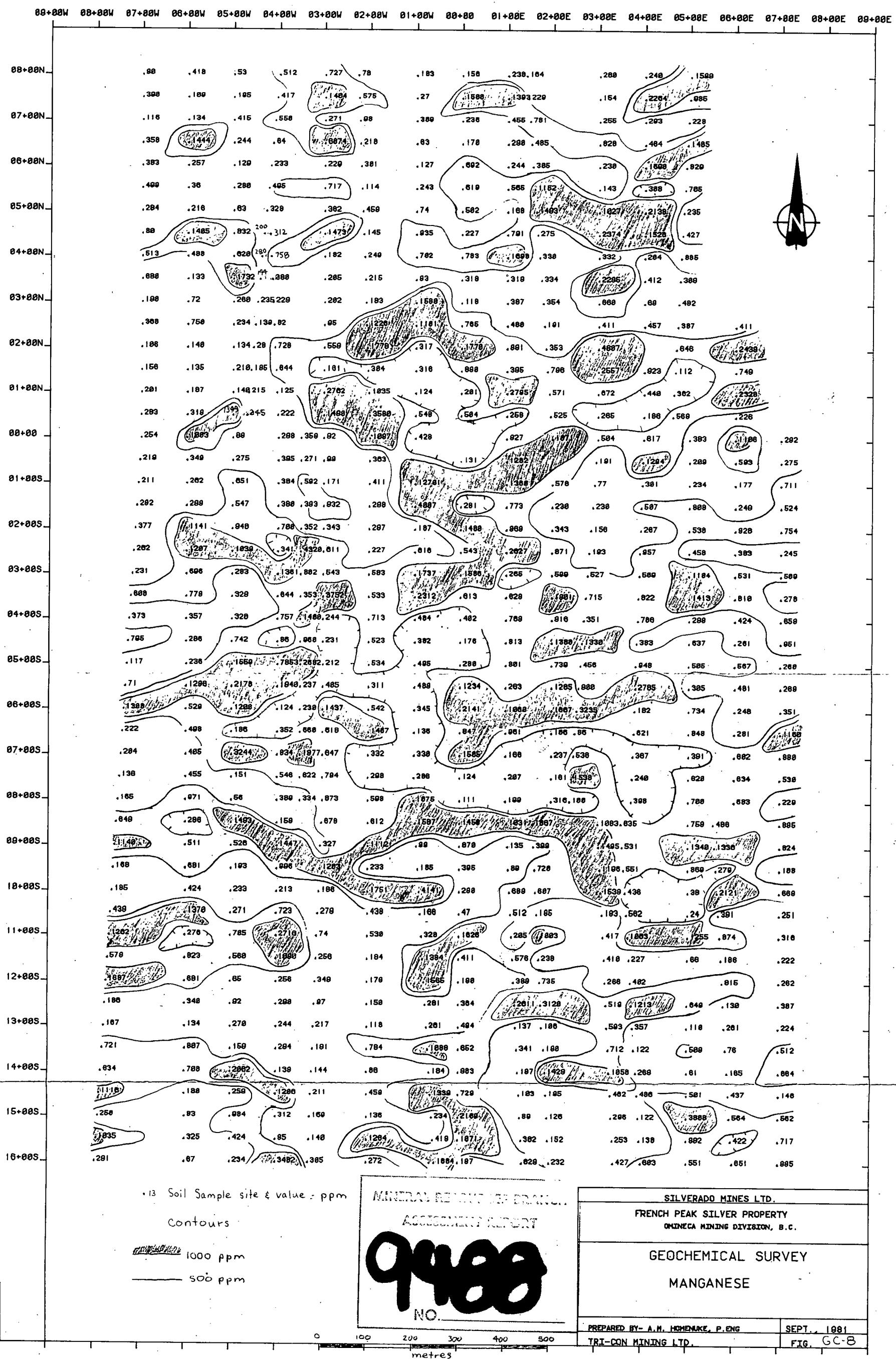
GEOCHEMICAL SURVEY
COPPER

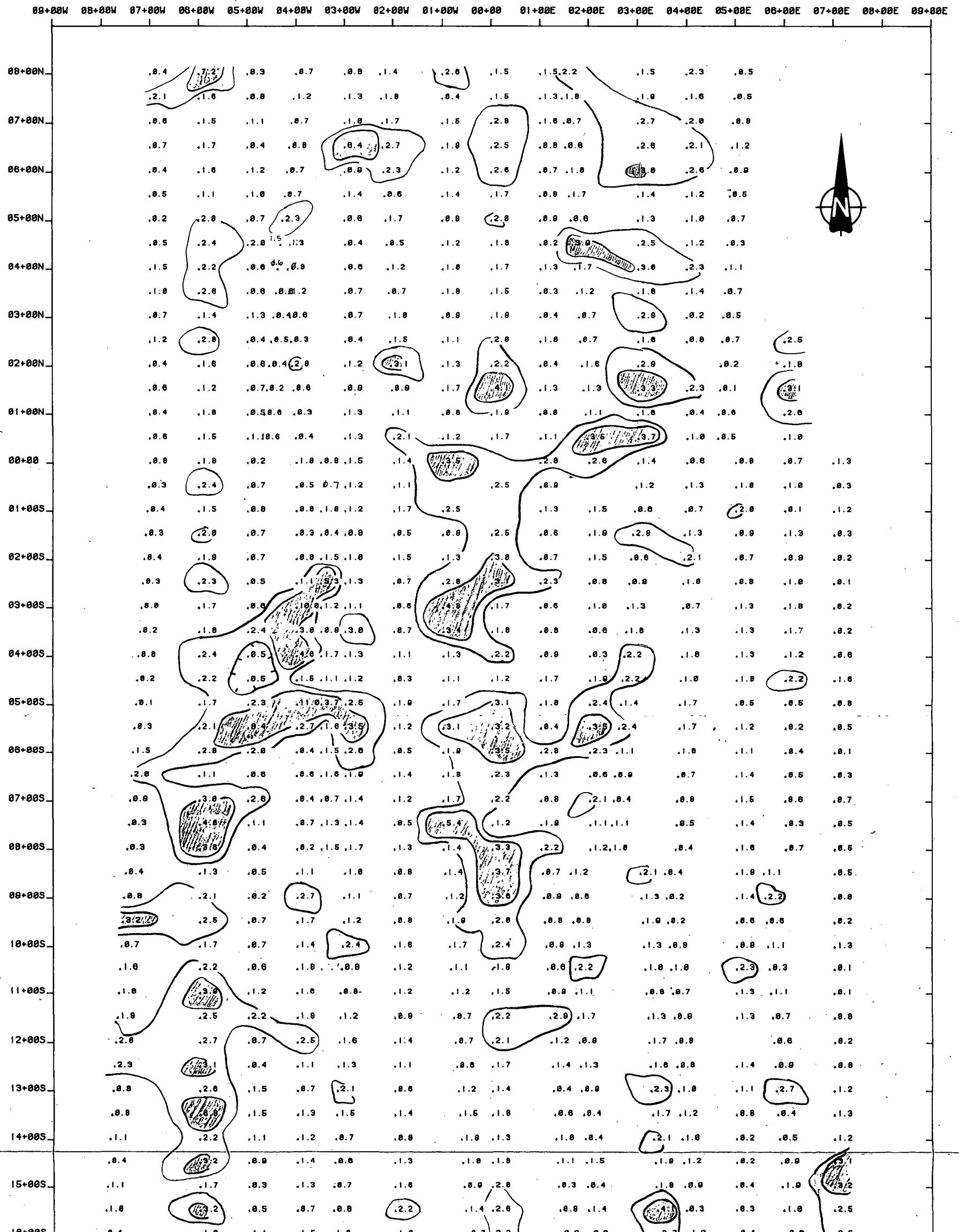
PREPARED BY - A. M. HOMENIUK, P. ENG
TRI-CON MINING LTD.

SEPT., 1981
FIG. GC-5









MINERAL RESOURCES BRANCH
FACSIMILE REPORT

9403
No.

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FRENCH PEAK SILVER PROPERTY
OMINECA MINING DIVISION, B.C.

GEOCHEMICAL SURVEY

MOLYBDENUM

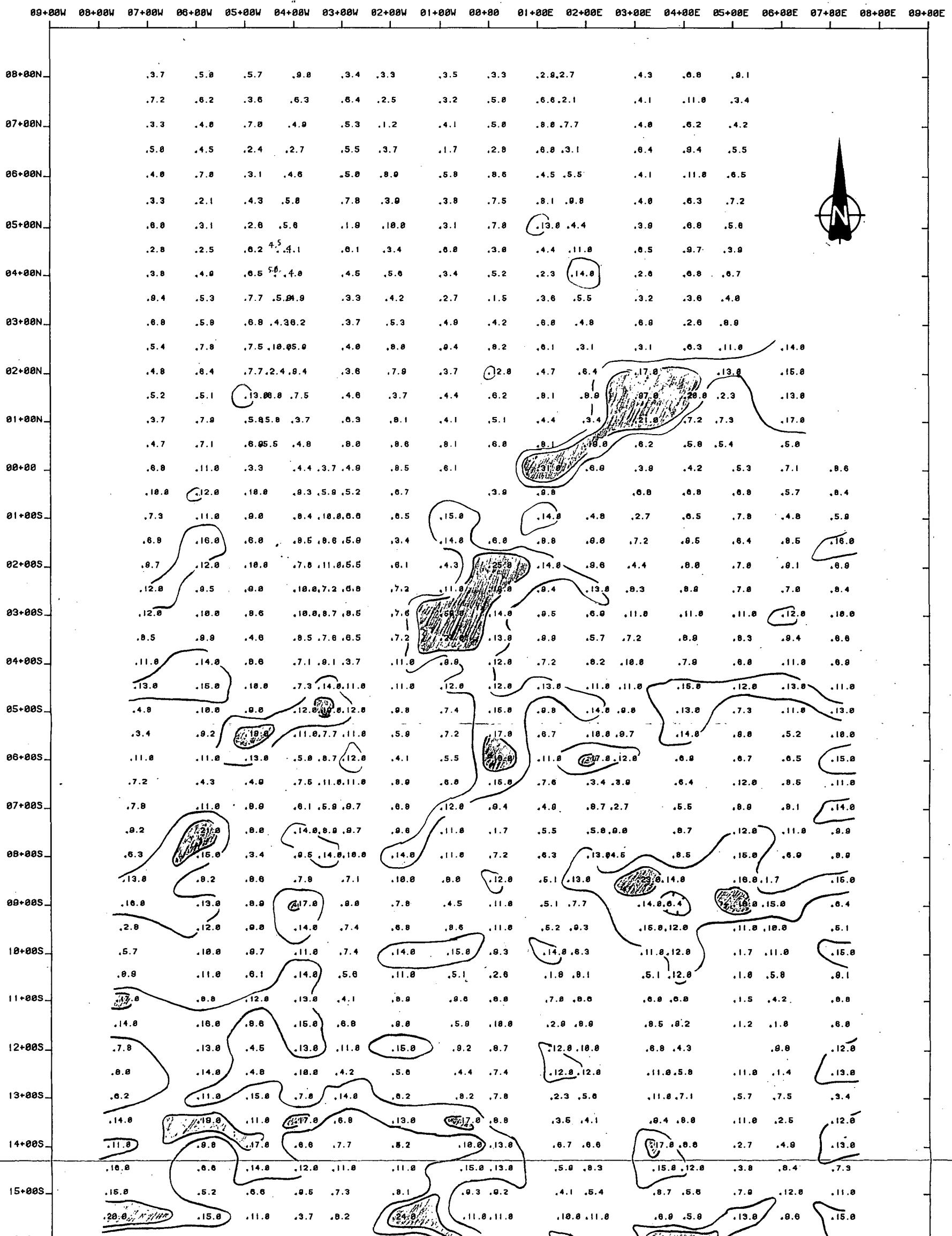
PREPARED BY: A.M. HOMENIUK, P.ENG

SEPT., 1981

TRI-CON MINING LTD.

FIG. GC-9

metres'



• 13 Soil Sample site & value - ppm
containing

17 ppm Anomalous
12 ppm Threshold

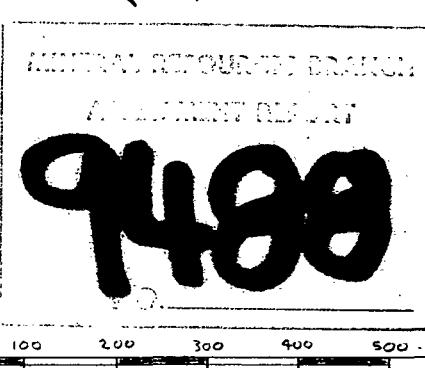
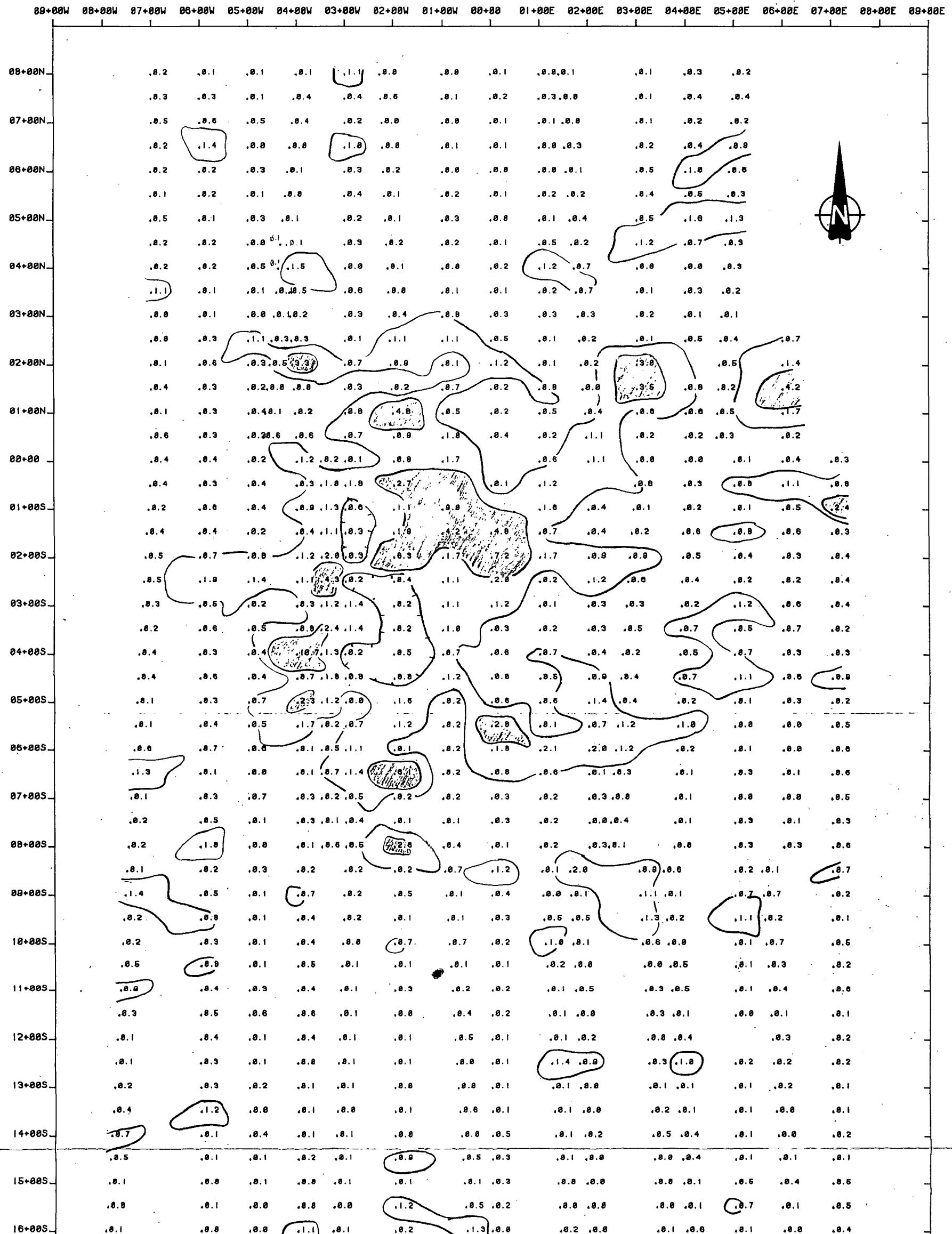
MATERIAL RESOURCES BRANCH
ANNUAL REPORT.

9486

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FRENCH PEAK SILVER PROPERTY
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GEOCHEMICAL SURVEY

NICKEL



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FRENCH PEAK SILVER PROPERTY
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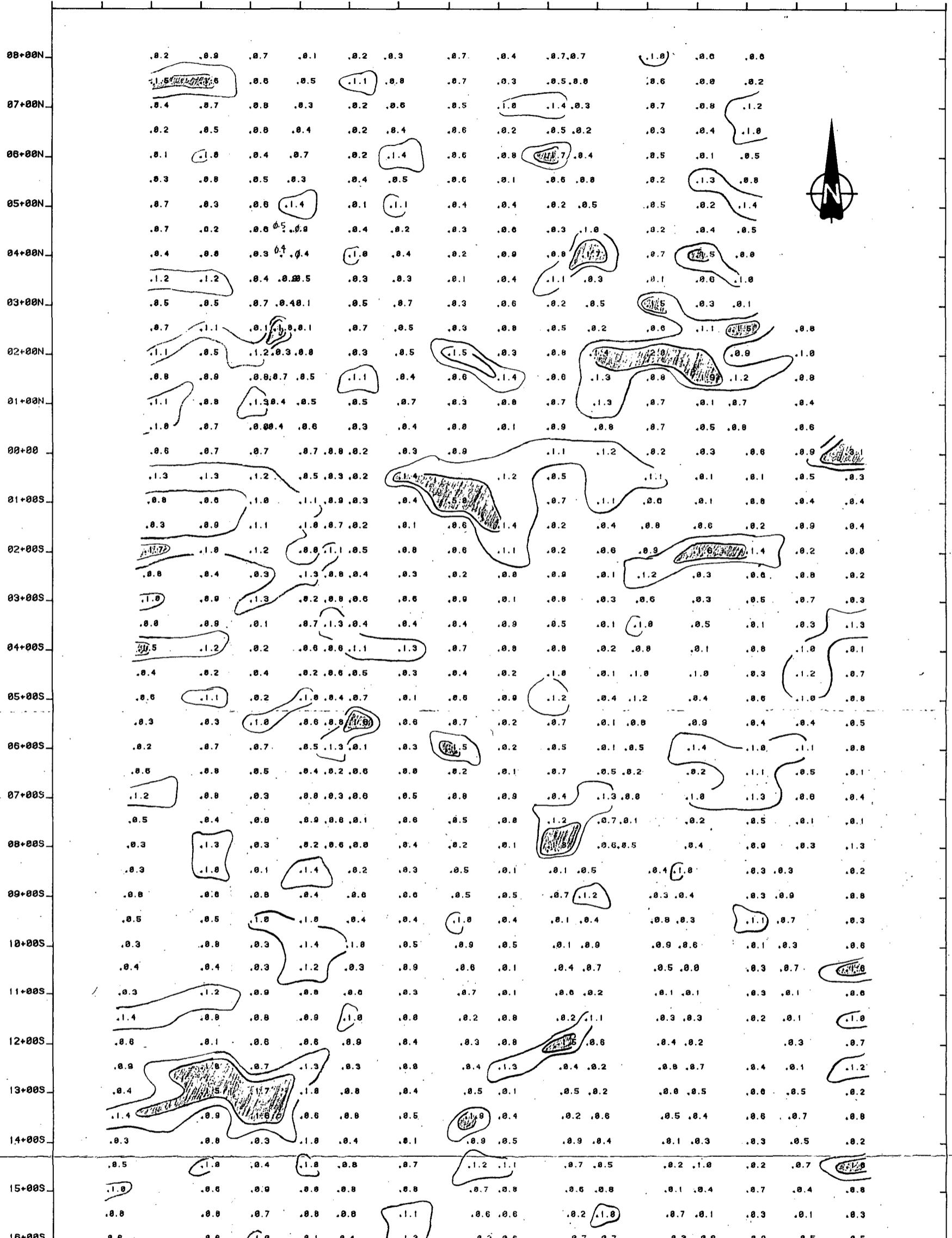
GEOCHEMICAL SURVEY

SILVER

PREPARED BY: A.M. HOMENUKE, P.ENG
TRI-CON MINING LTD.

SEPT., 1981
FIG. GC-11

09+00W 08+00W 07+00W 06+00W 05+00W 04+00W 03+00W 02+00W 01+00W 00+00 01+00E 02+00E 03+00E 04+00E 05+00E 06+00E 07+00E 08+00E 09+00E



* 13 Soil Sample site & value - ppm

Contours

1.4 ppm Anomalous

1.0 ppm Threshold

FRENCH PEAK SILVER PROPERTY

SILVERADO MINES LTD.

FRENCH PEAK SILVER PROPERTY

OMINECA MINING DIVISION, B.C.

GEOCHEMICAL SURVEY

TUNGSTEN

PREPARED BY- A.M. HOMENUKE, P.ENG

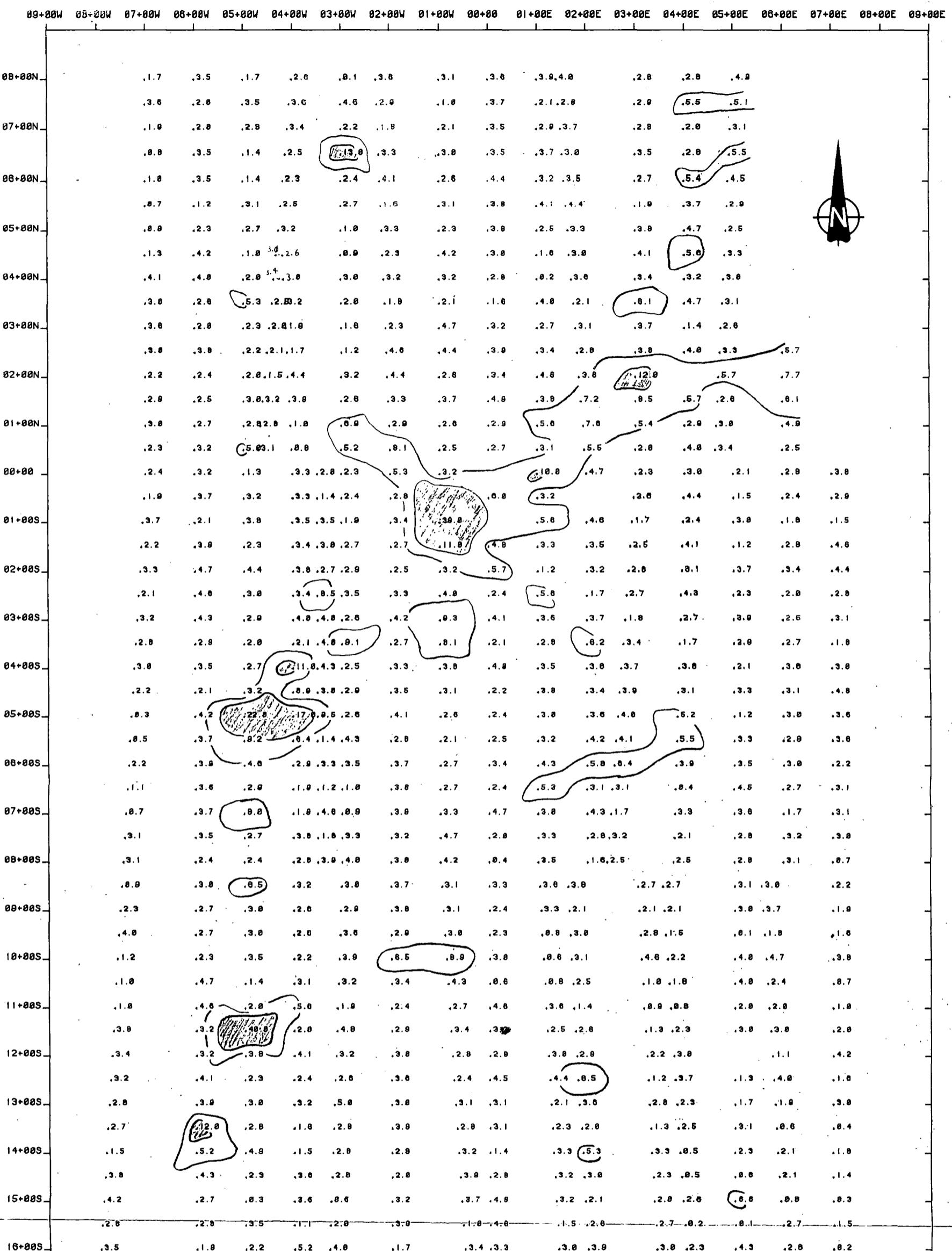
SEPT., 1981

TRI-CON MINING LTD.

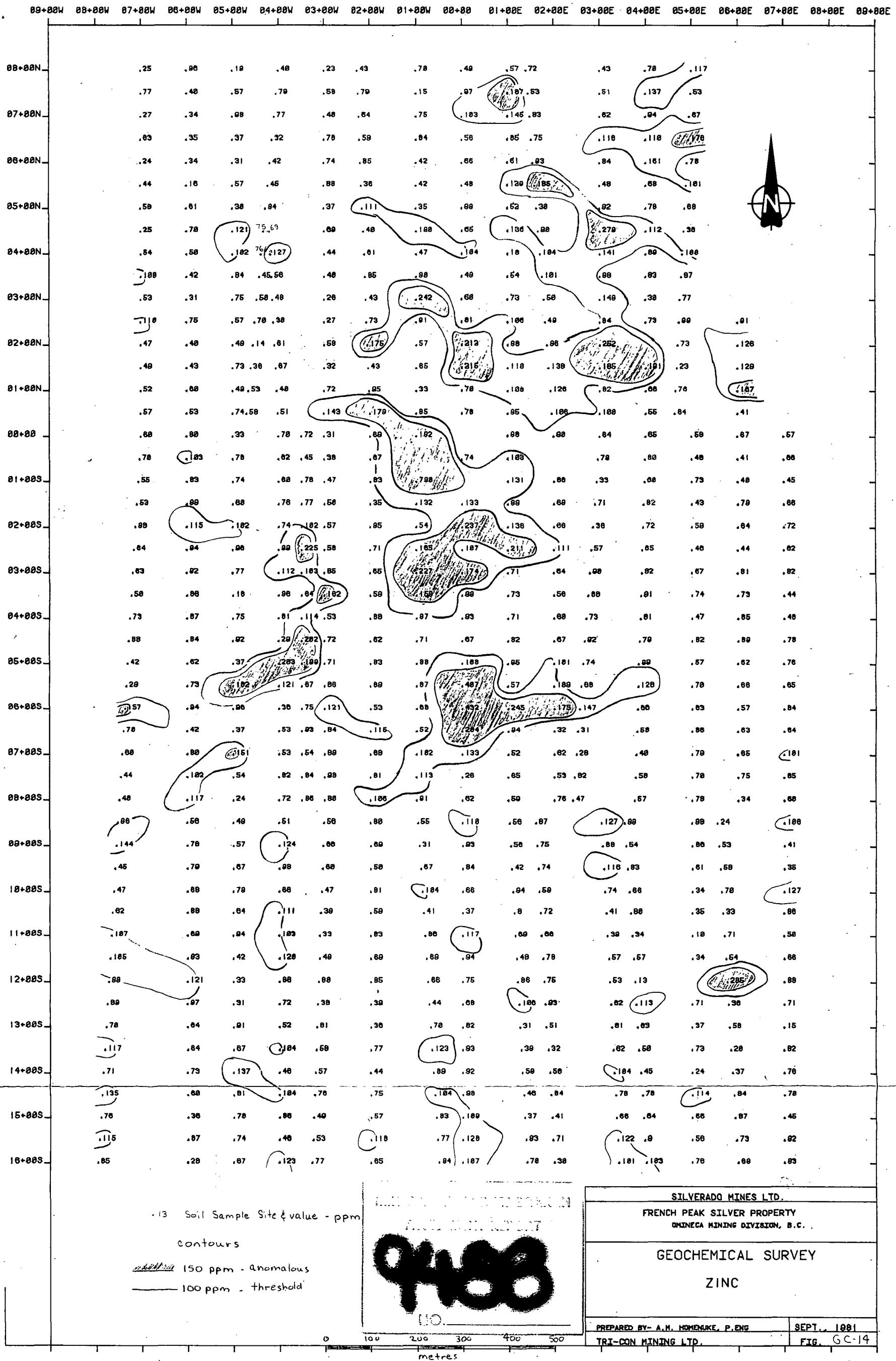
FIG. GC-12

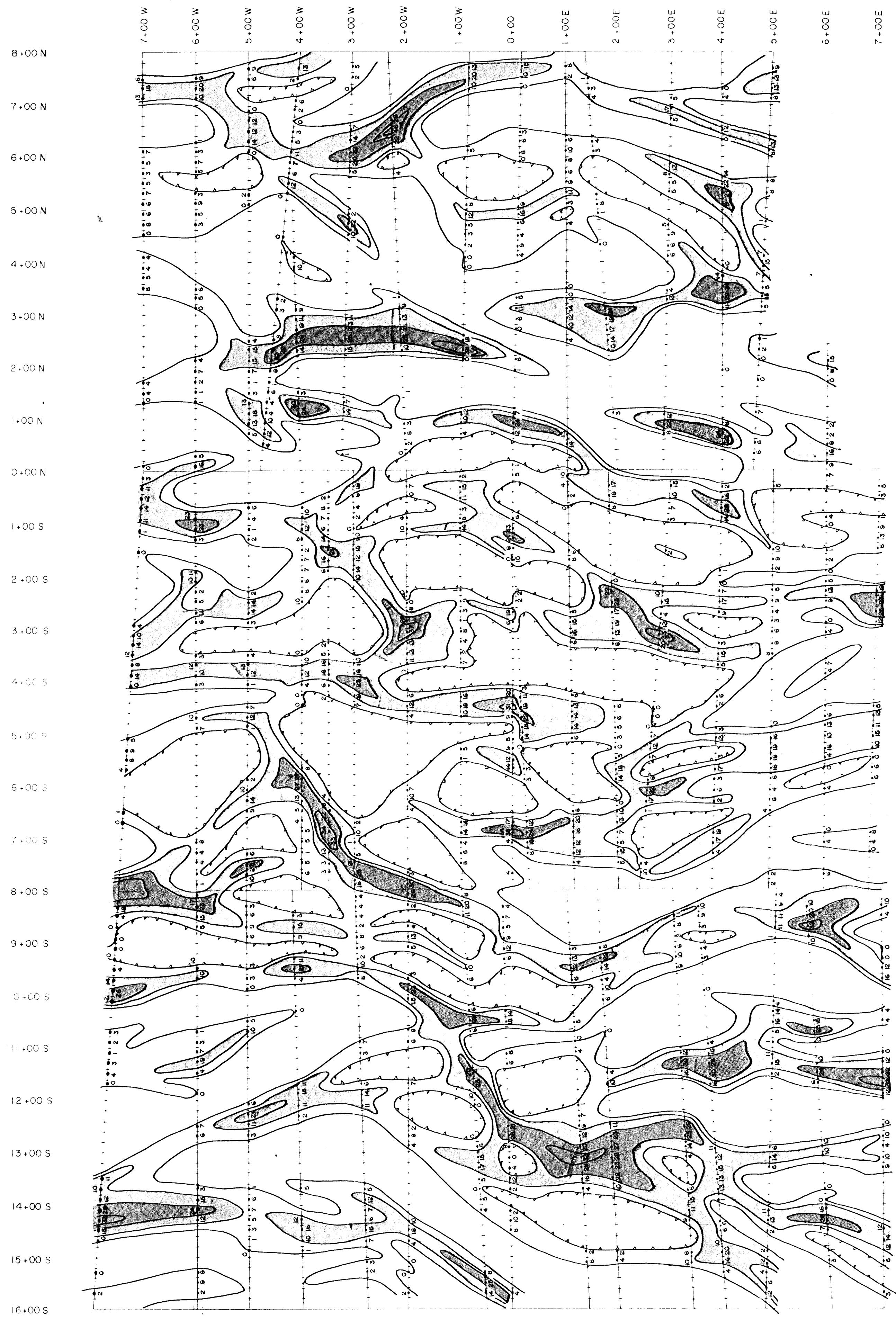
9498
NO.

metres



• 13 Soil Sample site & value - ppm





9488

LEGEND

INTENSITY

- 20% +
- 10 - 20%
- 0 - 10%

CONTOUR INTERVAL 10%

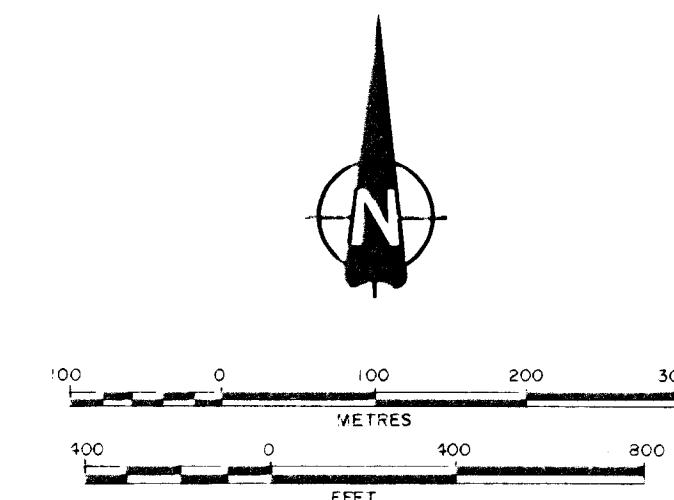
LOW CLOSURE

GRID LINE

Filtered data point and value
Instrument stations at 20 metre
intervals

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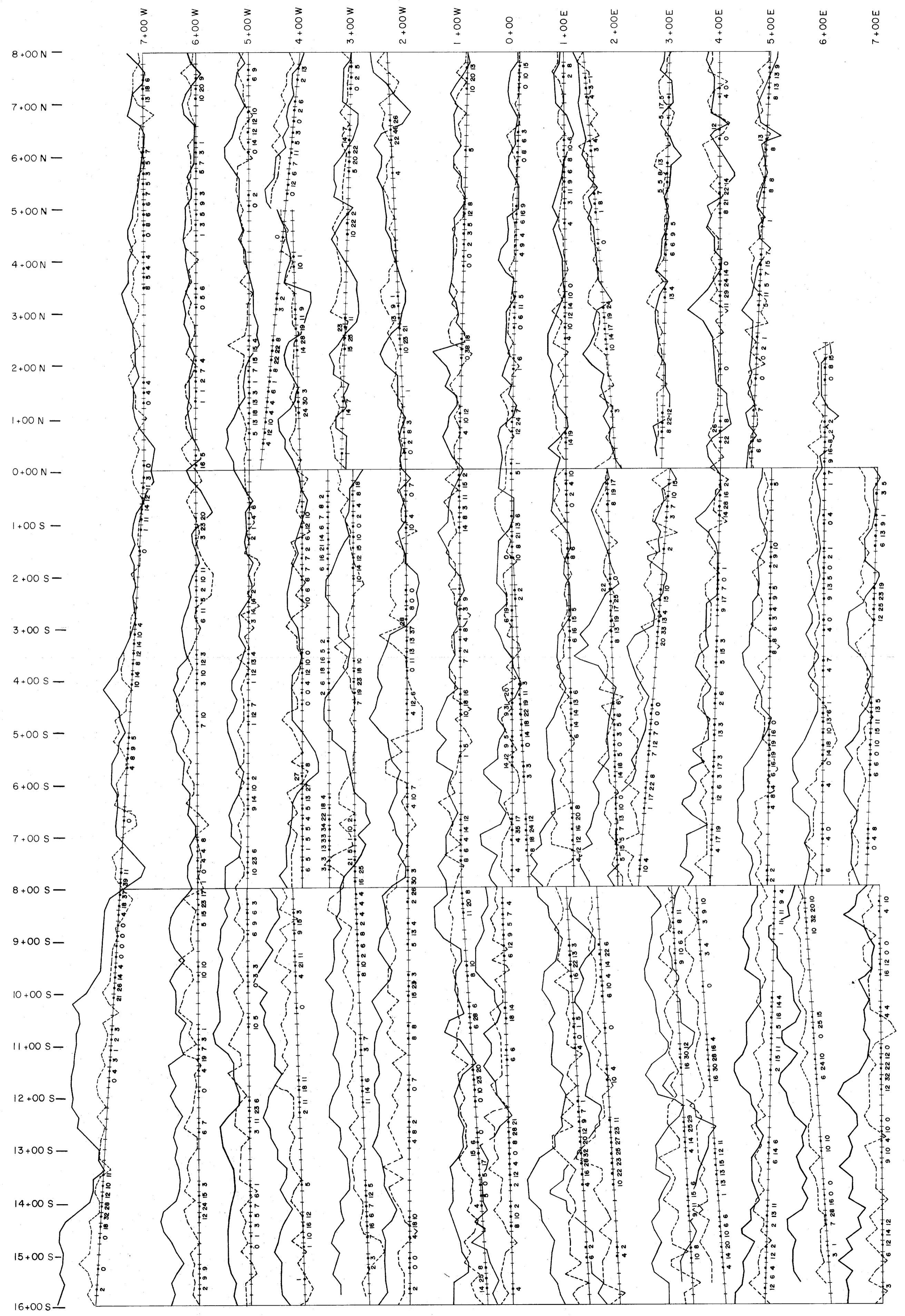
VLF - EM SURVEY
FILTERED DATA
(FRASER METHOD)



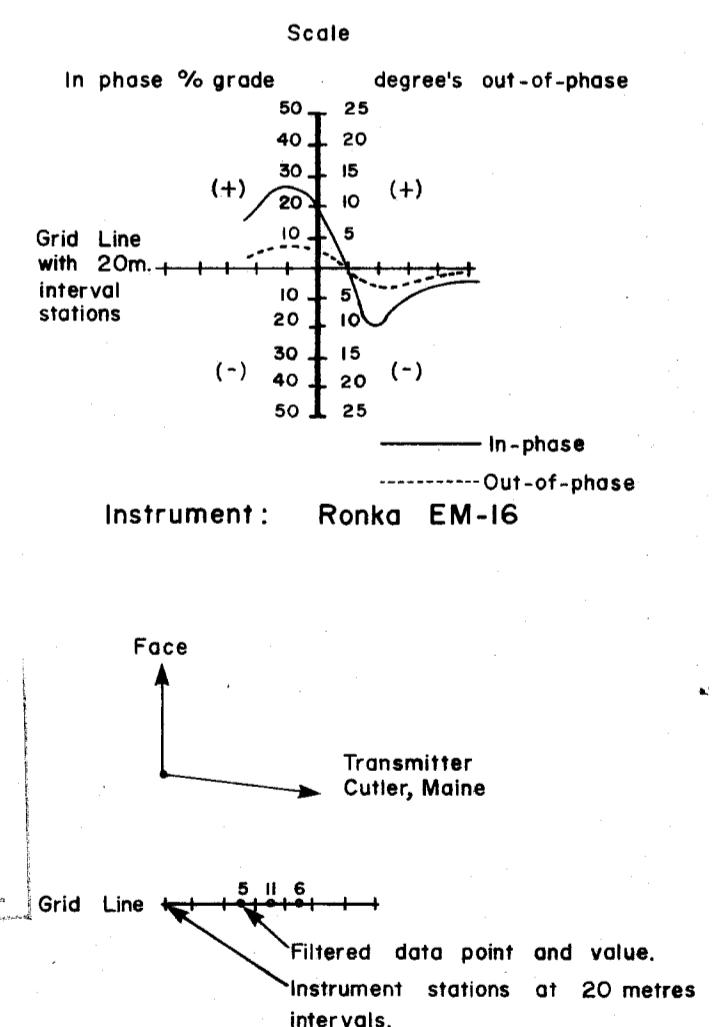
PREPARED BY: A. M. Homenuke, P. Eng. DATE: August 1981
Tri-Con Mining Ltd.

FIG. NO. 4

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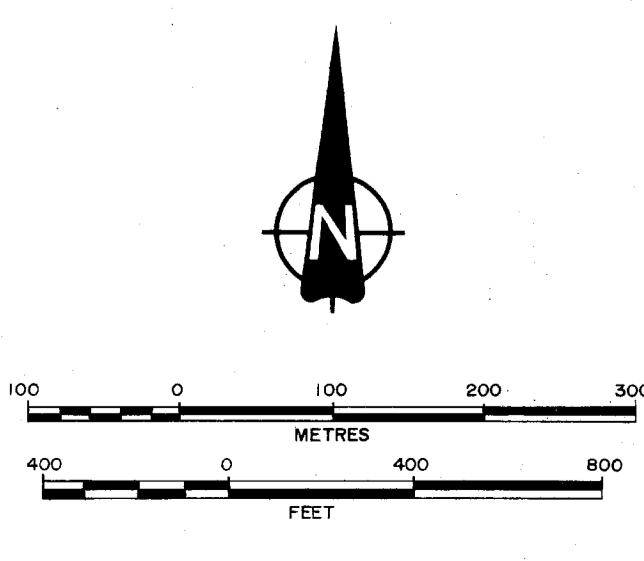
LEGEND



Q488

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VLF - EM SURVEY RAW DATA PROFILES



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FIG. NO. 3

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