

83-#830 - 11628

12/84

GEOPHYSICAL REPORT

on the

KAT 1-6 MINERAL CLAIMS

Record Nos. 4267-4272

KAMLOOPS MINING DIVISION

NTS 92I/14-E

Lat. $50^{\circ} 48'$

Long. $121^{\circ} 03'$

for

RICHARD CAREY

Owner & Operator

by

JAY D. MURPHY, P. ENG.

Consulting Geological Engineer

1983-12-15

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,628

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INTRODUCTION

The KAT group of two - post mineral claims consists of six units with the location line oriented at N-15-W. The claims are situated one kilometre north of the Trans Canada Highway about midway between Savona and Cache Creek. Access is by a little used dirt track that turns north off the T.C.H. one kilometre west of the Walhachin turnoff.

The claims area occupy a gentle, south facing slope between the Thompson River on the south , and the vast, basalt capped Interior Plateau to the north. Elevations vary from about 335m at river level to over 1675m on the plateau 12 km north. Within the claims the southerly slope is dissected by a main north-south gully (Cabin Gulch) and two northwest trending tributaries manifested by steep sided, "V" shaped gullies a few tens of metres in depth. Cabin Gulch is a broader, more "U" shaped feature with steep walled rock or talus slopes to 200m in height. Consequently, traversing within the claims is relatively easy along north-south lines, but considerably more arduous in an east - west direction. Maximum elevation within the claims is about 760m with a maximum relief of 300m approximately.

Forest cover consists of open, parklike stands of Ponderosa pine covering most of the claims area. Toward the lower, southern end of the KAT claims, conifers give way to open areas of grass and sagebrush.

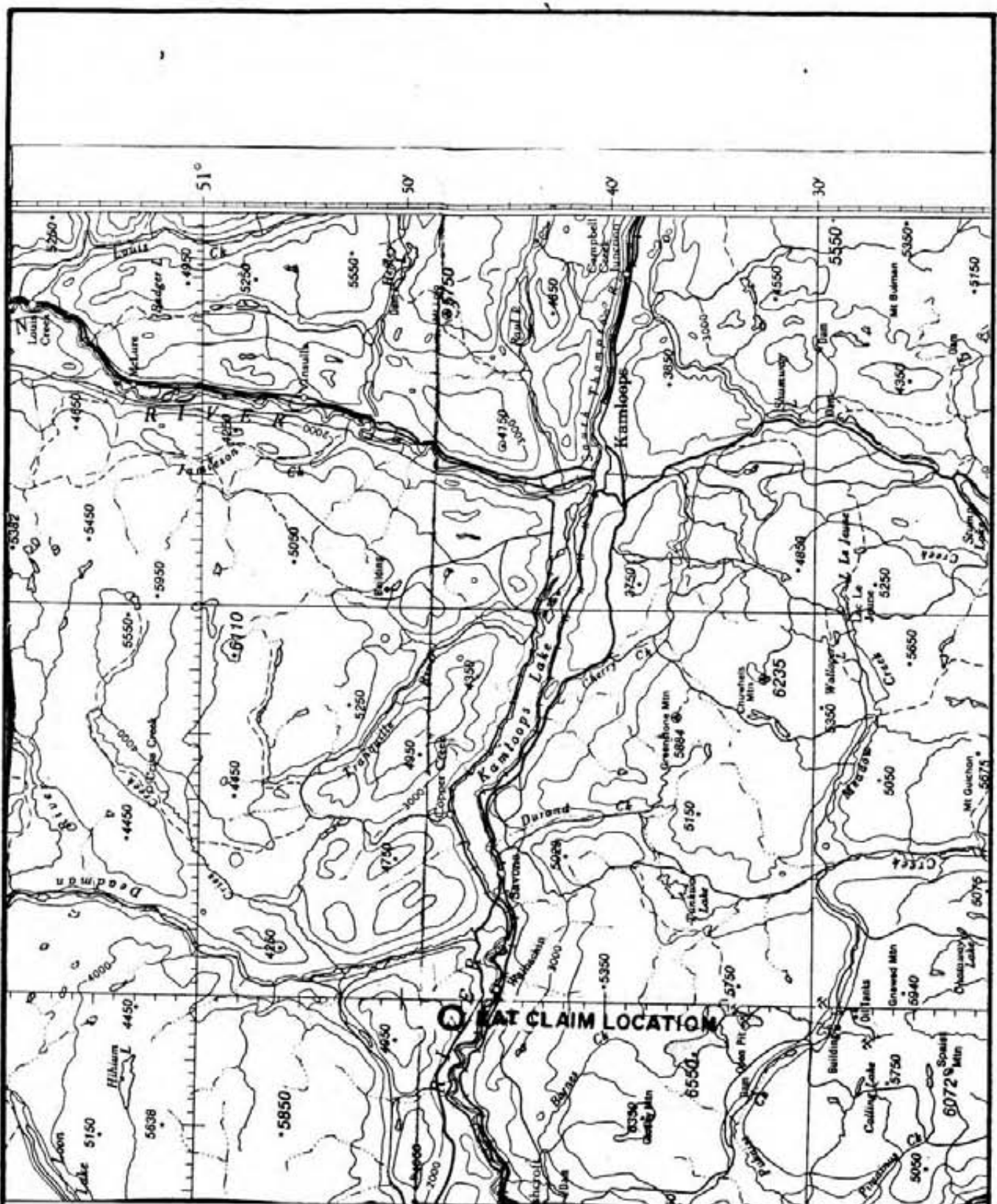


PLATE NO. 1		
KAT GROUP KAMLOOPS N.D. 981/14E		
LOCATION MAP		
J.D.M.	1:800000	88-12-18

Water supply throughout the area is meagre but Cabin Gulch contains a low dam at about the 760m elevation that had backed up a small pool at the time of the most recent work. The source is presumed to be a spring described by previous workers, and reported to be the only local water supply suitable for diamond drilling. Cabin Gulch and the tributaries described above probably carry a good flow of water for a short period during spring runoff.

Between the claim group and the Trans Canada Highway the better, flatter land is utilized for hay production using spray irrigation supplied from the Thompson River. The claim group itself, and surrounding areas at equal or higher elevations appear suitable only for pasturage.

Geologically, the KAT claims are located in a small window of Triassic Nicola Group volcanics intruded by a northwest trending granitic apophysis from the northern most end of the Guichon Batholith of Jurassic age. Small granitic plugs described as Copper Creek intrusions of probable Cretaceous age also occur near the claim area. The older rocks have been exposed by erosion along the Thompson River valley that has removed the overlying cap of Tertiary basalts covering extensive areas both sides of the river.

Structurally, the subject area is located near the south end of the Intermontane Belt. This structural province is host to most of the important porphyry copper deposits of B.C., including the Highland Valley.

Purposes of current work was to determine mineralization trends within the claim group and delineate areas of potential economic importance. The VLF electromagnetic method was chosen for applicability, speed and economy. Results of the survey constitute the subject of this report.

SUMMARY AND CONCLUSIONS

The KAT claims and surrounding area has been explored sporadically for at least 30 years that in successive periods received interest as a zinc prospect, a uranium prospect and a copper prospect. The presence of significant values in copper, zinc and silver has been proven and under current conditions the latter two metals have most economic appeal. Reported high grade zinc values warrant particular attention.

The current VLF survey has outlined two fairly strong conductors that most likely represent bedrock mineralization. Indicated anomaly widths are compatible with mineralized widths reportedly cut by previous diamond drilling. These anomalies are considered to represent pyrite-chalcopyrite mineralization since sphaterite itself is non conductive. Nevertheless, important zinc mineralization may also be present. Both anomalies are

open to the north and probably continue beyond the present property boundary.

The best, and certainly the cheapest method of proving the VLF anomalies represent economic mineralization would be a careful surface examination when the area is snow free. With the amount of bedrock exposed naturally and by trenching the chances are good of finding outcrop within the anomalous zones that will permit an immediate assessment of the economic potential.

To date it appears that geochemical and magnetic methods have been of little help in making an economic evaluation of the property. The VLF electromagnetic system appears fairly effective and is favoured in future work. Other electromagnetic systems may work as well or better but survey cost would be increased.

RECOMMENDATIONS

1. Since VLF anomalies A and B appear to trend off the property to the north and a high grade zinc showing up to two metres

wide is reported off the property to the south, some immediate consideration should be given to adding to the present claim group in these directions.

2. When the area is snow free look for outcrops within anomalies A and B that can be sampled and assayed.
3. Assuming encouragement is provided by recommendation 2, then a more comprehensive VLF survey is suggested. In any event sufficient additional VLF work should be done to close off anomalies A and B to the north.

HISTORY

Recorded history of the property goes back to at least 1944 and is described in G.S.C. Memoir 262 pp. 107, 108 published in 1951. The authors, Duffell and McTaggart list the property, known as the Fairview Group, under "Zinc Deposits" and describe a 10 ft. long pit "just west of the highway" containing "3 feet of massive sphalerite on the footwall, about 2 feet of barren material in the centre, and 2 feet of well mineralized stringers on the hanging wall." It is concluded that this showing lies outside the KAT group boundary. Two open cuts 3000 and 3500 feet north northwest of the above pit are mentioned briefly as containing lensy sphalerite, chalcopryrite and pyrite mineralization up to 8 inches wide and 12 inches long within a 3 foot silicified zone. These two showings should fall within the

central portion of the subject claim group. In addition to surface trenching it is reported here that diamond drilling carried out prior to 1944 did not cut ore grade mineralization. Owners, and presumably operators, are listed as Lester Starnes of Ashcroft and J.W. Oakes, Calgary.

According to Stadnyk (see Bibliography) the property lapsed and was restaked in 1955 by Ashdown and Winters.

In 1958 a reconnaissance geiger survey was run by the B.C. Department of Mines but results are not known. Apparently some spotty radioactivity occurs associated with magnetite, but no significant uranium assays have been recorded.

A geochemical survey described by Stadnyk as "of questionable value" was done in 1961. No results have been found.

In 1967 bulldozer trenching was carried out under the direction of Stadnyk who reports exposing "a larger area of sulphides with copper values ranging from .20 to .40%; silver .10 to .40 ounces per ton; zinc to 1.00% and traces of gold."

Cache Creek Copper Mines Ltd. optioned the property in 1970 and reportedly drilled seven or eight holes totaling over 2000 ft. Stadnyk states this work was poorly organized but he lists the following results

which he terms "of dubious value."

<u>Hole</u>	<u>Footage</u>	<u>Cu %</u>	<u>Zn%</u>	<u>Ag(oz/ton)</u>
#2	40-240(?)	0.25	-	0.40
#3	100-115	0.41	4.2	0.10
#3	0-200	0.23	-	0.30
#4	0-140	0.81	-	0.006
#7	0-63	0.25	-	--

Apparently the optionor failed to file this work for assessment and the key A & H claims came open and were subsequently restaked as the P & L claims by L. Ovington in 1971.

In 1972 Kenting Earth Sciences conducted a reconnaissance I.P. survey consisting of two lines 400 ft. apart totaling 10,400 ft. in length. The location map from Assessment Report 3691 indicates the survey area to be east of the south trending gully about 0.5 km east of the east boundary of the KAT claims. This work, therefore, cannot be correlated with the present survey.

In 1972 the subject property was optioned to Northland Mines Ltd. (N.P.L.) and a fluxgate magnetometer survey carried out by M.P. Stadnyk as described in Assessment Report 4718 dated May 1973. Again the main claims were permitted to expire and subsequently staked, together with a large block of surrounding ground by The Quinto Mining Corporation.

In 1977 a comprehensive geological, geochemical, magnetometer survey was conducted by A. Gruenwald of Kerr-Dawson & Associates Ltd., as detailed in Assessment Report 6527. This covered a large area, including what is now the KAT claims.

On December 17, 1982, the Quinto claim, Record No. 660(12) was partially overstaked by the KAT claims located by Richard Carey. Ownership rights were applied for under Section 50 (1) (b) of the B.C. Mineral Act. The final outcome is pending. Current work was done to fulfill the first year's assessment requirement for Mr. Carey.

In summary, previous exploration work on the KAT claims and surrounding area has included two magnetometer surveys, two soil geochemical surveys, a reconnaissance I.P. survey, a geiger survey, geological mapping, at least 600m of diamond drilling plus numerous bulldozer trenches and rock cuts. No electromagnetic work is reported.

FIELD PROCEDURES

A brief examination of the claim area was made first for the purpose of orientation and locating surface features (pits, trenches, etc.) relative to the claims limits. Little rock exposure was seen due to snow cover.

A baseline 400m in length was established with an orientation of N-30-W to parallel the contact of the Guichon Batholith with Nicola volcanic rocks. The start point on the baseline (10 + 00-E, 10+00-N) coincides with the initial posts of claims KAT 5 and 6. Five crosslines were run perpendicular to the 10-E baseline at spacings of 50 to 100m and totaling 2,700m in length. Numbered pickets were set every 25m. Compass and hip chain were used for control. The grid thus established covered what are considered to be the Main Zone and East Zone showings, (Plate No. 2A) and as much ground as possible between these showings and the projected Guichon contact.

Each line was subsequently read with a Ronka EM-16 receiver tuned to the 18.6 kHz frequency of transmitter NKL near Seattle, Washington. Each station was read with the instrument at a constant orientation relative to the transmitter. The receiver was then tilted in a vertical plane perpendicular to transmitter direction and the quadrature adjusted to obtain a null in the earphone. Dip angle and quadrature component at the null point were then recorded in per cent. Nulls were found relatively sharp, usually not more than 4 to 6% in width and it was frequently possible to read dip angles to the closest 0.5%.

Results were first plotted in profile (Plate No. 4A) to determine crossover points. Dip angle measurements were then filtered using the Fraser algorithm. Filtered data was then plotted and contoured as illustrated by Plate No. 3A.

DISCUSSION OF RESULTS

Strong crossovers on lines 11-N, 12-N and 13-N with positive dip angles to 50%, indicate a relatively strong conductor 250m in strike length, open at both ends and striking close to true north-south. Call this Anomaly A.

A second, weaker conductor is indicated by crossovers with positive dip angles to 43% on lines 11-N and 12-N. This feature has an indicated length of 105m and is open to the north. The trend of this conductor is 20° west of north. Call this anomaly B.

Profiled results and the interpreted conductors described above are supported by the contoured plan of filtered data (Plate 3A). Anomaly A is bounded by the 20 contour and contains values to 108. The anomaly appears closed to the south but open to the north. Indicated width varies from 50 to 70m.

Anomaly B in plan is also bounded by the 20 contour and is also closed to the south and open to the north. Anomaly width varies from 20 to 70m.

The strikes of both anomalies as determined by profile and contoured data appear to correspond very well.

The contour plan indicates the possibility of a third conductive zone at 11-N/10-E. This could be confirmed by extending lines 10-N and 10+50-N to the west. Other cross lines should also be extended or added but the time available did not permit additional work.

Plots of the VLF survey data was prepared on transparencies to permit comparison of current results with geochemical and magnetic work done previously by others. A simplified geological plan of the property was also made on a transparency. The three pairs of maps thus prepared permit the direct comparison of geology with magnetics (Plates 2 and 2A), contoured VLF data with copper geochemistry (Plates 3 and 3A) and VLF data in profile form with zinc geochemistry (Plates 4 and 4A).

Little correlation is seen between VLF anomalies and geochemistry. Anomalous copper values do flank Anomaly B. This could reflect mineral zoning with more massive but barren sulphides underlying the VLF anomaly with a parallel band of disseminated copper represented by the geochemical anomaly.

There is no apparent correlation between anomalous zinc geochemistry and either VLF anomaly. In any case little importance is attached to the zinc anomaly shown since it depends entirely on one sample result.

No correlation can be seen between magnetics and VLF results. Very little can be determined by comparison of geology with magnetics, aside from predictably high values over the basaltic Kamloops volcanics.

ECONOMIC CONSIDERATIONS

The KAT claims area show definite potential for hosting important zinc-silver-copper mineralization. The prospect is ideally situated as regards proximity to rail and road transportation. A high voltage power line passes within a kilometre of the claim boundary. The communities of Savona, Cache Creek and Kamloops are all within commuting distance. The latter provides most of the amenities of a larger centre including scheduled air transportation throughout the country.

Lack of water is a definite problem on the property but the Thompson River is within 2.5 kilometres straight line distance. The lack of fishing streams in the property area and the fact that no cultivated land is contained by the current claim boundaries, are an advantage from an ecological point of view.

Proximity of the Afton mill and copper smelter could be of considerable economic benefit.

STATEMENT OF COSTS

The following costs were incurred on the KAT claims during the course of a VLF survey and subsequent report preparations. Field work was done during the period 1983-12-10 to 12. Drafting and report preparation was completed from 83-12-13 to 17. All work was by Jay D. Murphy, P. Eng.

FIELDWORK

3.1 km grid preparation @ \$100	\$310.00	
2.7 km Ronka EM-16 survey @ \$75	202.50	
1 day Ronka EM-16 @ \$20	<u>20.00</u>	
Total Fieldwork	\$532.50	\$ 532.50

TRANSPORTATION

3 days 4x4 rental @ \$25	\$ 75.00	
434 km travel @ \$.20	<u>86.80</u>	
Total Transportation	\$ 161.80	161.80

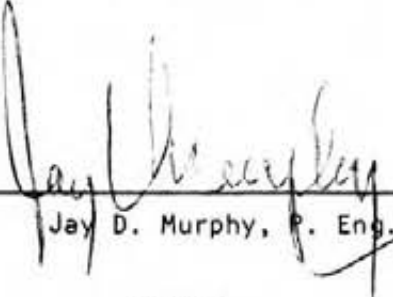
REPORT PREPARATION

3 days drafting & reporting @ \$350	\$1050.00	
16 pages typing @ \$3.50	56.00	
18 transparent photocopies @ \$1.00	18.00	
64 bond photocopies @ \$.20	<u>12.80</u>	
Total Report Preparation	\$1136.80	<u>1136.80</u>
TOTAL COSTS		<u>\$1831.10</u>

STATEMENT OF QUALIFICATIONS

I, Jay D. Murphy, hereby certify:

1. That I am a Consulting Geological Engineer, resident at 1335 Todd Road, Kamloops, B.C.
2. That I am a graduate from the University of Manitoba (1954) with a B. Sc. in Geological Engineering.
3. That I have practiced my profession continuously since graduation.
4. That I am a member of the Association of Professional Engineers of British Columbia and Ontario.
5. That the information contained in this report is based on a personal examination of the subject property.
6. That I have no financial interest in the subject property.

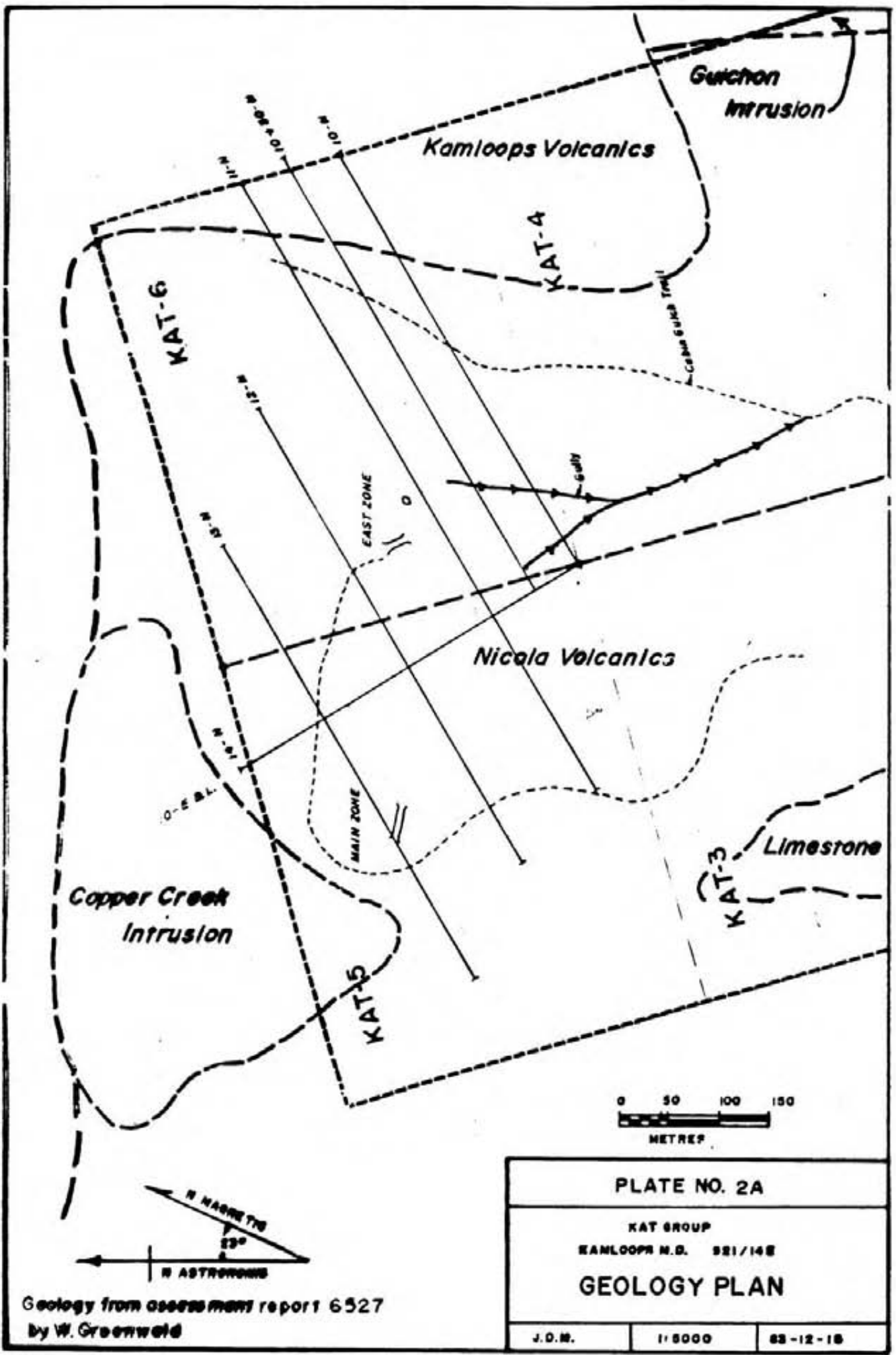


Jay D. Murphy, P. Eng.

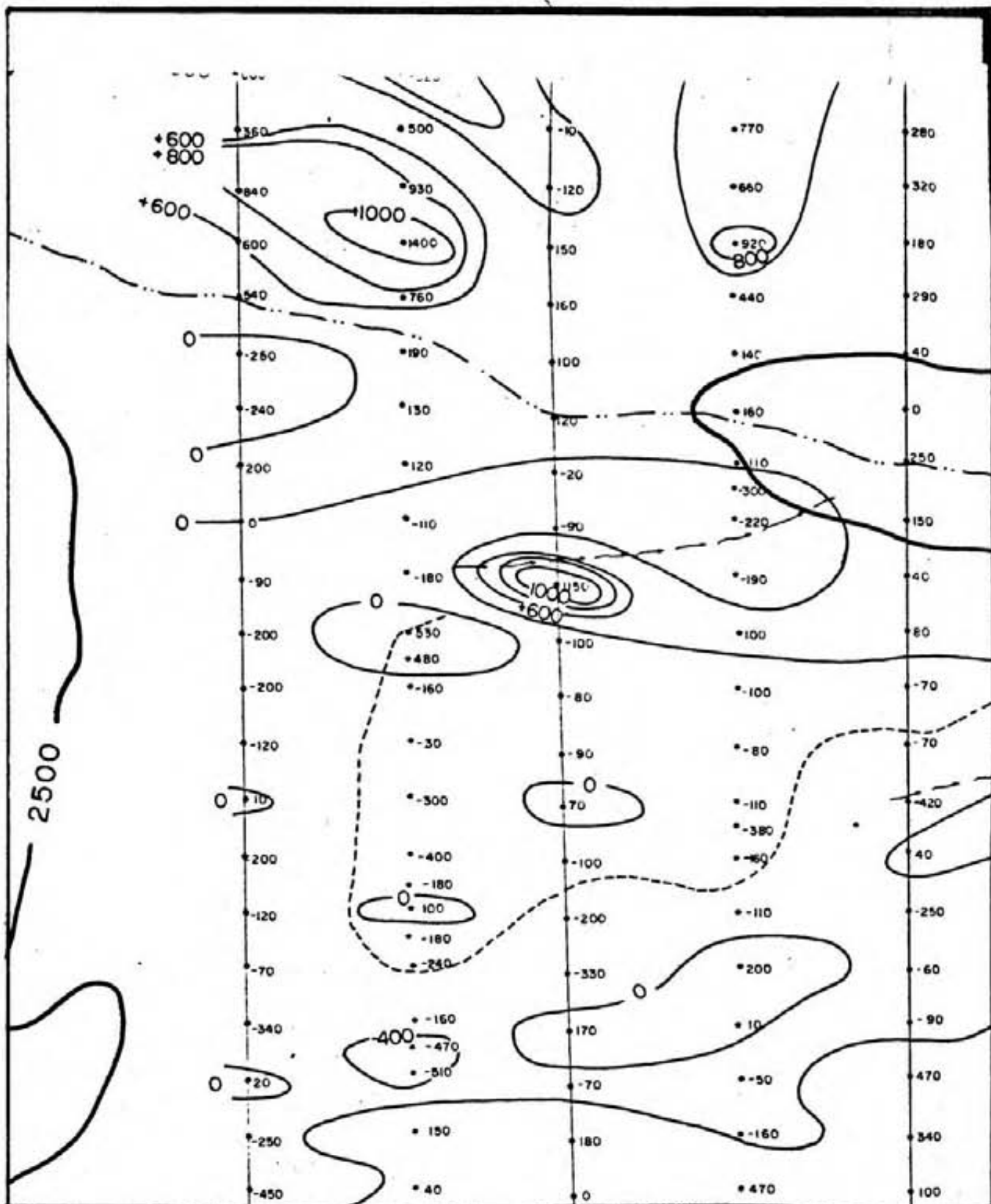


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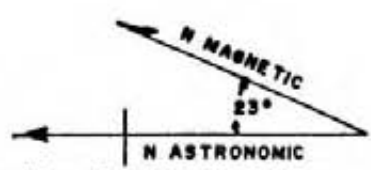
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Geology from assessment report 6527
 by W. Greenwald

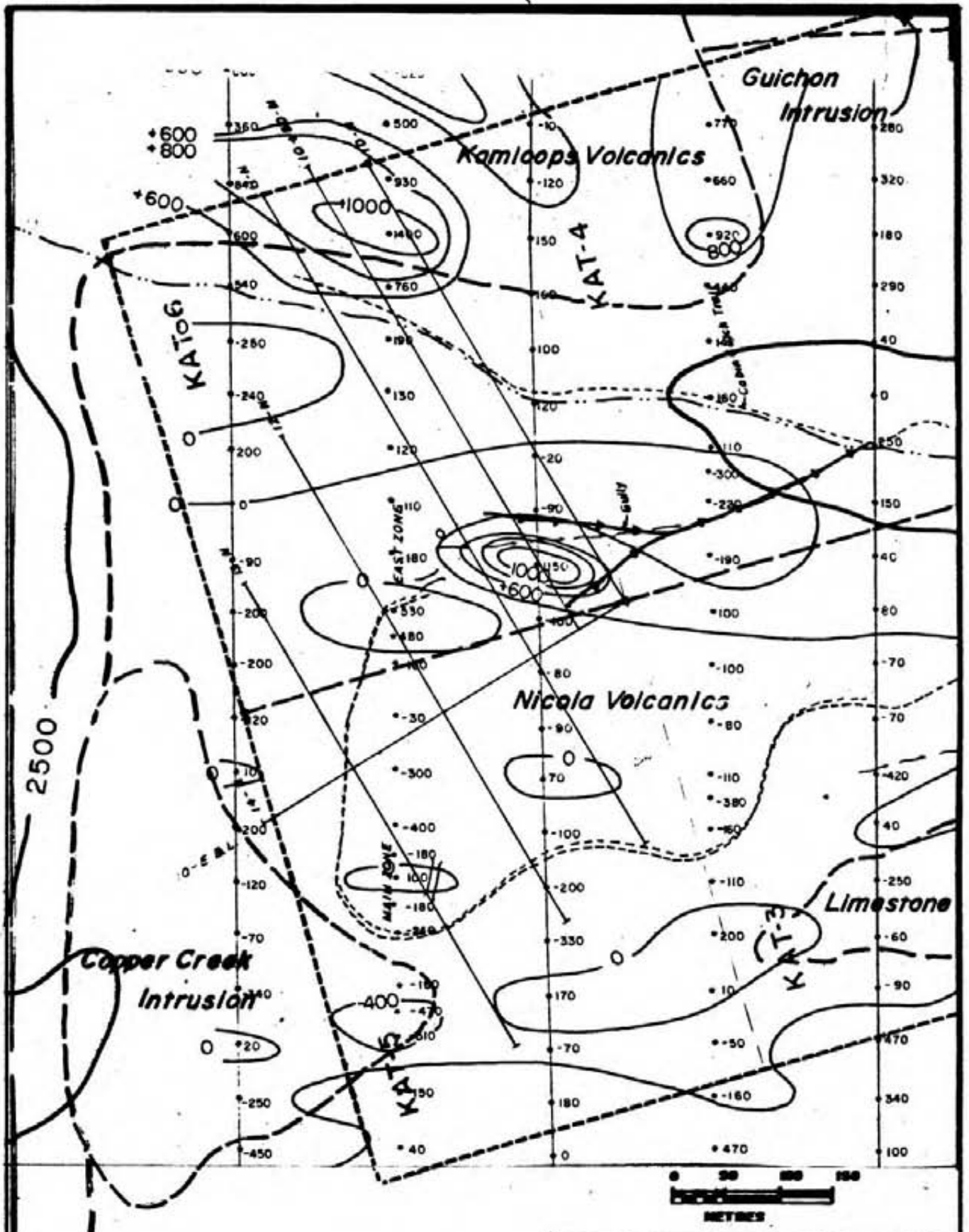


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Magnetic data from Assessment Report 6527 by W. Gruenwald.

PLATE NO. 2		
KAT GROUP		
KANLOOPS N.D. 921/14E		
MAGNETICS		
J.D.M.	1:8000	83-12-18



Magnetic data from Assessment Report
 6527 by W. Greenwald.
 by W. Greenwald

PLATE NO. 2A		
KAT GROUP KAMLOOPS N.B. 021/142		
GEOLOGY PLAN MAGNETICS		
D.M.	1/5000	02-12-10

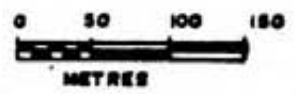
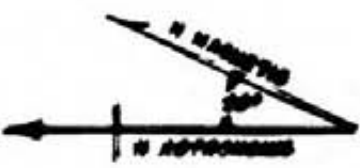
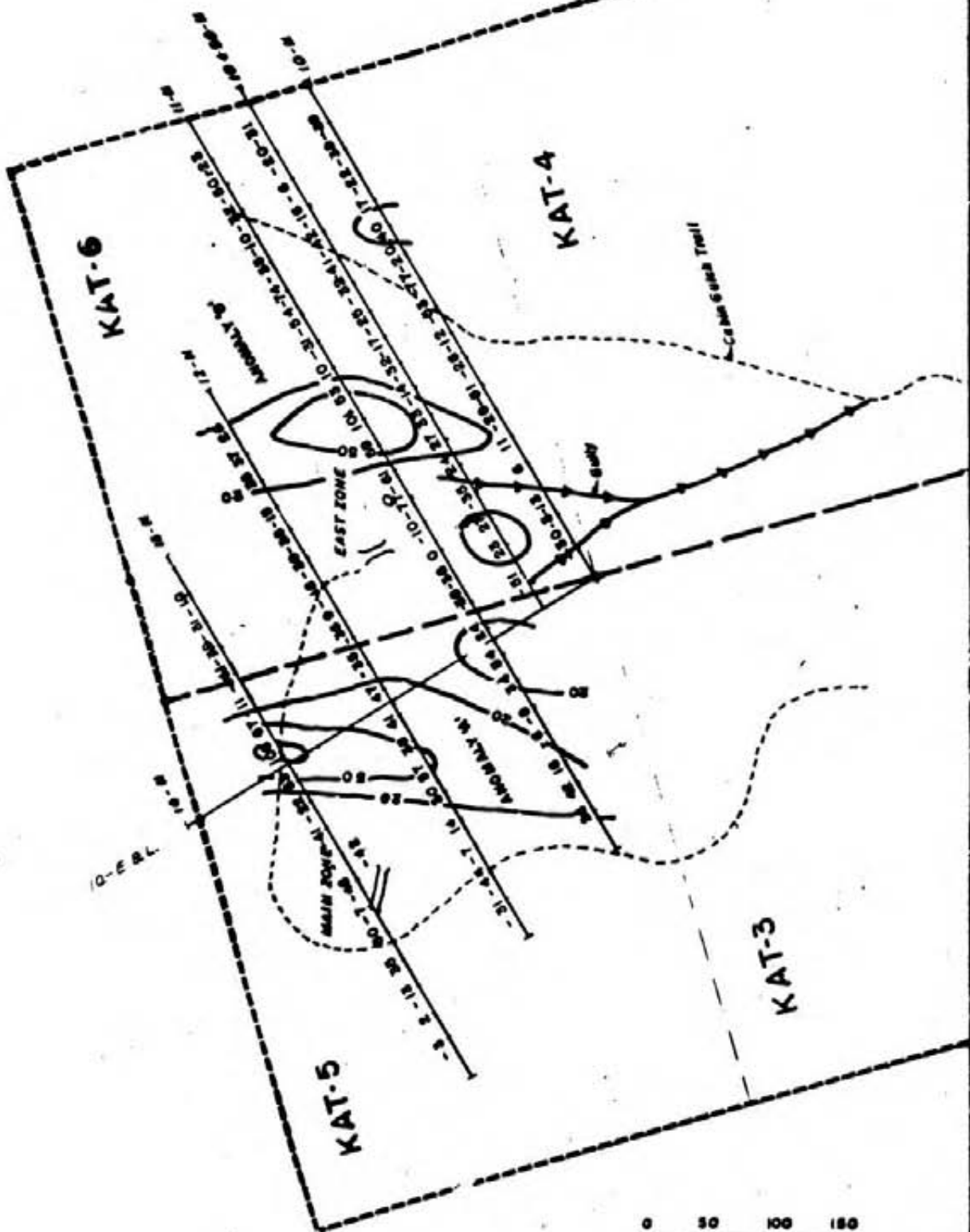
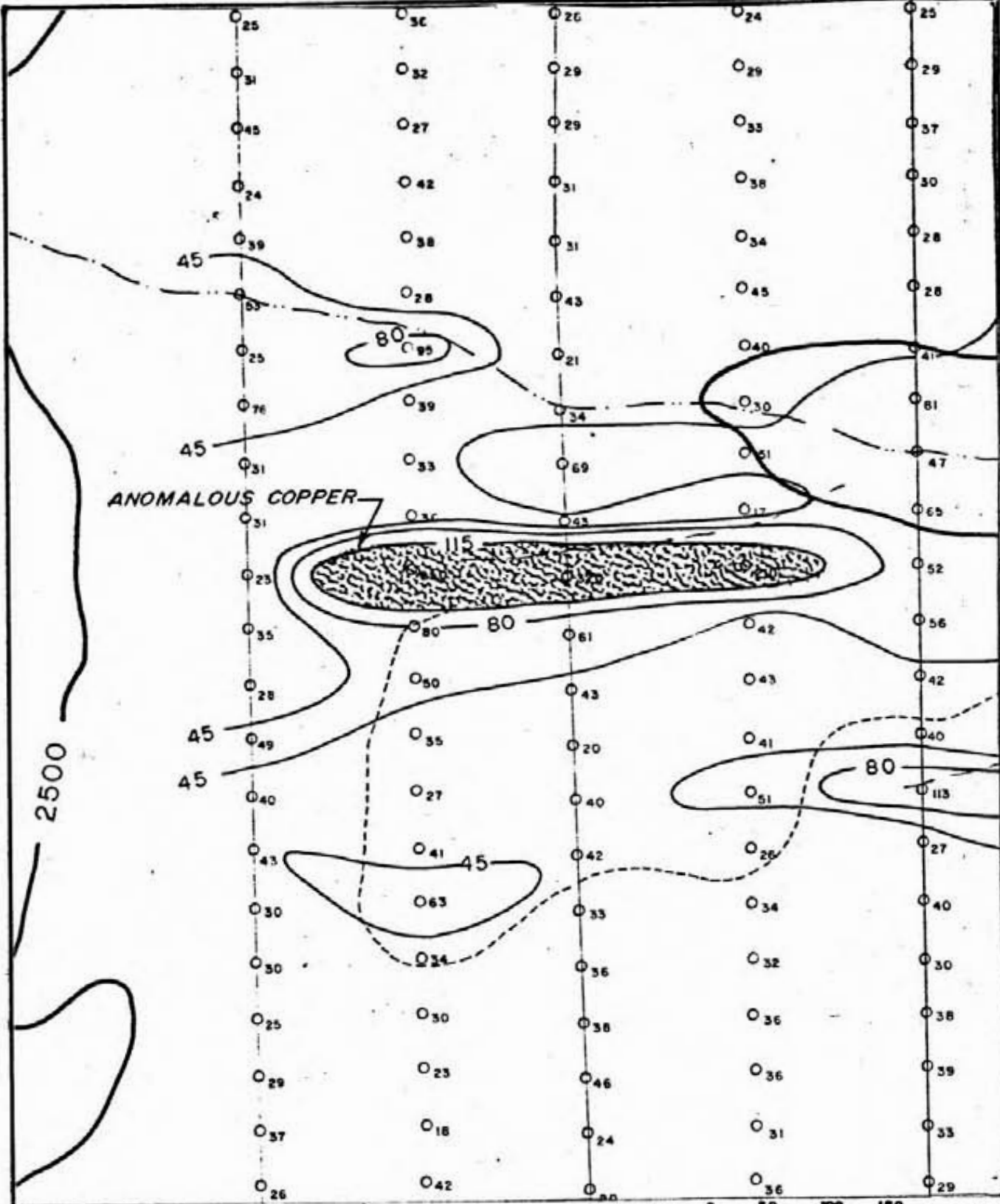


PLATE NO. 3A

KAT GROUP
 KANLOOPS M.D. 981/14P
CONTOURS OF FILTERED DATA
ROMKA EM-16 SURVEY

J.R.M.	1:5000	88-12-18
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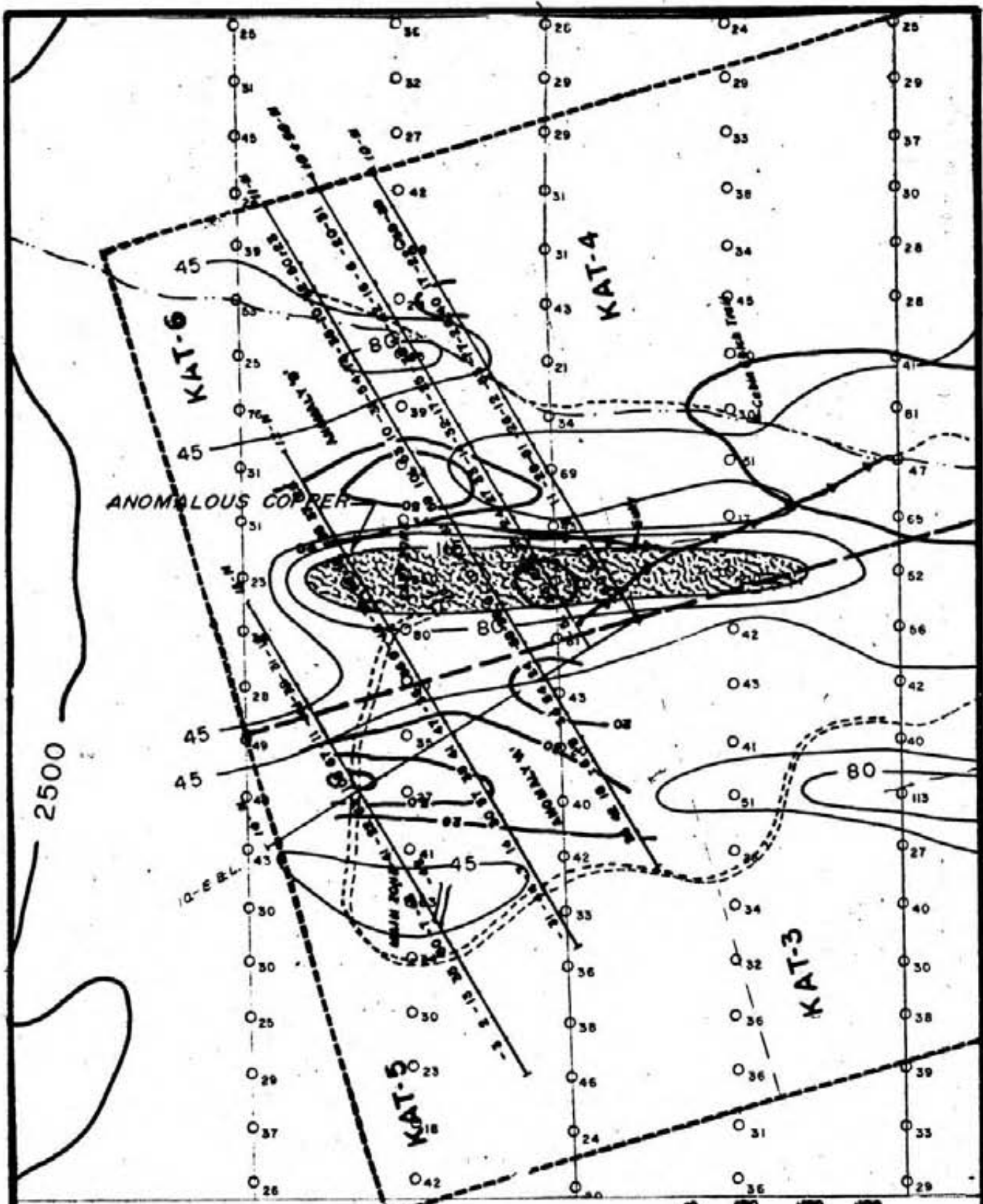
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Geochem data from Assessment Report
6527 by W. Gruenwald

PLATE NO. 3		
KAT GROUP		
KANLOOPS N.D. 921/14E		
COPPER GEOCHEMISTRY		
J.D.M.	1:8000	83-12-18



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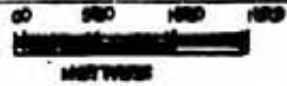
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KAT-6

KAT-4

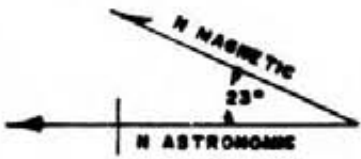
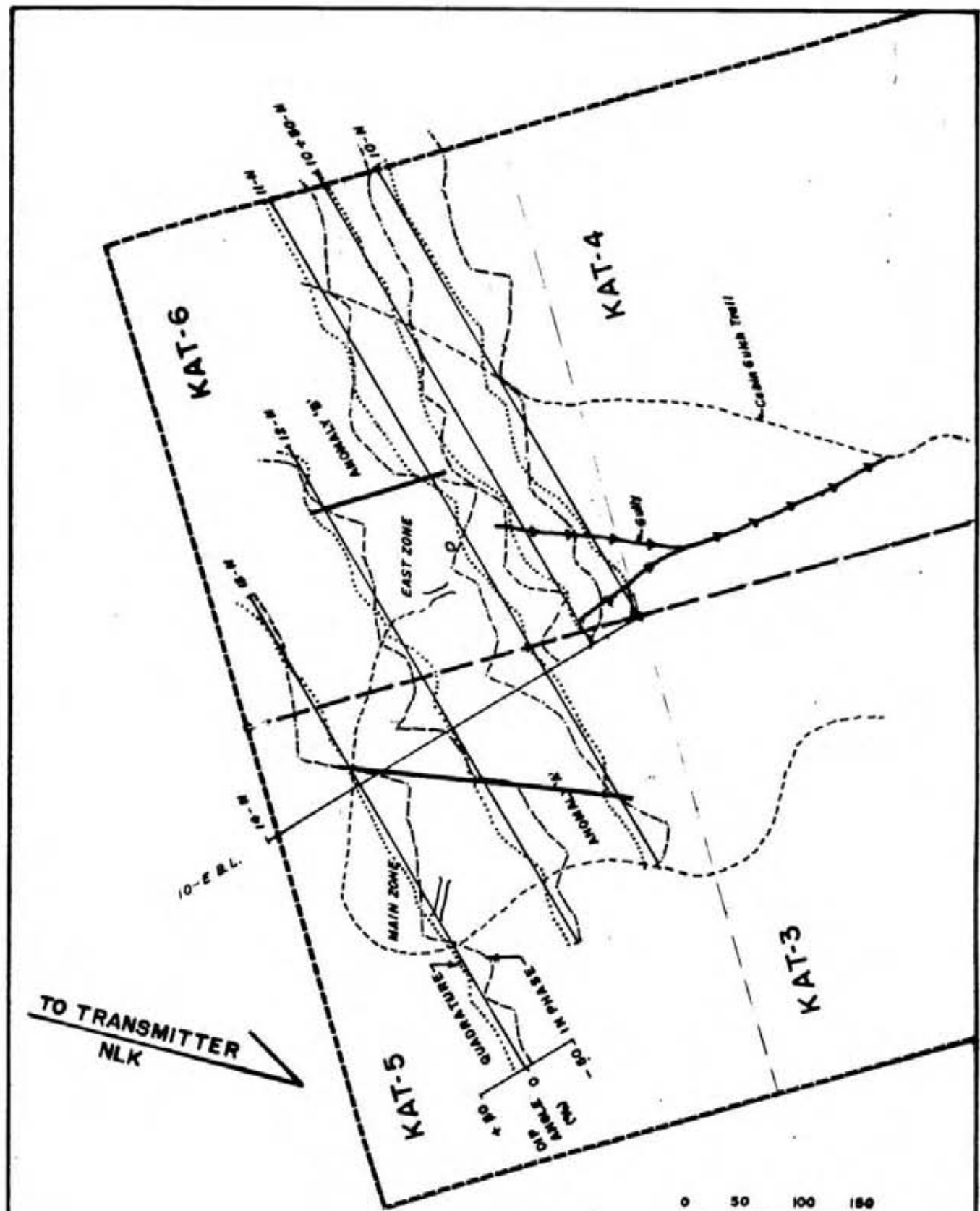
KAT-3

KAT-5

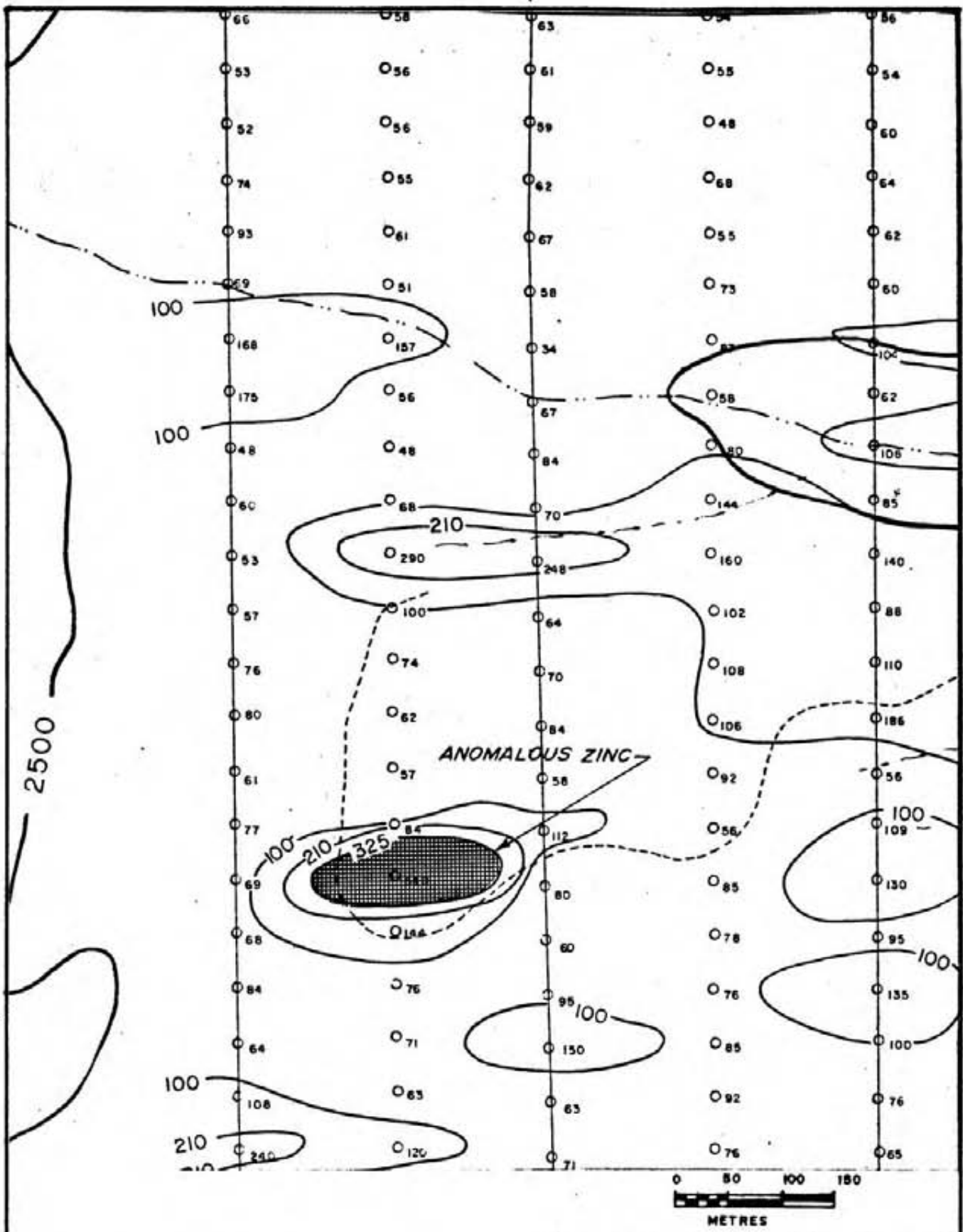


Geochem data from Assessment Report 6527 by W. Gruenwald

PLATE NO. 3A		
MATT GROUP		
EVALUATION. DIVISION		
CONTOURS OF FILTERED DATA		
COPPER GEOCHEMISTRY		
RONKA EM-16 SURVEY		
JH:dl	11/6/69	89-16-16

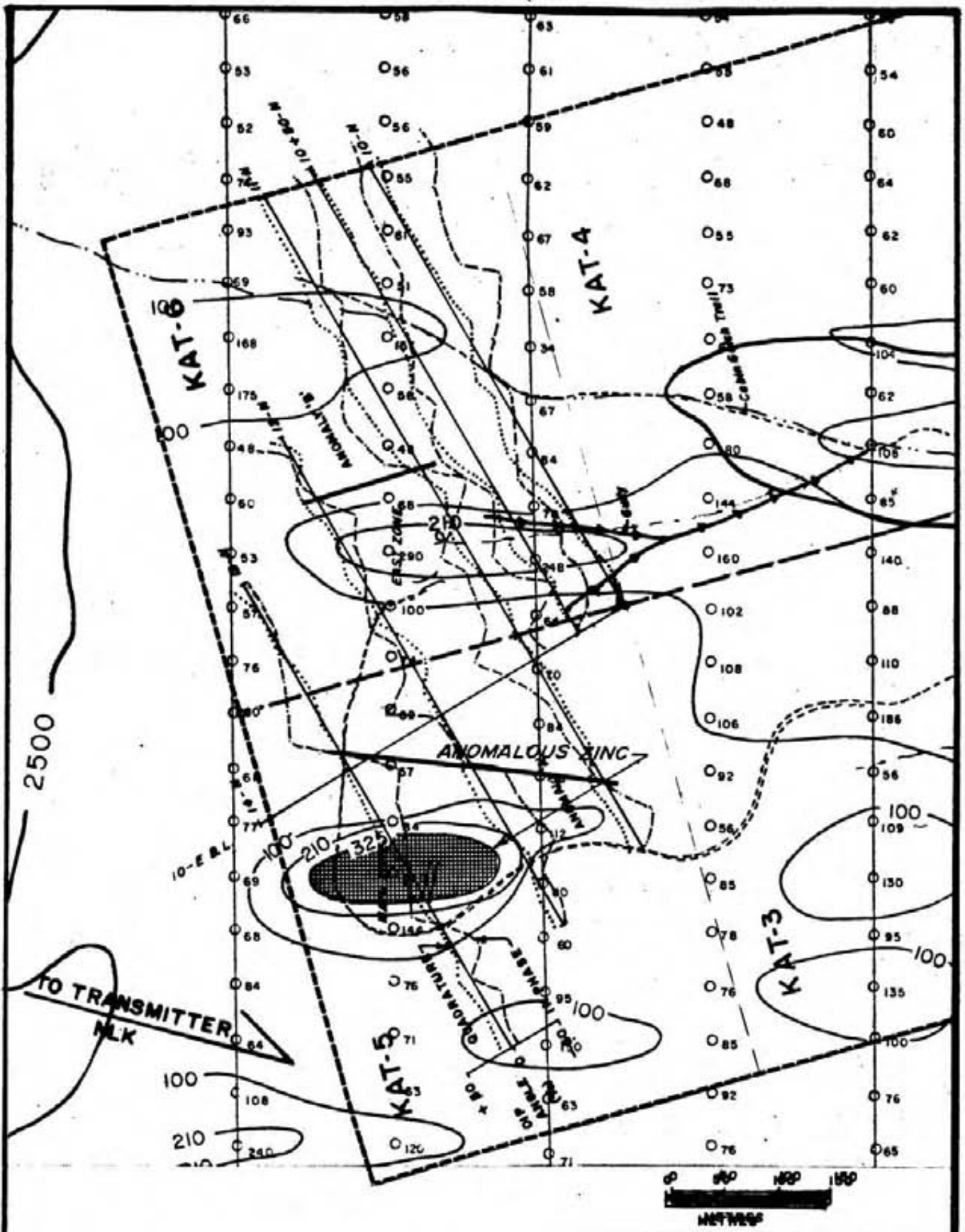


<p>PLATE NO. 4A</p>		
<p>KAT GROUP KANLOOPS N.D. 921/148 DIP ANGLE PROFILES RONKA EM-16 SURVEY</p>		
<p>J.D.M.</p>	<p>1:5000</p>	<p>65-12-18</p>



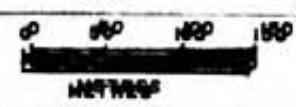
Geochem data from Assessment Report 6527 by W. Gruenwald.

PLATE NO. 4		
KAT GROUP KANLOOPS N.D. 921/14E		
ZINC GEOCHEMISTRY		
J.D.M.	1:5000	83-12-18



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TO TRANSMITTER
MLK



Geochem data from Assessment Report
6527 by W. Gruenwald.

PLATE NO. 4A		
WAT GROUP MANUOSD NO. 2A/1A/E		
DIP ANGLE PROFILES ZINC GEOCHEMISTRY		
NO. 11	110000	65-12-78