



Bergvesenet

Postboks 3021, 7002 Trondheim

Rapportarkivet

Bergvesenet rapport nr BV 2034	Intern Journal nr	Internt arkiv nr	Rapport lokalisering	Gradering Fortrolig
Kommer fra ..arkiv Sulitjelma Bergverk A/S	Ekstern rapport nr "532100007"	Oversendt fra	Fortrolig pga	Fortrolig fra dato:
Tittel Geochemical prospektering project 1982-3, final report May 1983. Geokjemi. Prospektering.				
Forfatter COOK N.		Dato 1983	Bedrift Sulitjelma Gruber A/S	
Kommune	Fylke	Bergdistrikt	1: 50 000 kartblad	1: 250 000 kartblad
Fagområde	Dokument type	Forekomster		
Råstofftype	Emneord			
Sammendrag A review of the project, with conclusions on the use of trace-element-vectors in prospecting in Sulitjelma. Analysis of 976 samples, statistics on data and interpretation. Various statistical methods are used. Tables of mean trace element contents in main rock types. Suggestions for future geochemical work. (a.rapport). 2 permer, rapport og diagrammer.				

P. & Salmela Gruber

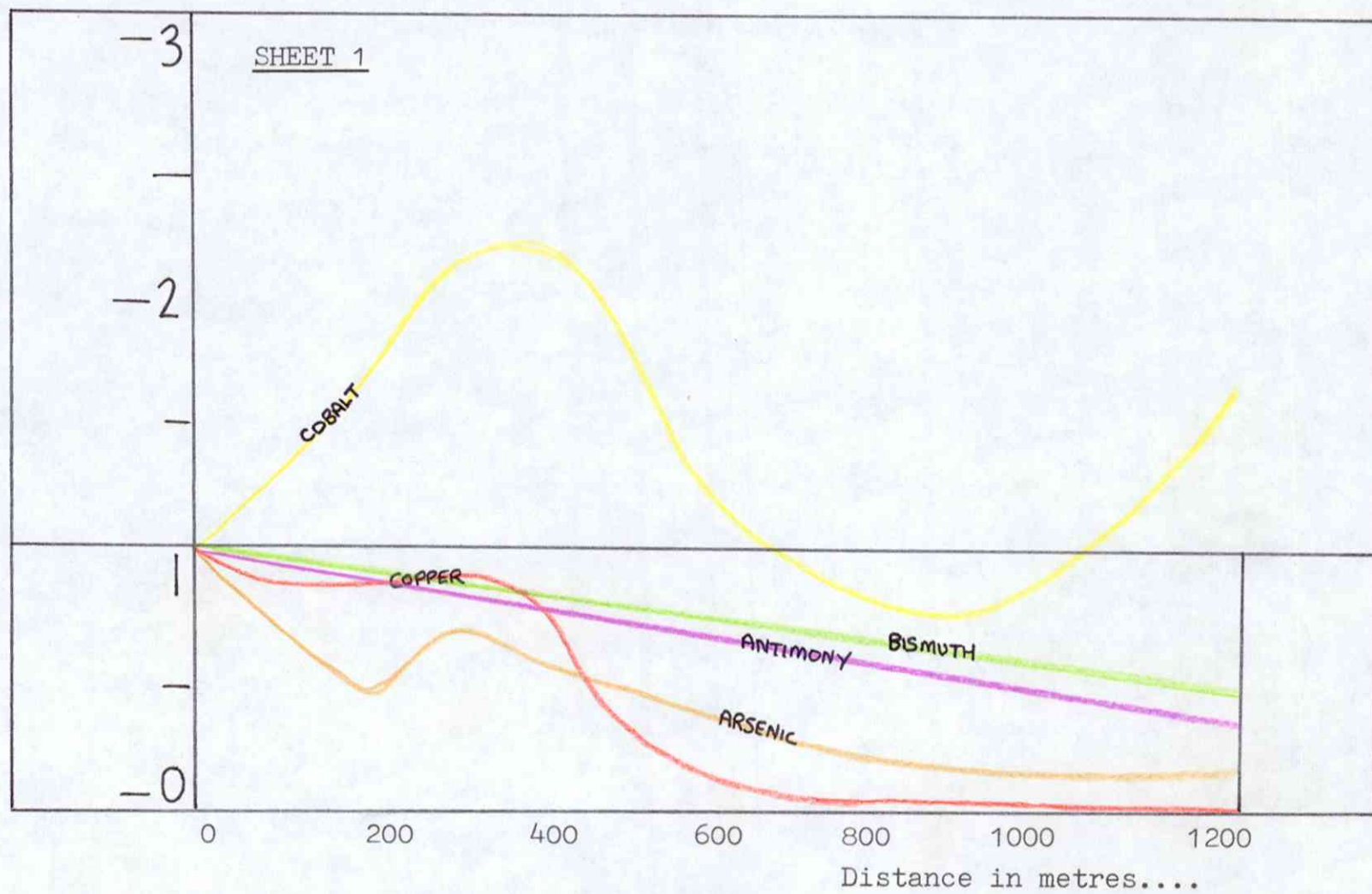
APPENDIX II

Test halos...behaviour of the trace elements
(and multi-element vectors) away from the
ore body along the ore zone.

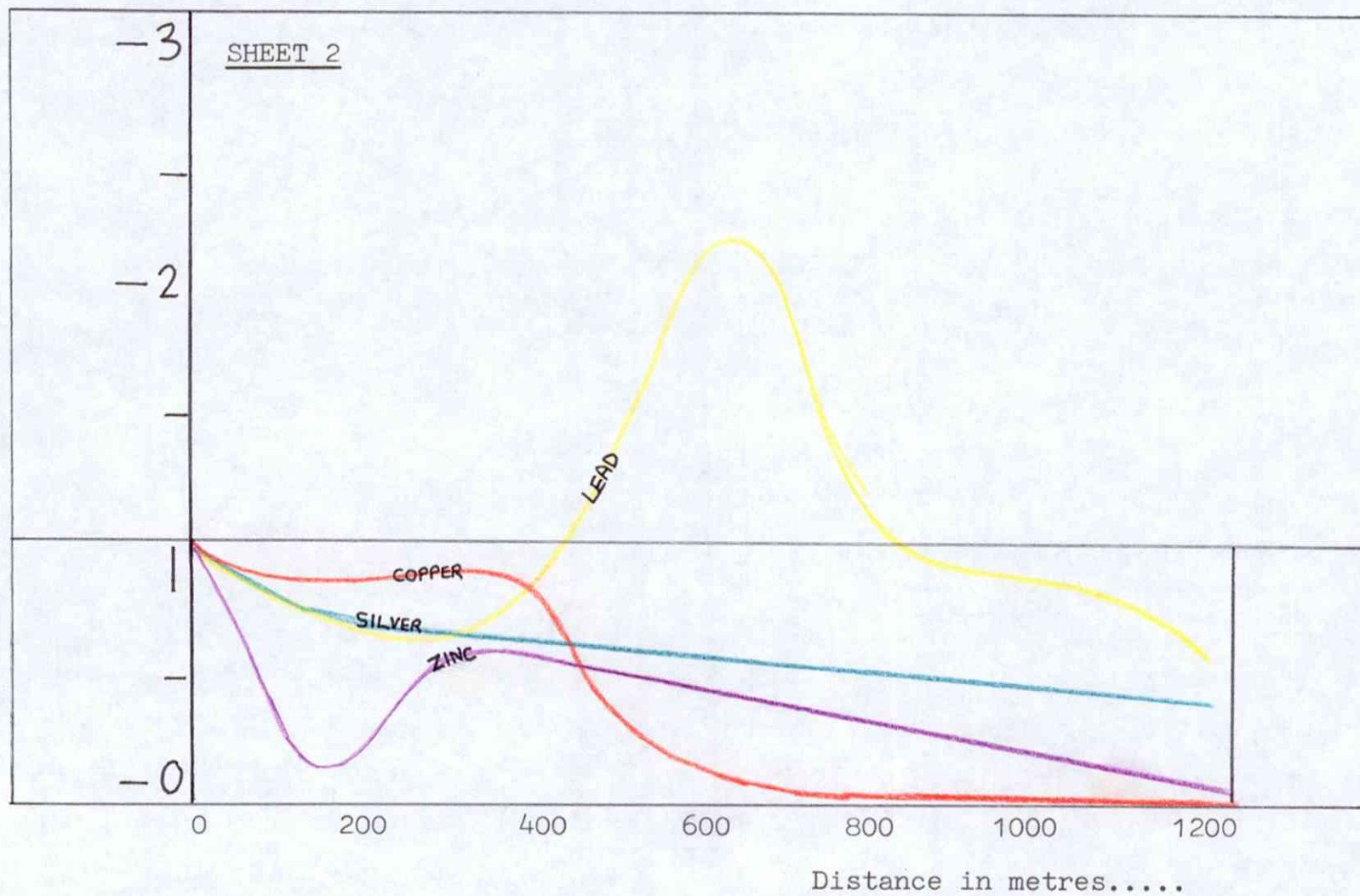
Sheets 1 to 21

Refer to pages 35-36 of text and sample locations.

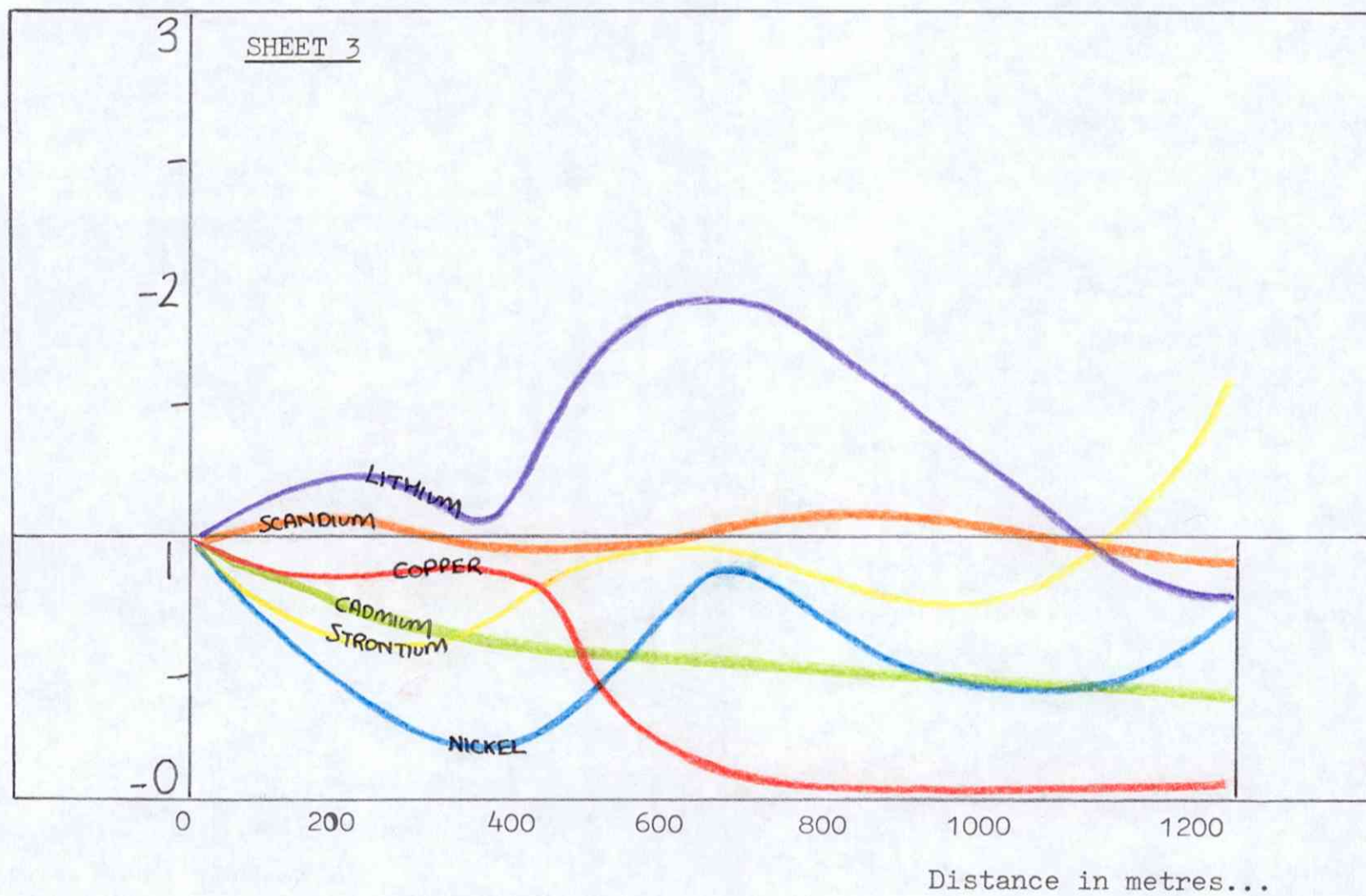
****N.B. These are SMOOTHED curves ****



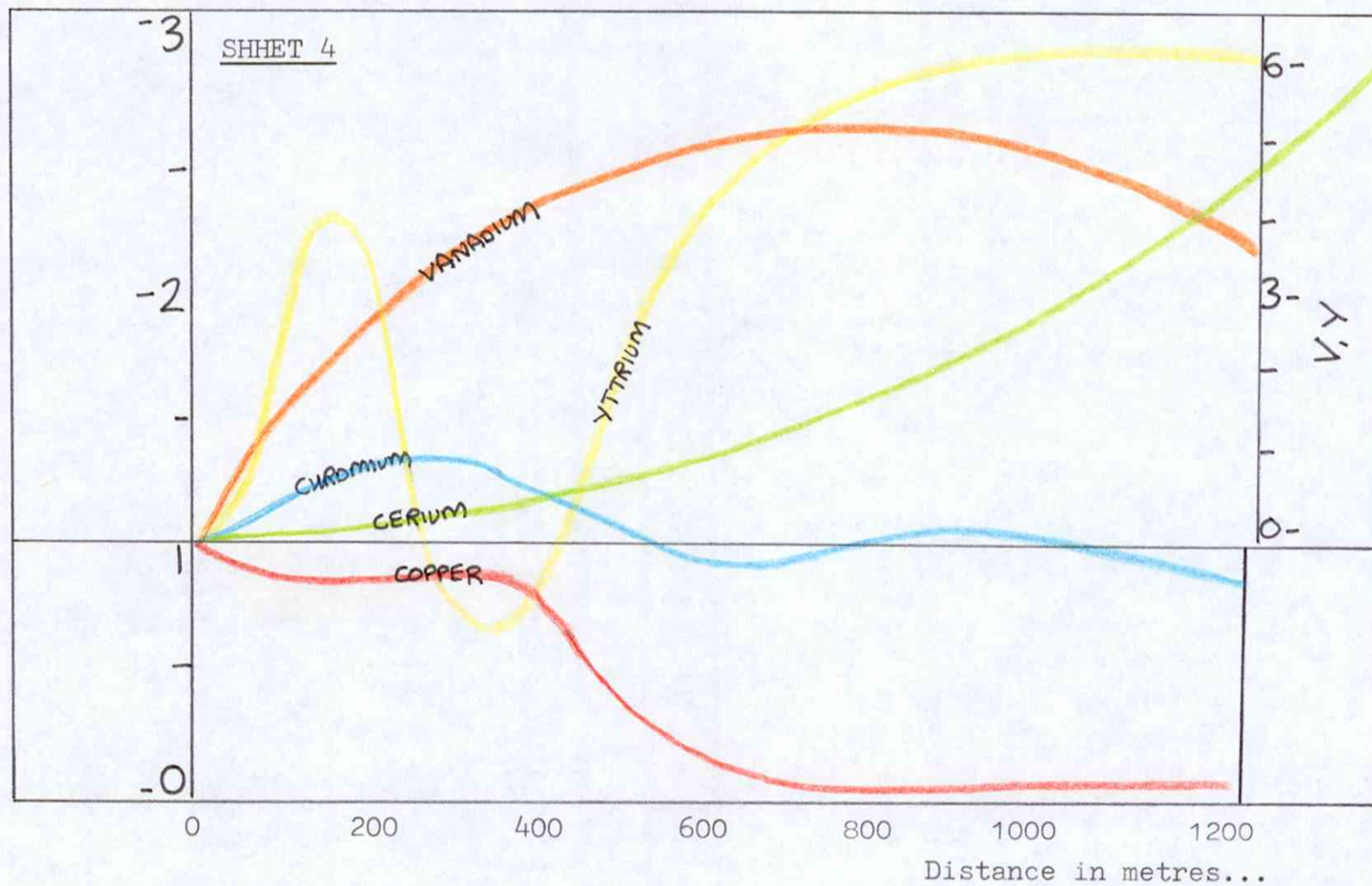
Co, Bi, Sb, As and Cu contents of the ore zone rocks



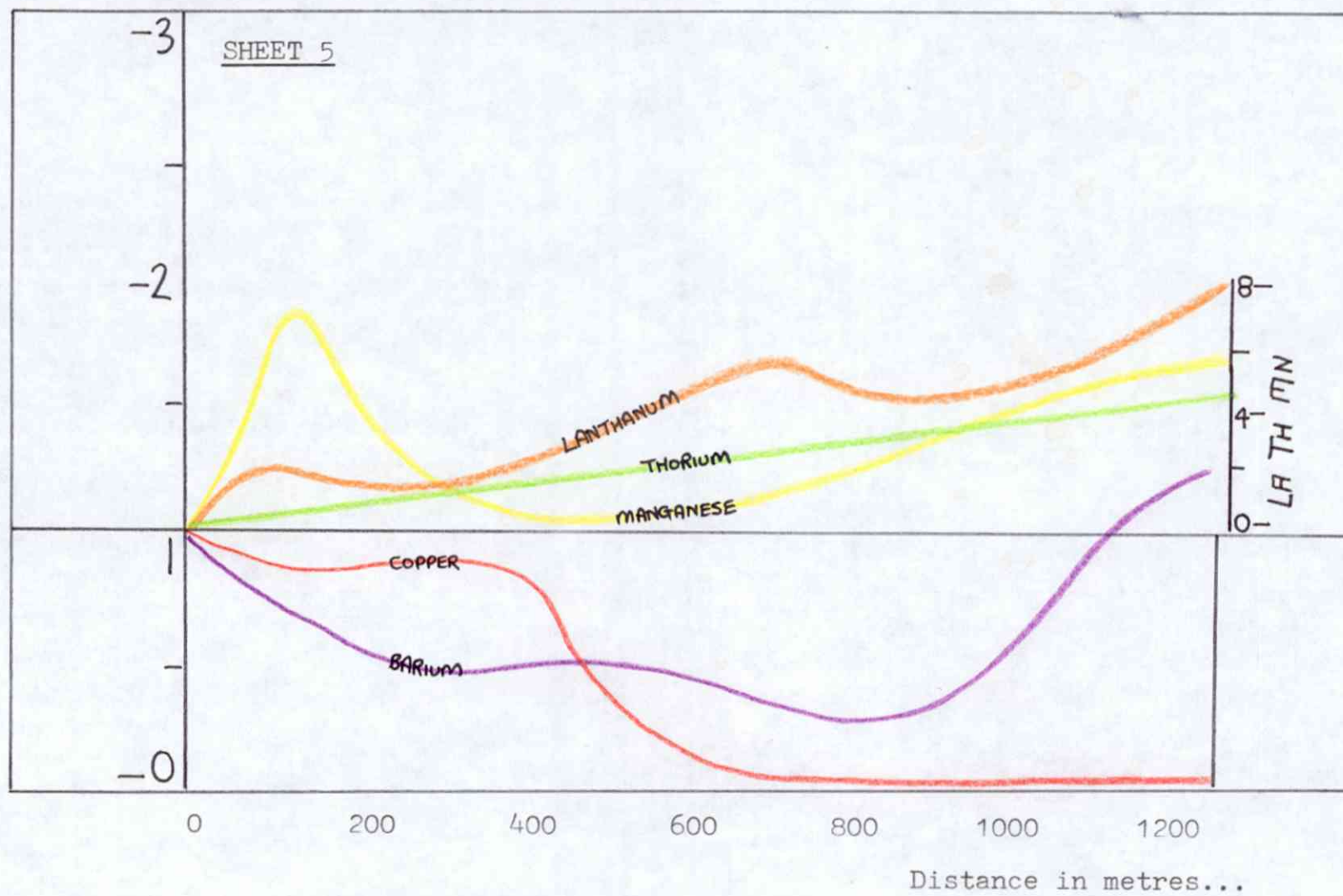
Pb, Cu, Ag and Zn contents of the ore zone rocks



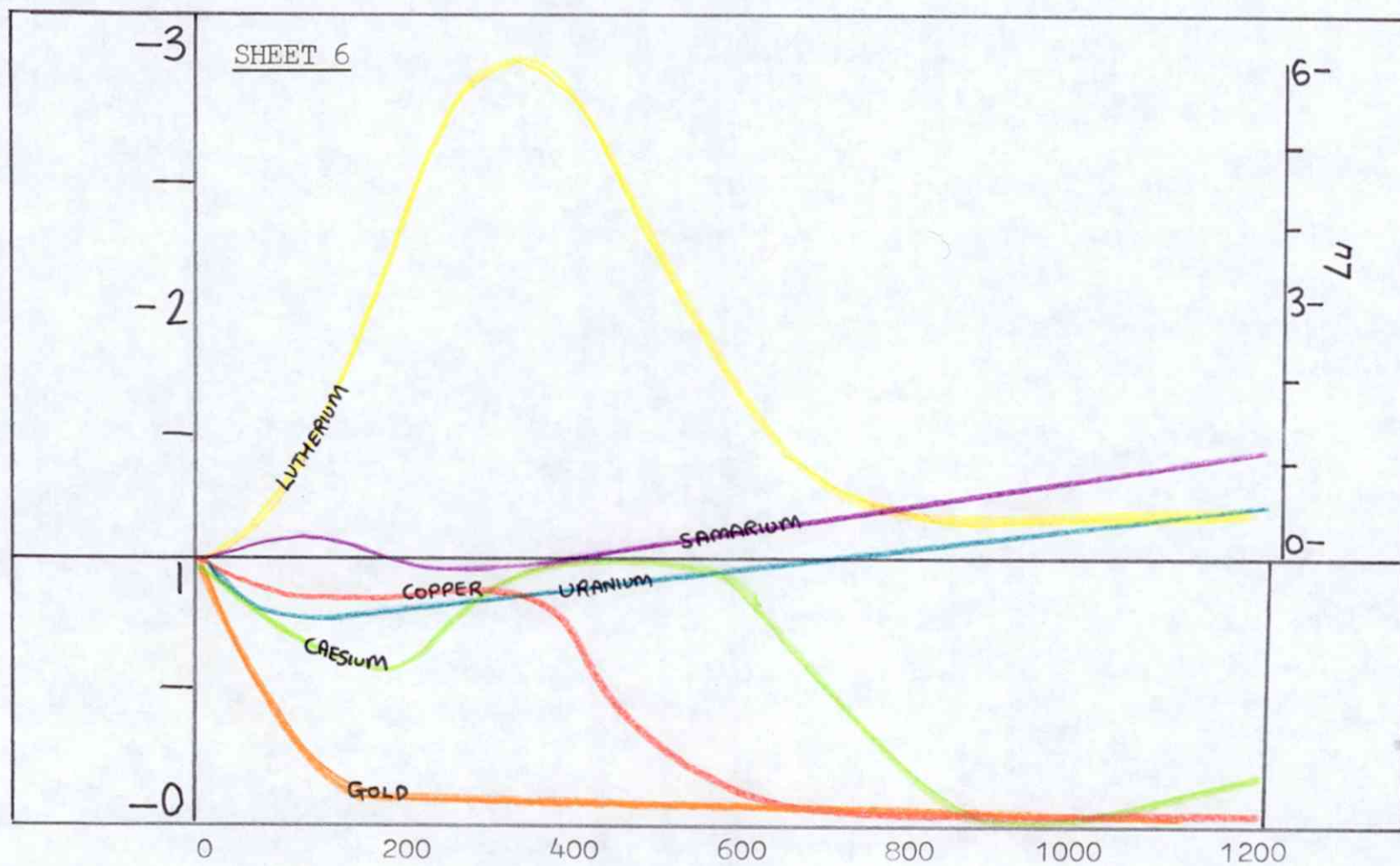
Li, Sc, Cd, Sr, Ni and Cu contents of the ore zone rocks.



V,Cr,Y,Ce and Cu contents of the ore zone.

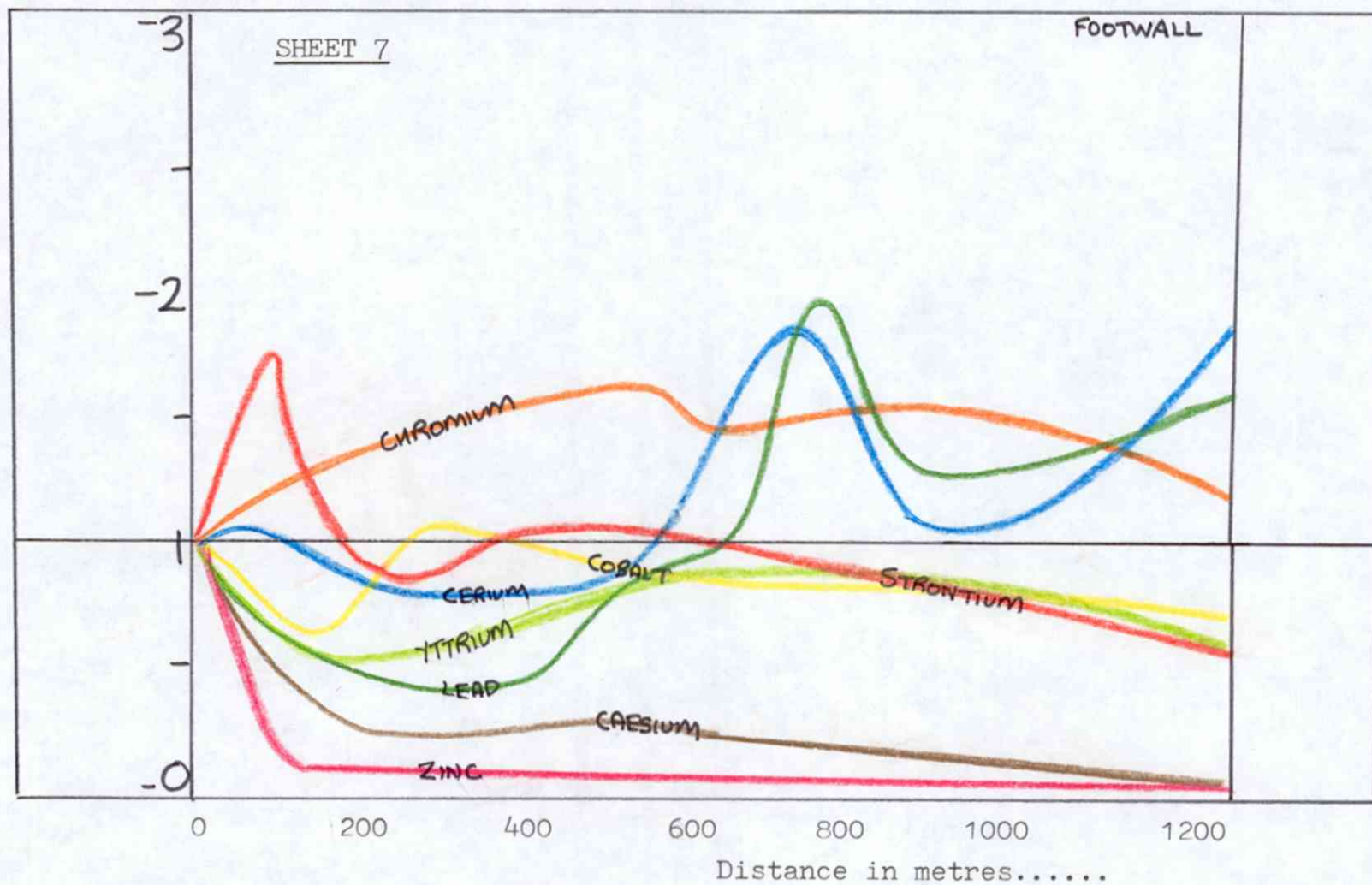


La, Th, Mn, Cu and Ba contents of the ore zone.

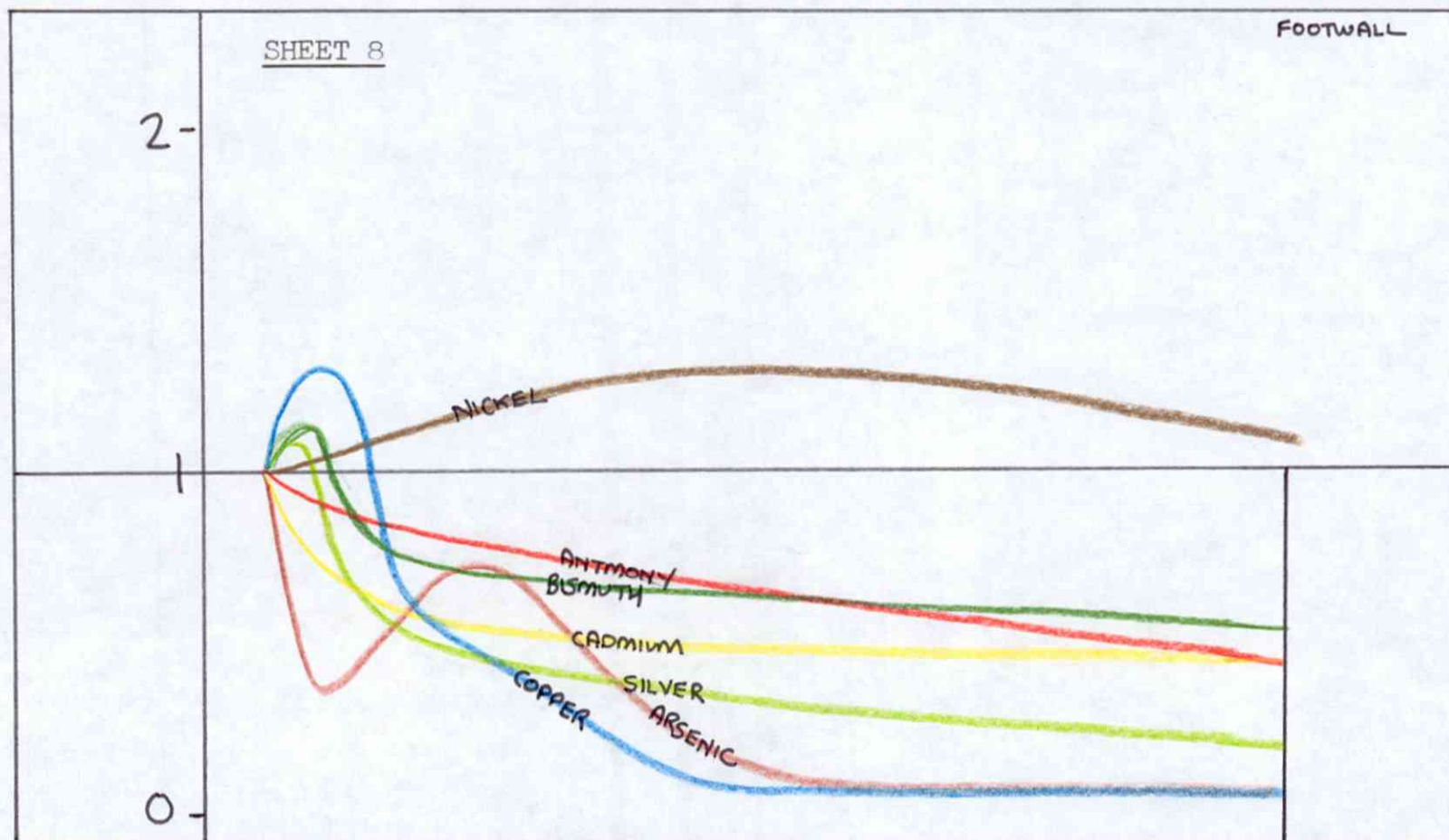


Distance in metres...

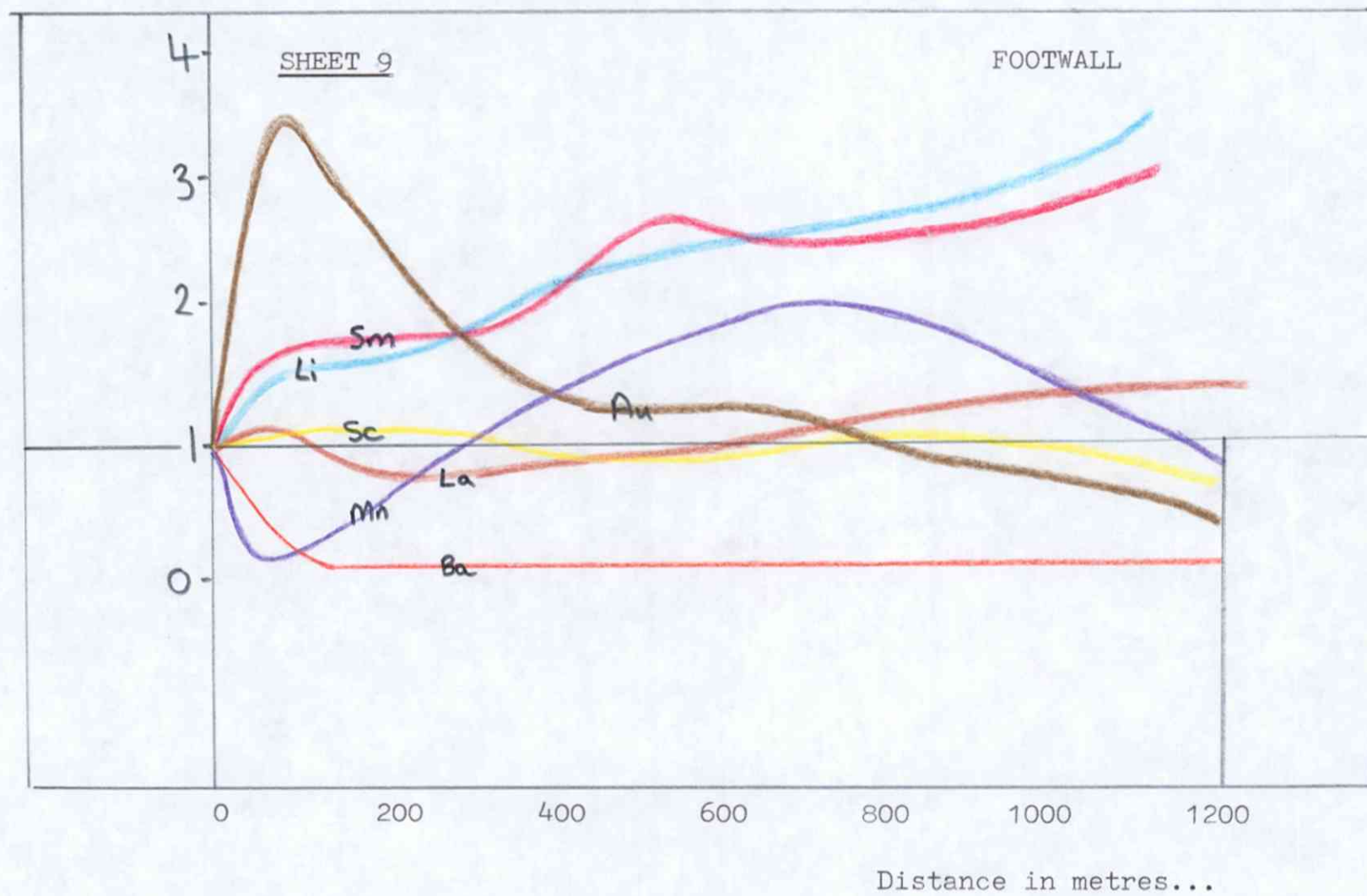
Lu, Sm, U, Cs, Au and Cu contents of the ore zone rocks.



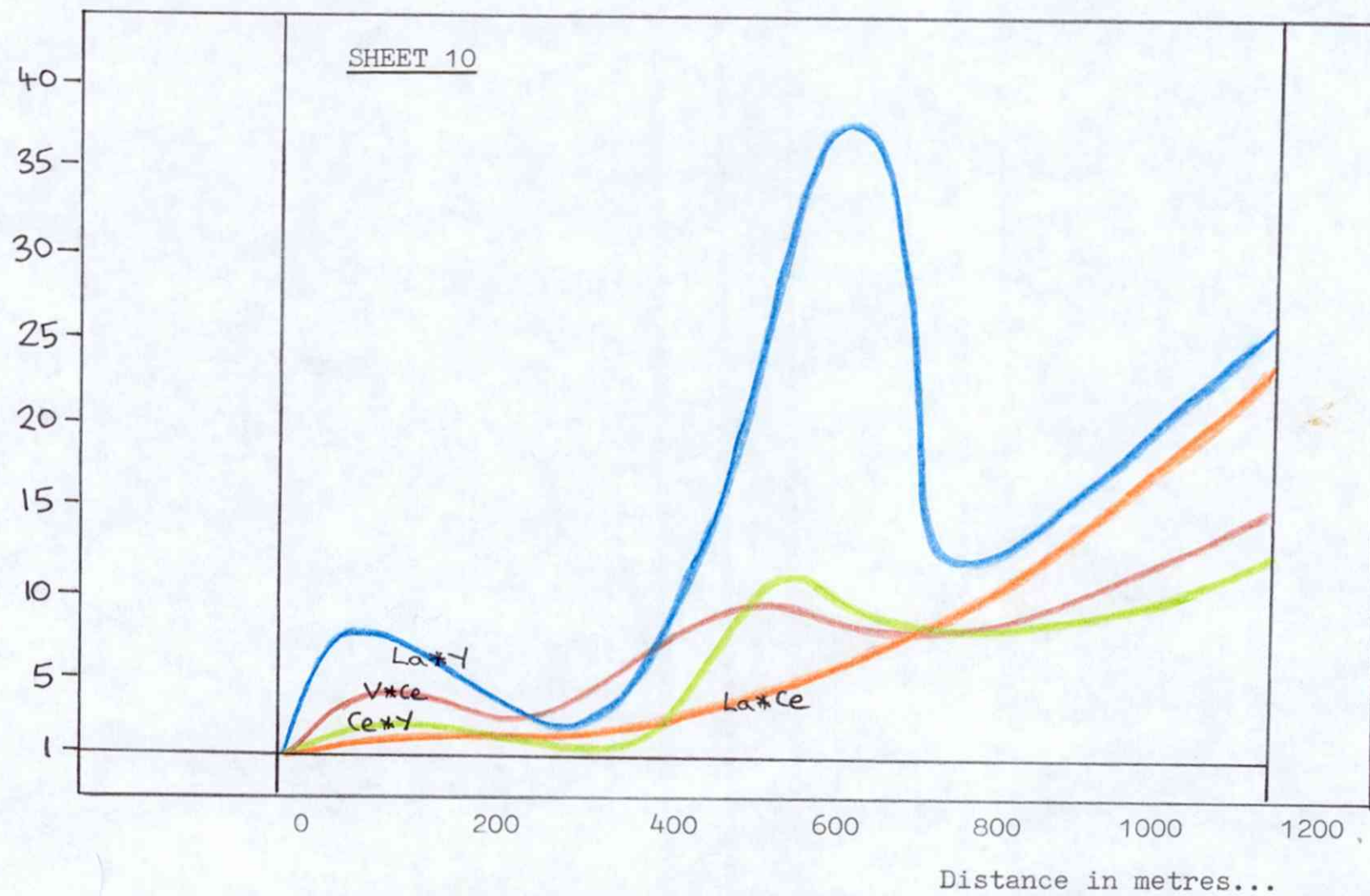
Cr, Sr, Co, Ce, Y, Pb, Cs and Zn contents of the footwall



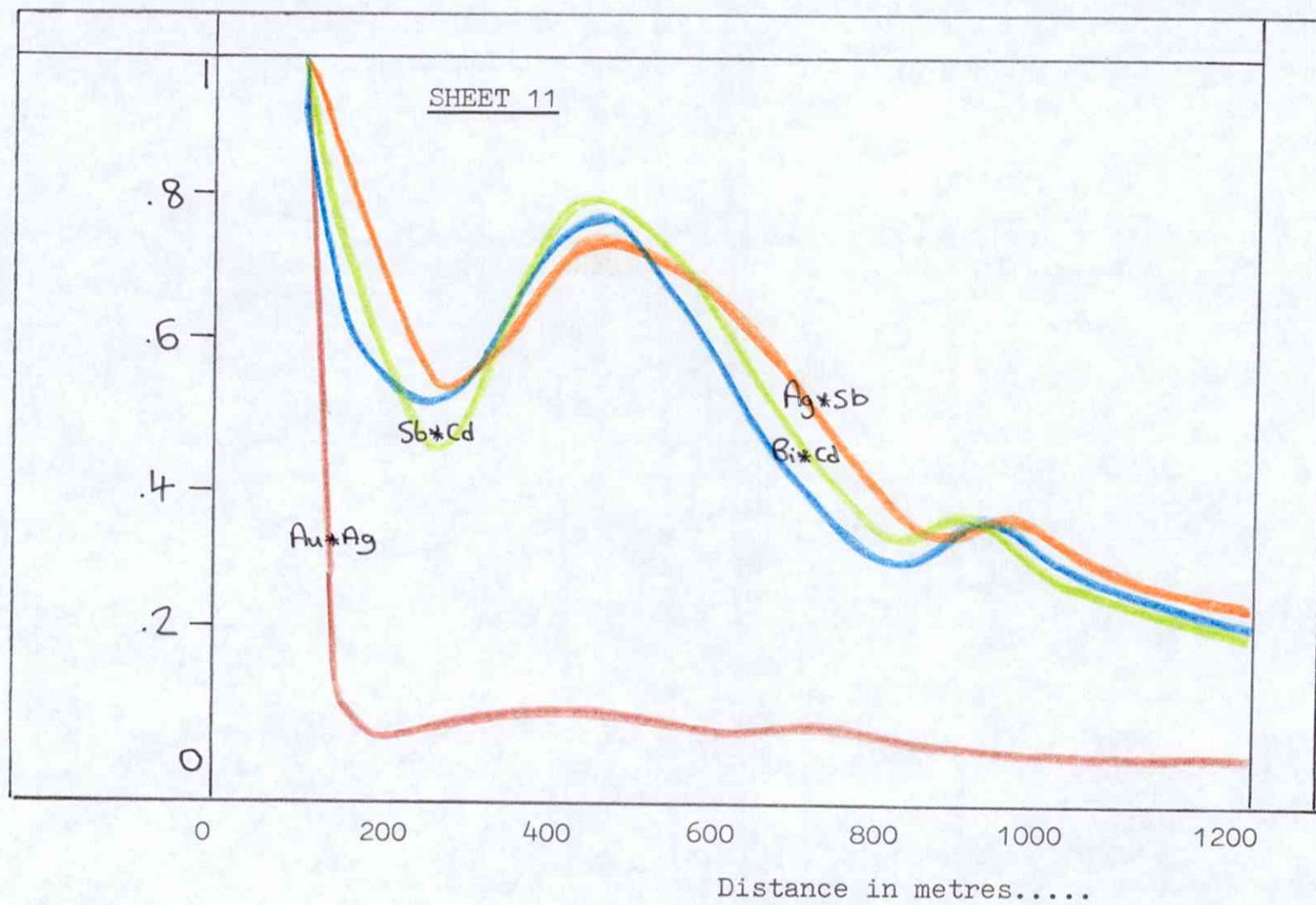
Ni, Sb, Bi, Cd, Ag, As and Cu contents of the ore zone rocks.



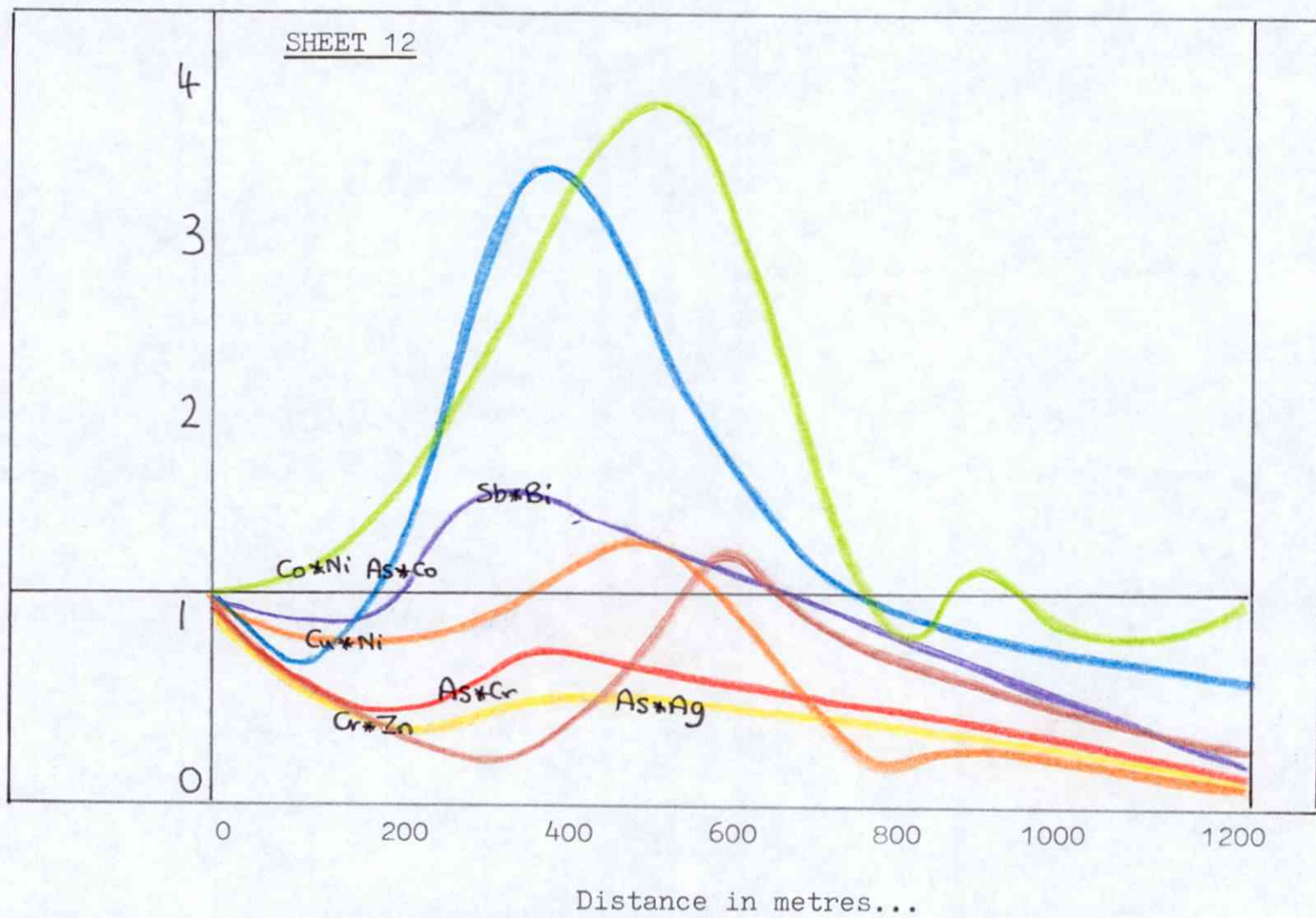
Au, Sm, Li, Sc, La, Mn and Ba for the footwall rocks.



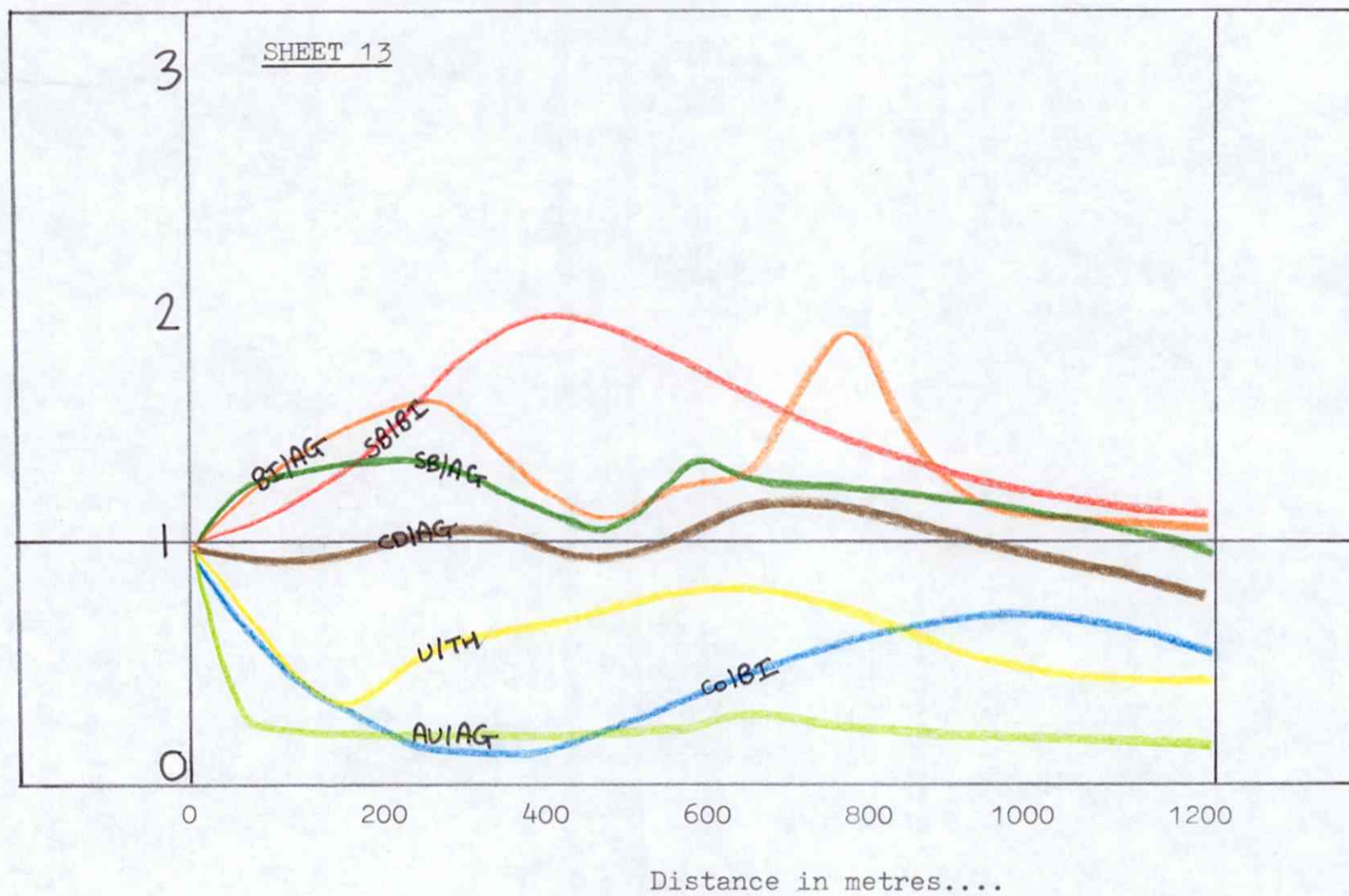
La*Y, V*Ce, Ce*Y and La*Ce for the ore zone rocks.



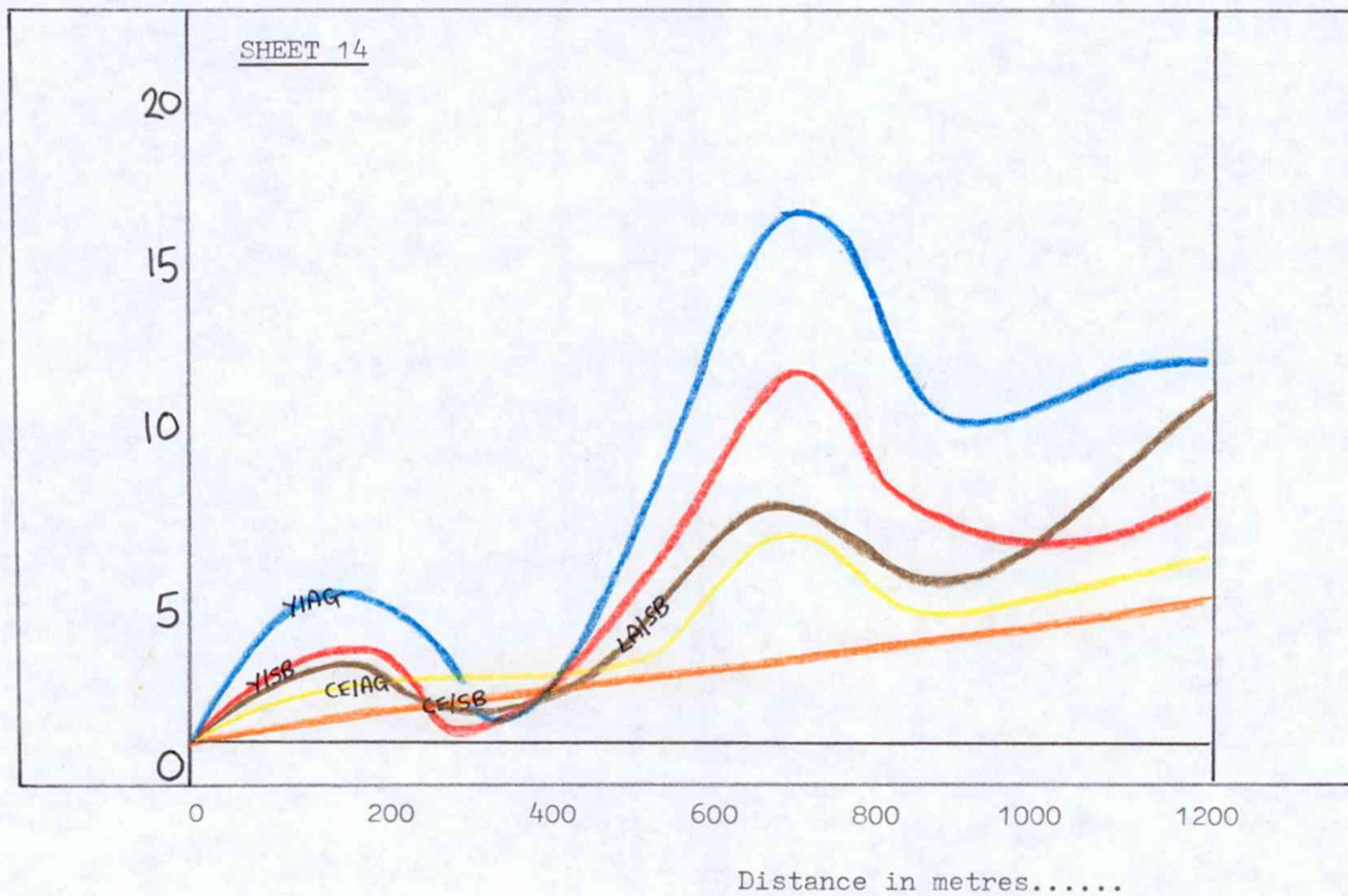
Ag*Sb, Sb*Cd, Bi*Cd and Au*Ag for the ore zone rocks.



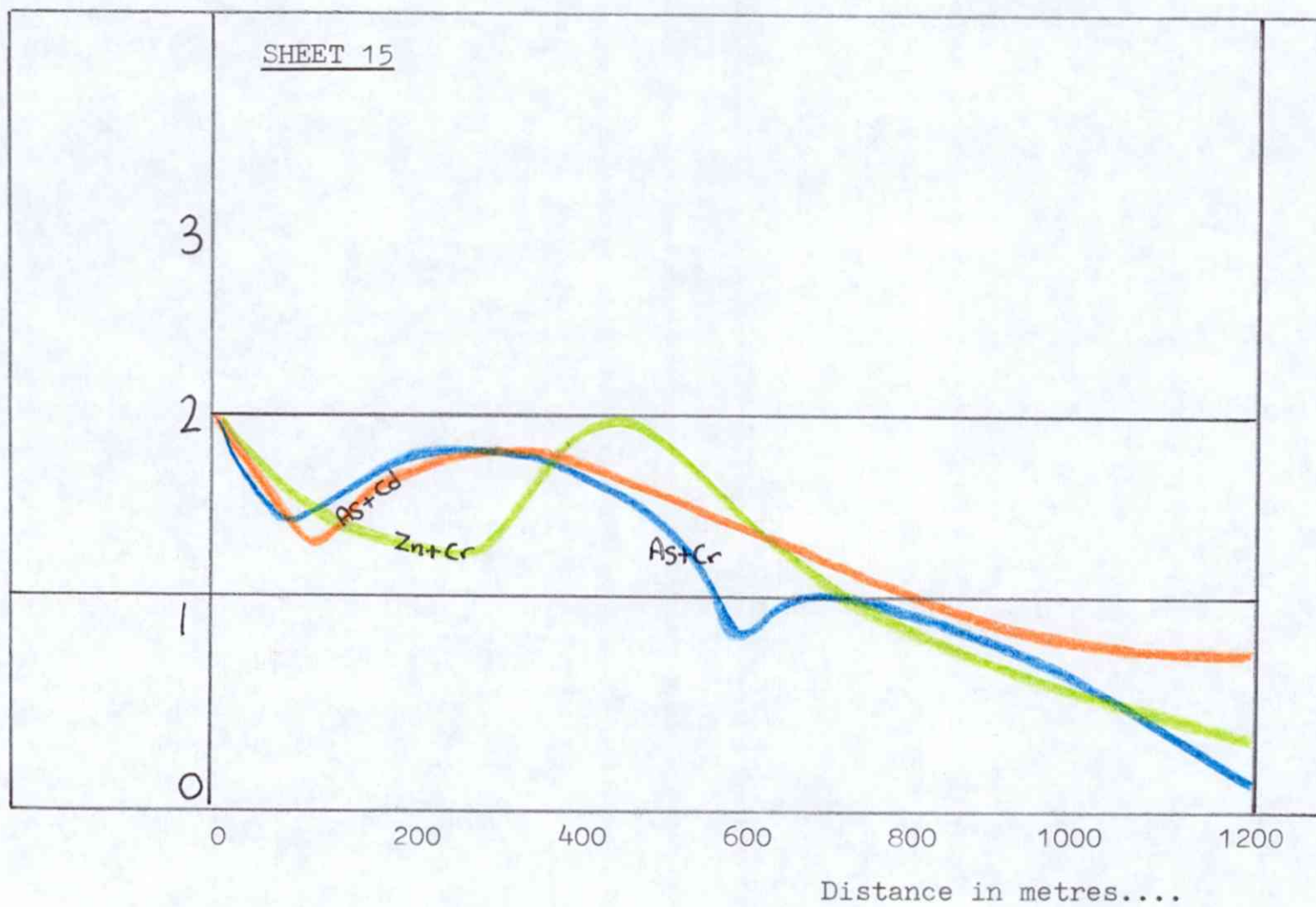
Co*Ni, Sb*Bi, As*Co, Cu*Ni, As*Cr, As*Ag and Cr*Zn for the ore zone rocks.



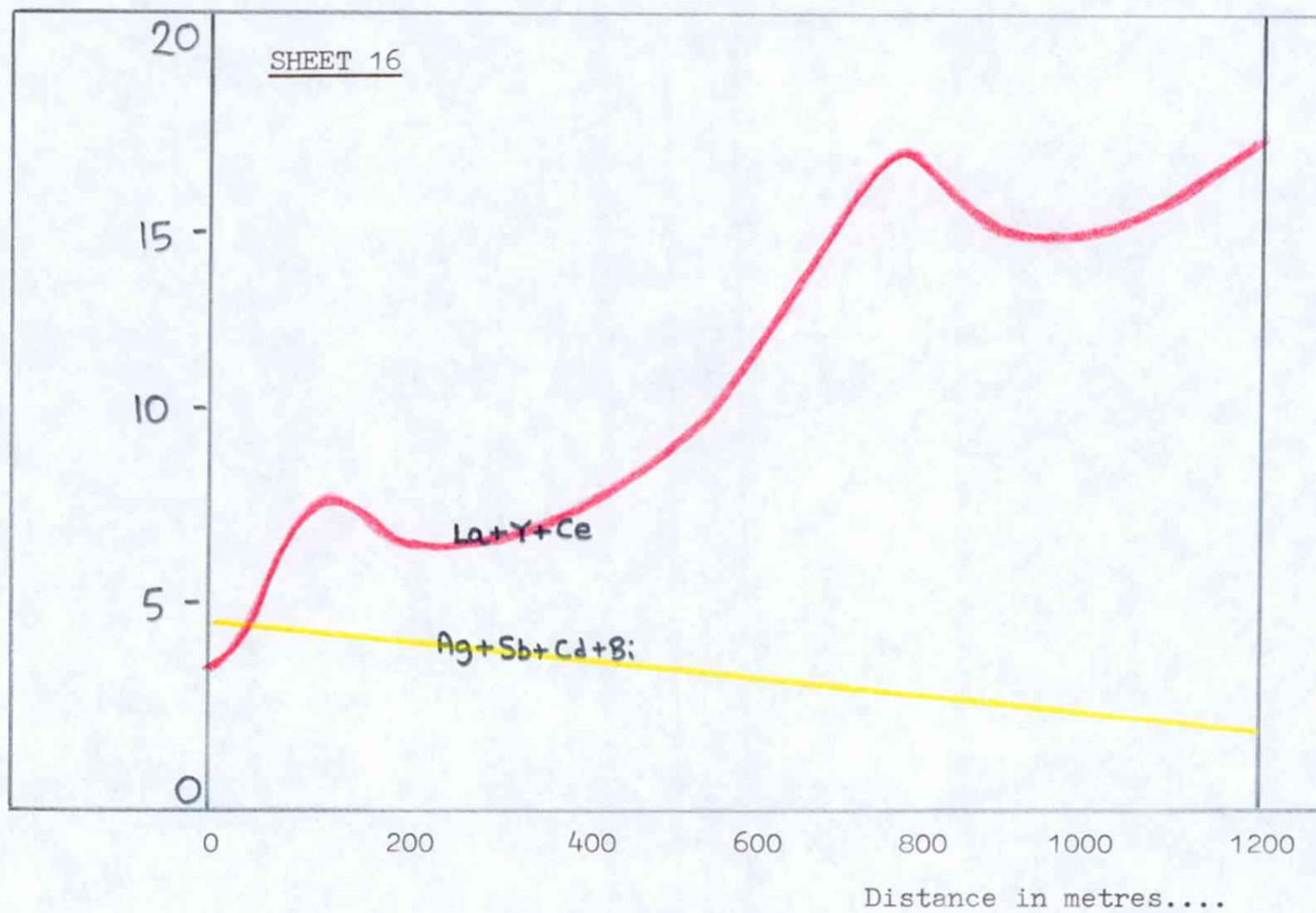
Bi/Ag, Sb/Bi, Sb/Ag, Co/Ag, U/Th, Au/Ag and Co/Bi for the ore zone rocks.



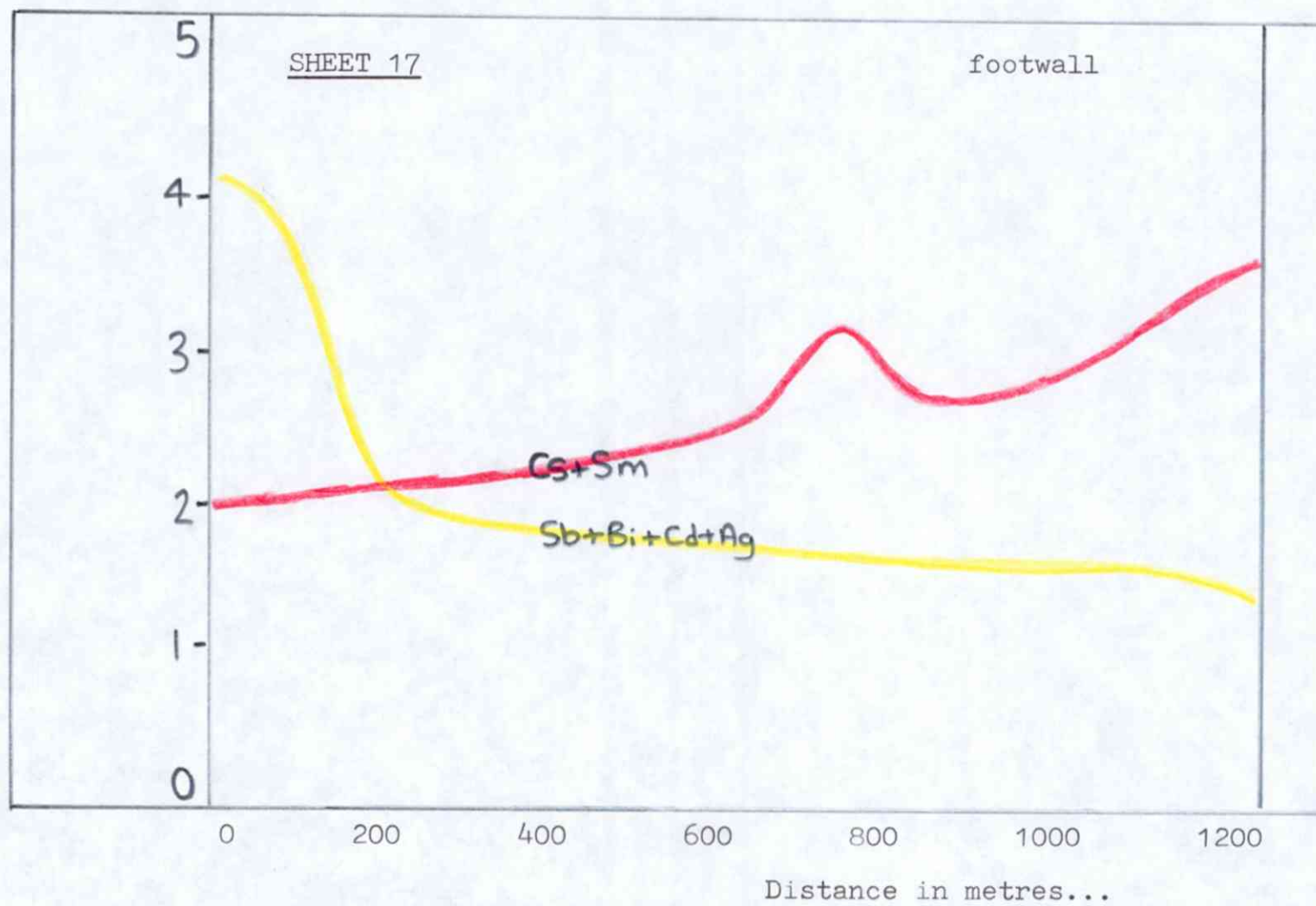
Y/Ag, Y/Sb, Ce/Ag, La/Sb and Ce/Sb for the ore zone rocks.



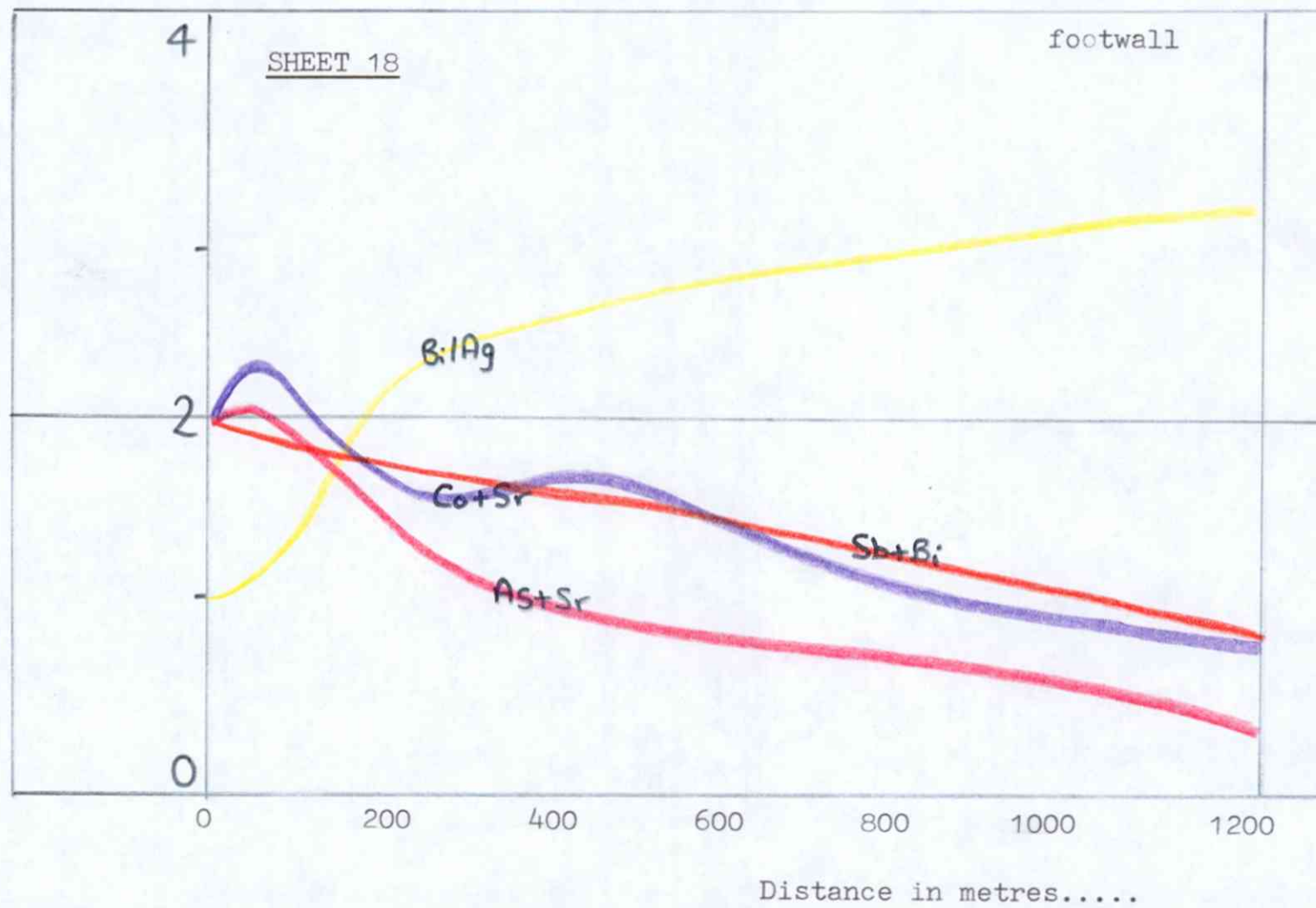
As+Cd, Zn+Cr and As+Cr for the ore zone rocks.



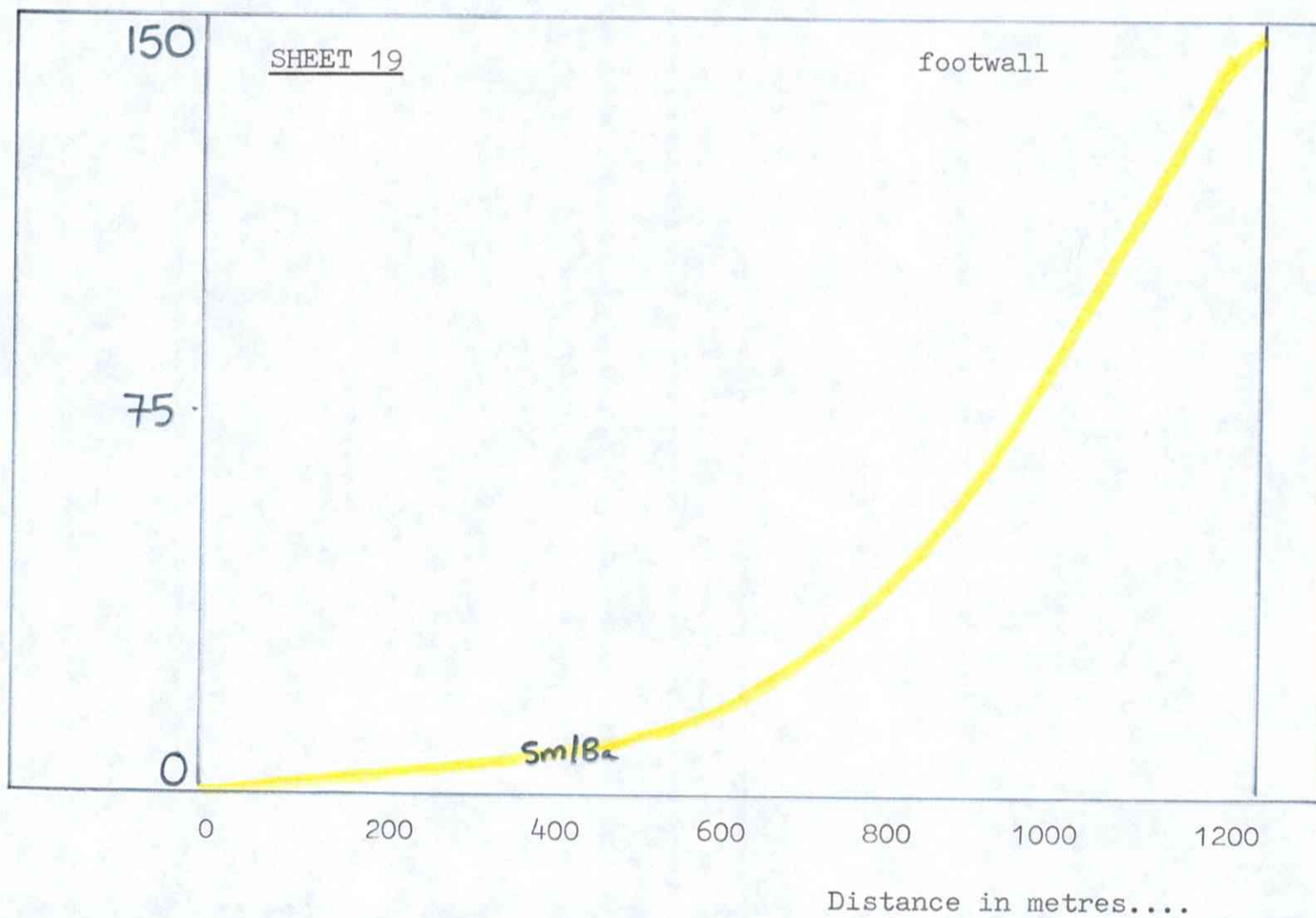
La+Y+Ce and Ag+Sb+Cd+Bi for the ore zone rocks.



Cs+Sm and Sb+Bi+Ag+Cd for the footwall rocks.

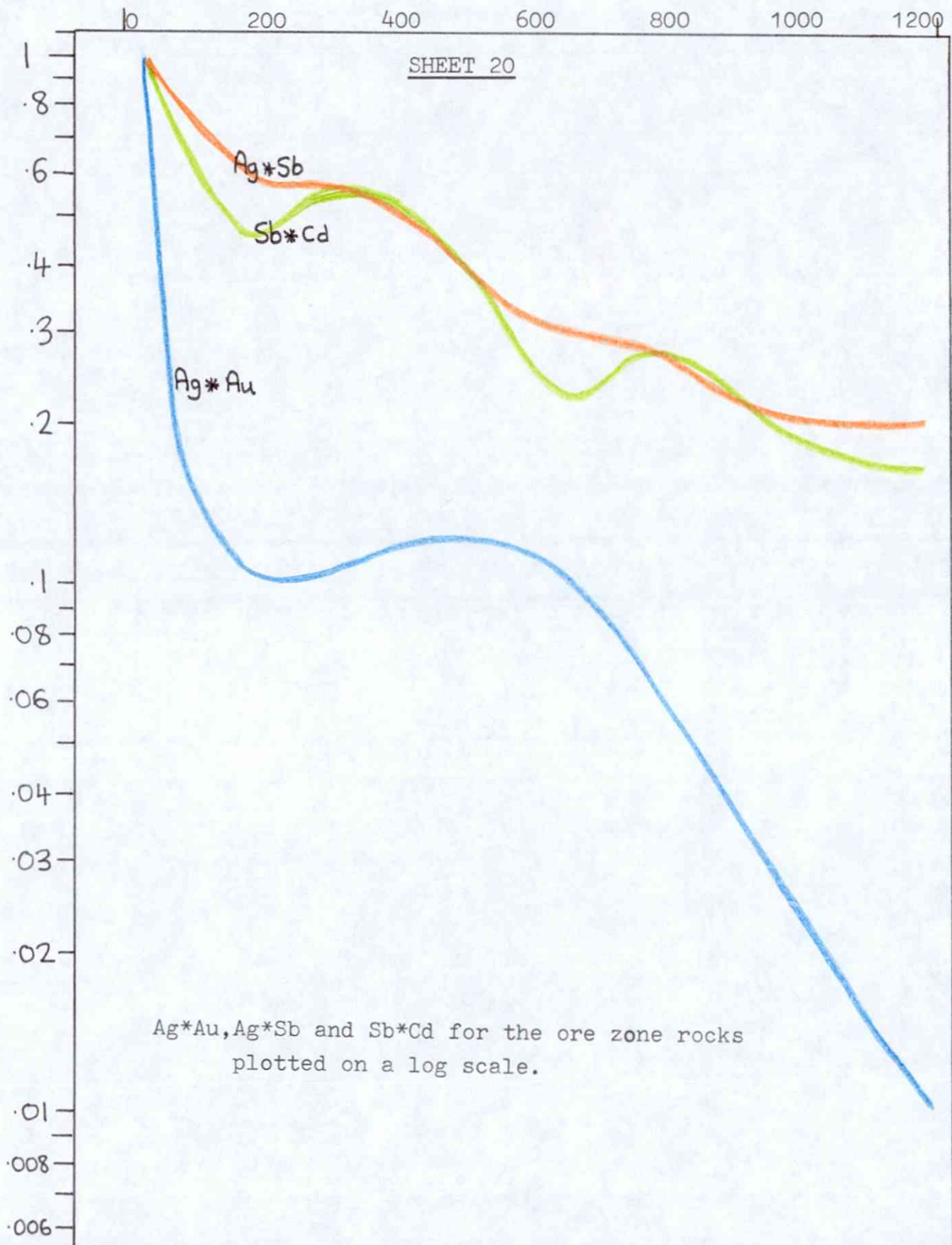


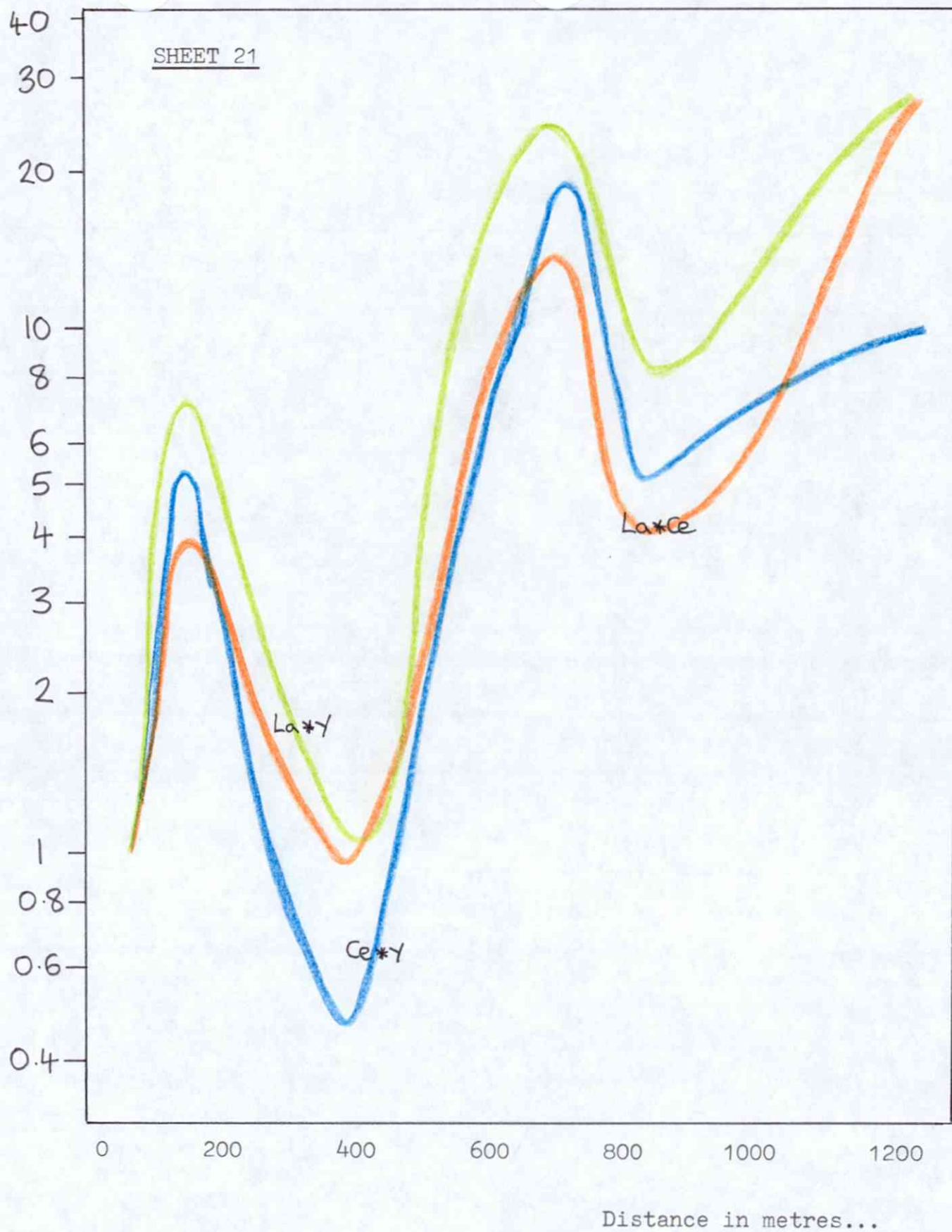
Bi/Ag, Sb+Bi, As+Sr and Co+Sr for the footwall rocks.



Sm/Ba for the footwall rocks.

Distance in metres...





La*Y, Ce*Y and La*Ce for the ore zone rocks plotted on a log scale.

APPENDIX III

PROFILES

A-B

C-D

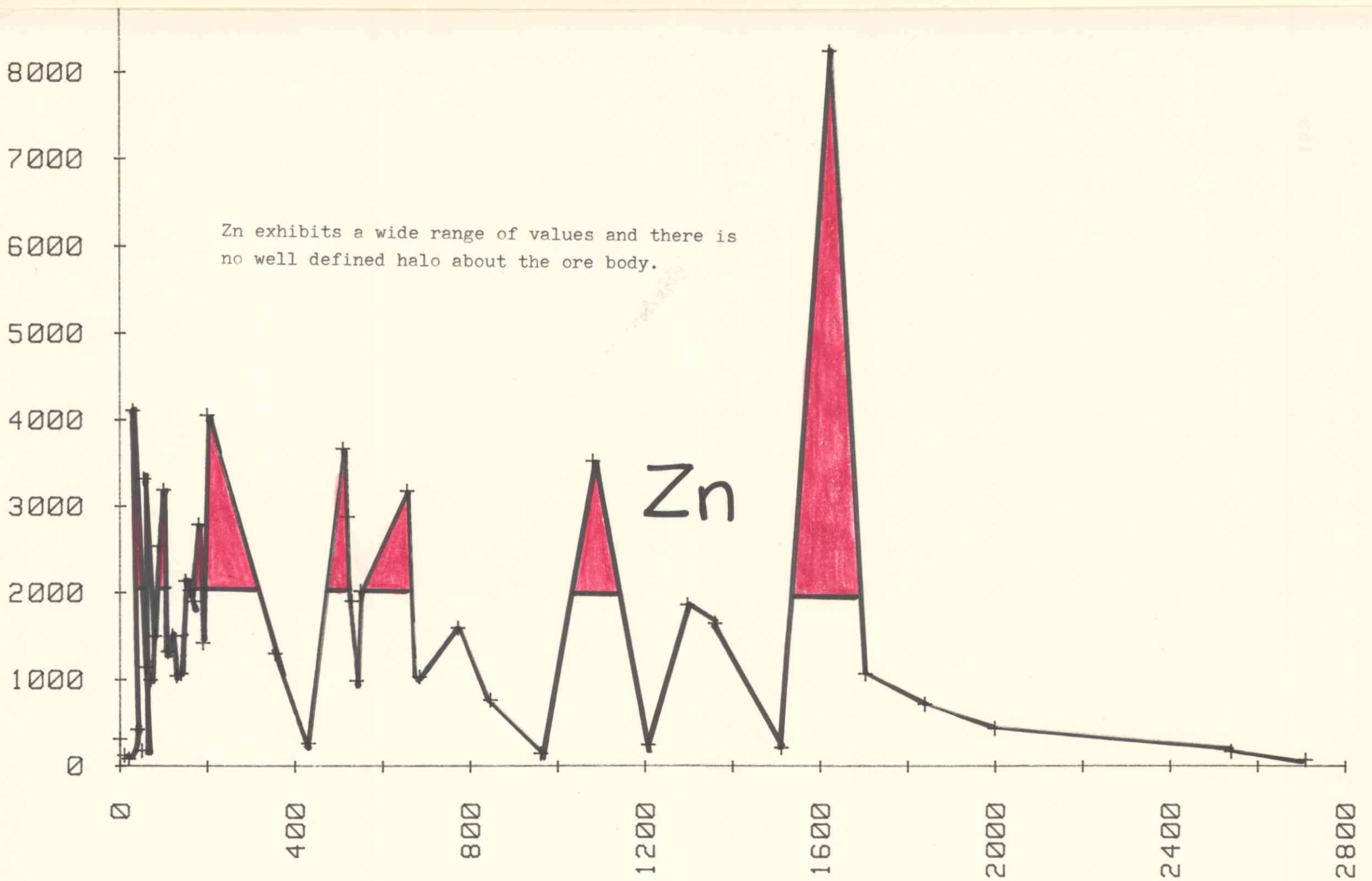
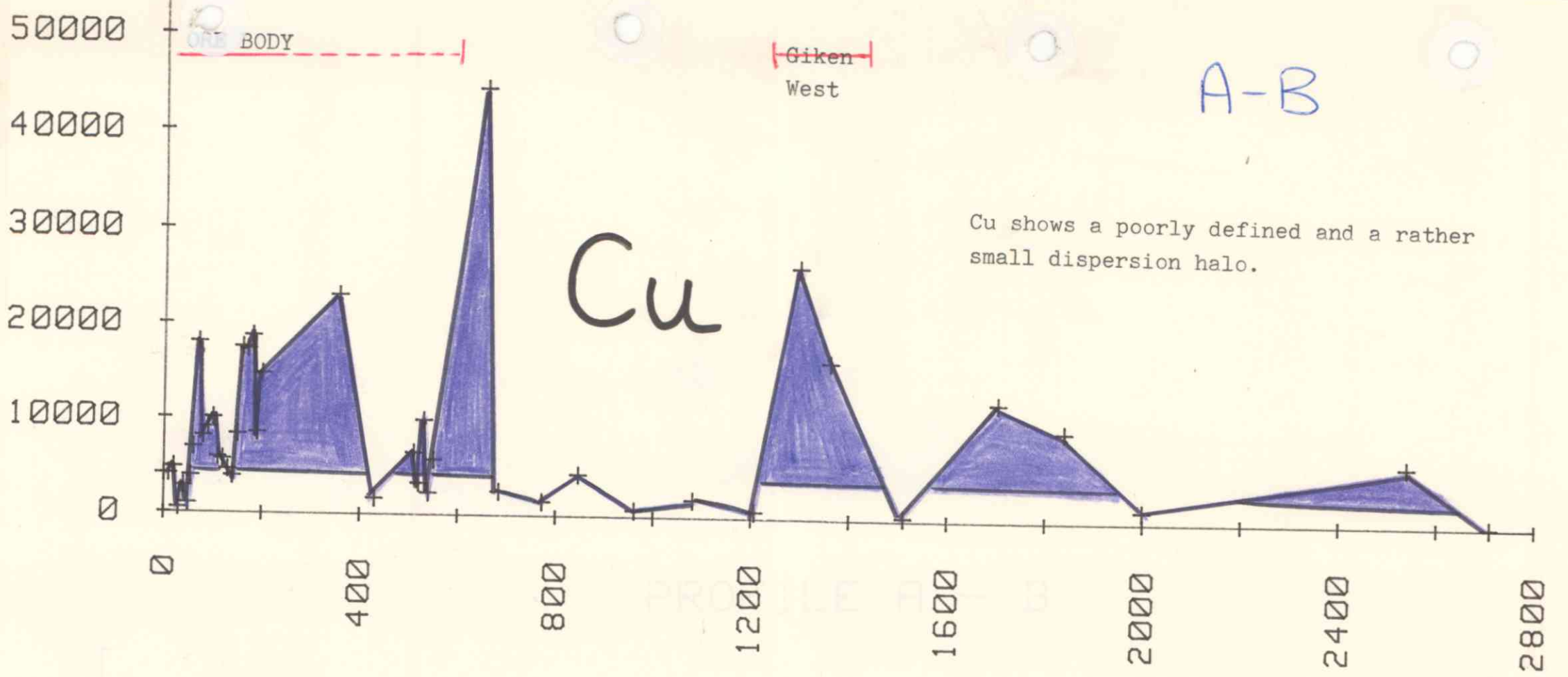
E-F

G-H (neutron activation
elements)

See page 30 of text and pp ~~15~~ et seq. for maps.

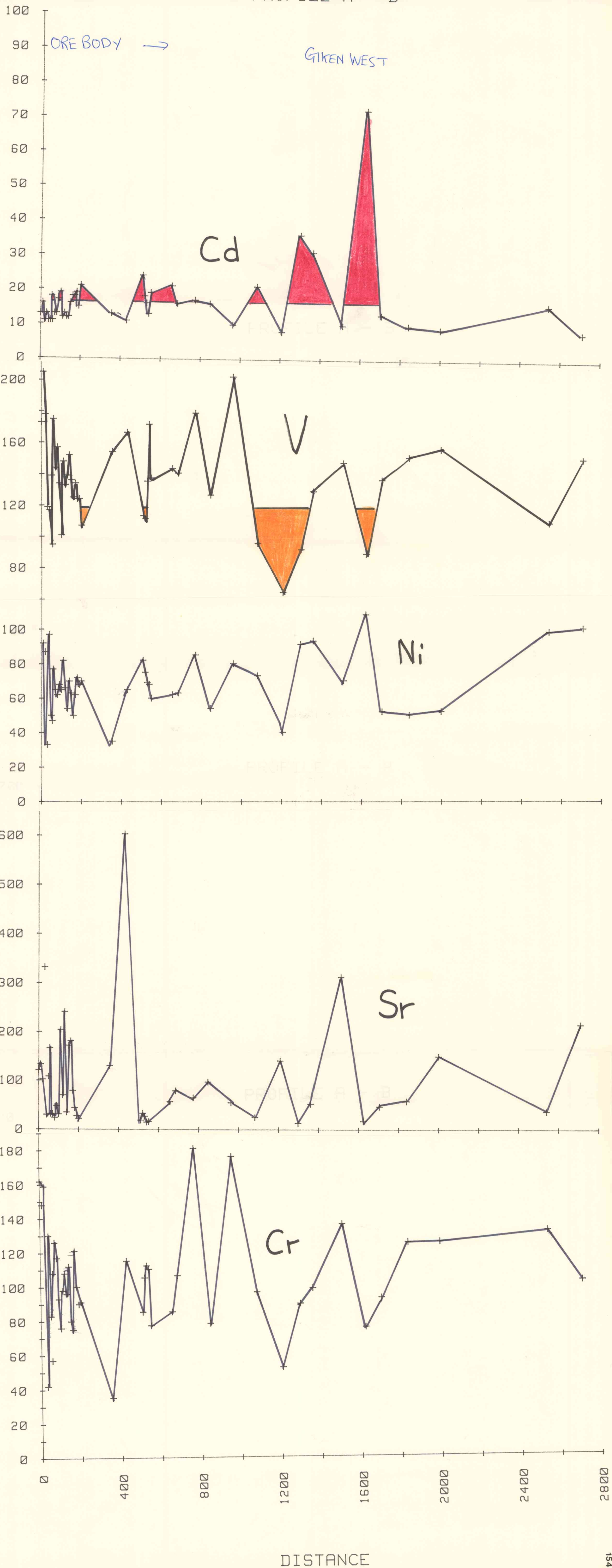
All profiles are drawn East to West (left to right)

The distance scale is in metres.

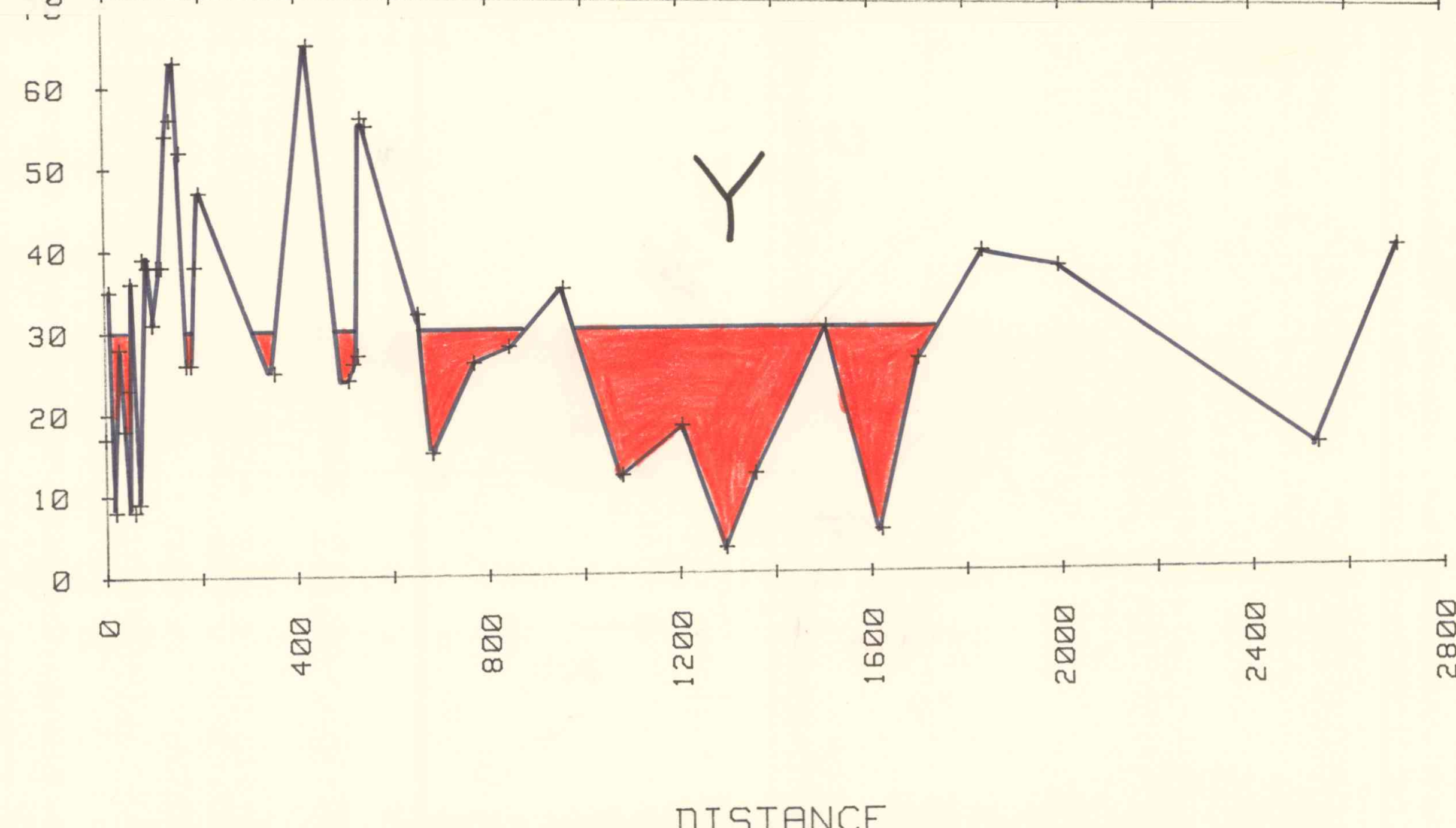
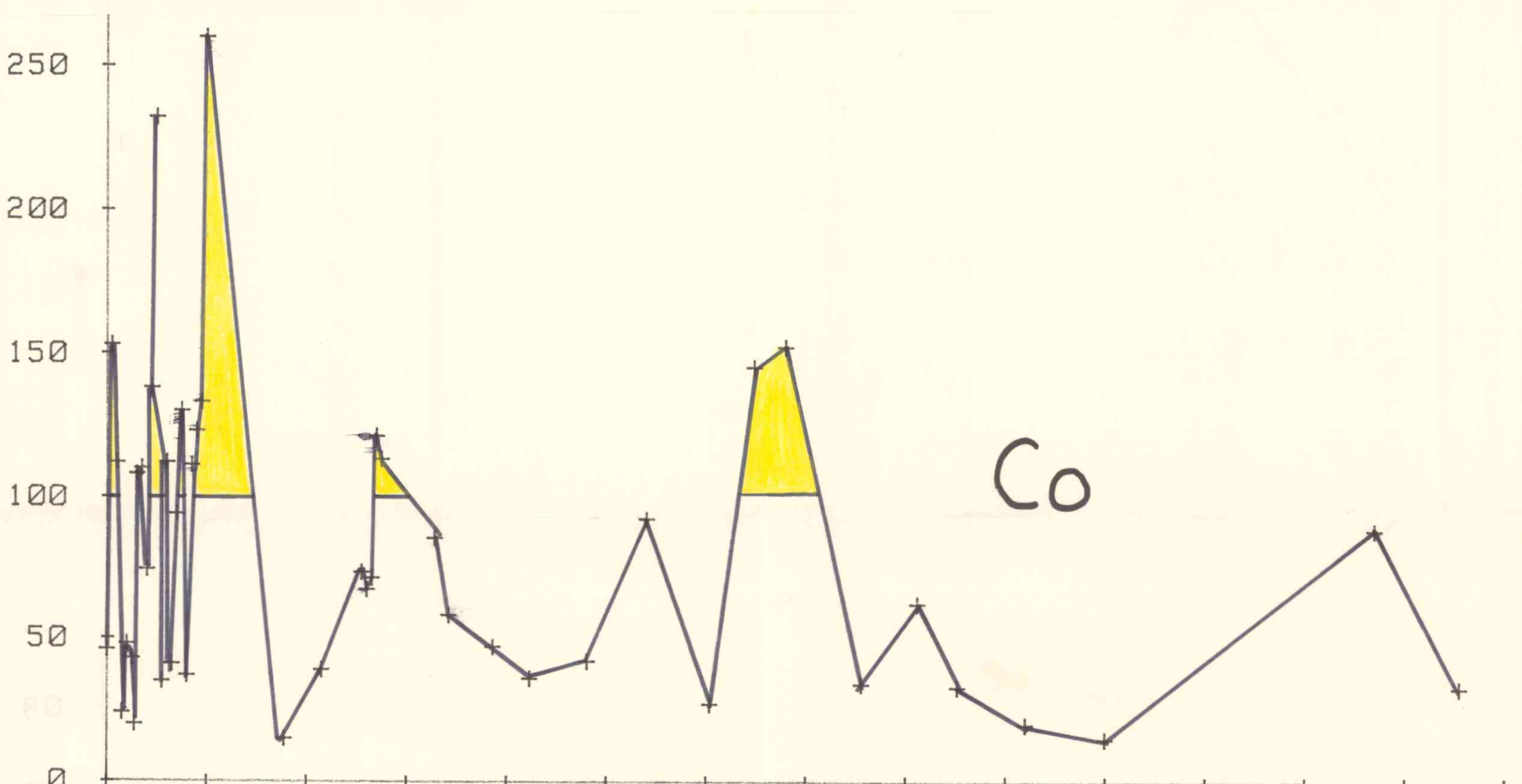
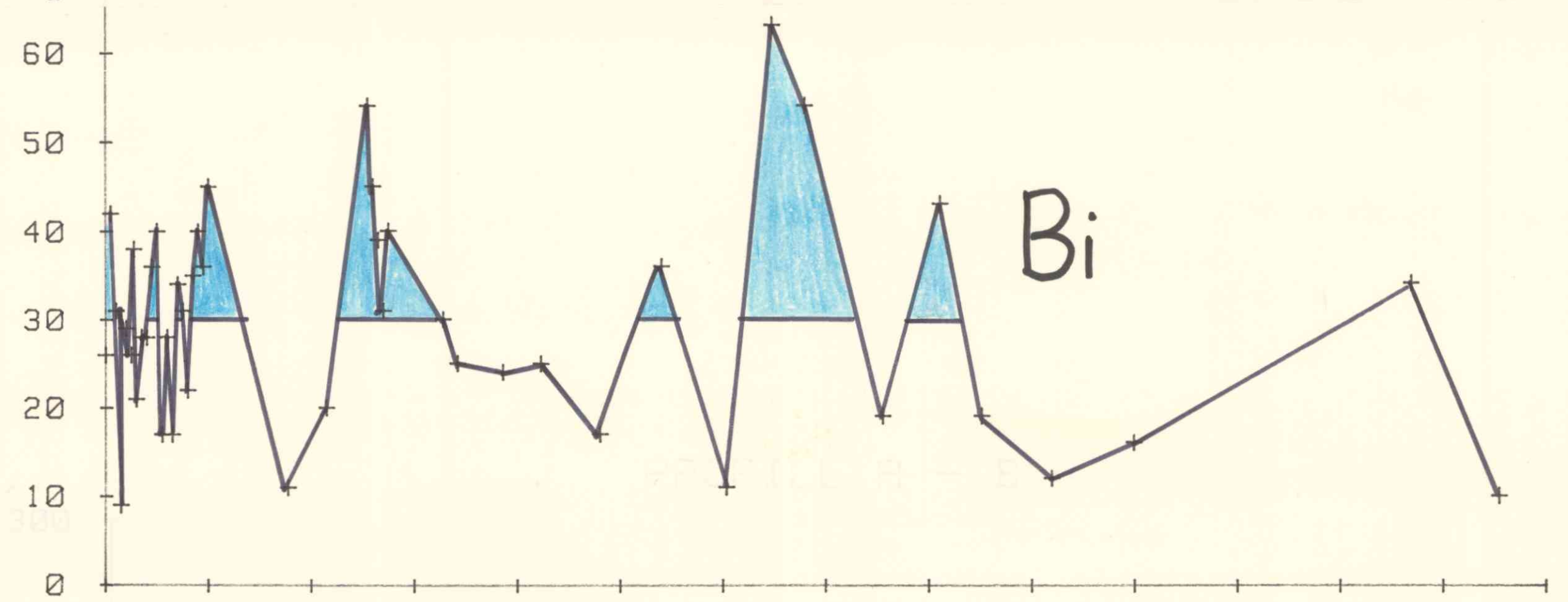
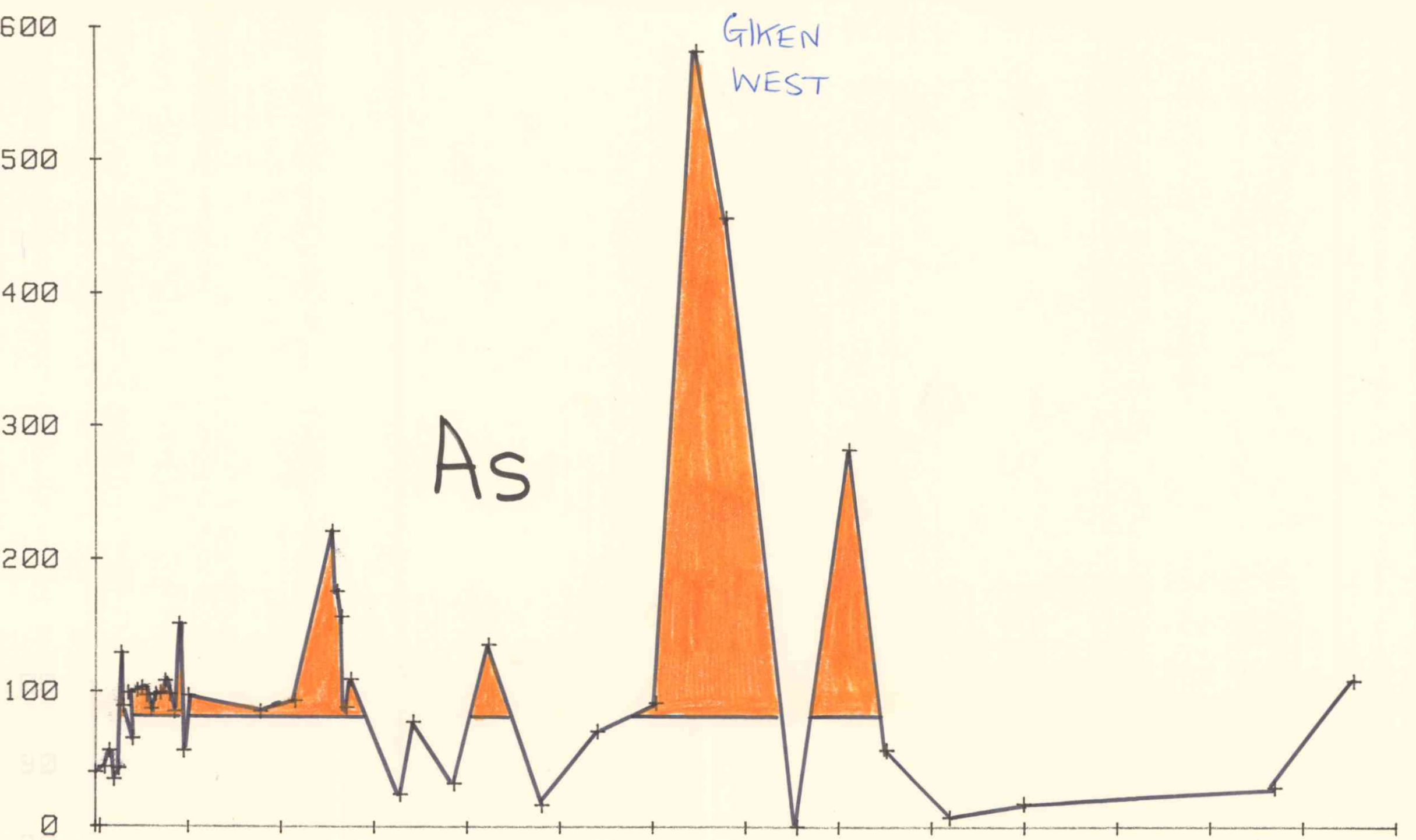


DISTANCE

PROFILE A - B



PROFILE A - 2



DISTANCE

PROFILE A - B

ORE BODY

WEST

Ag

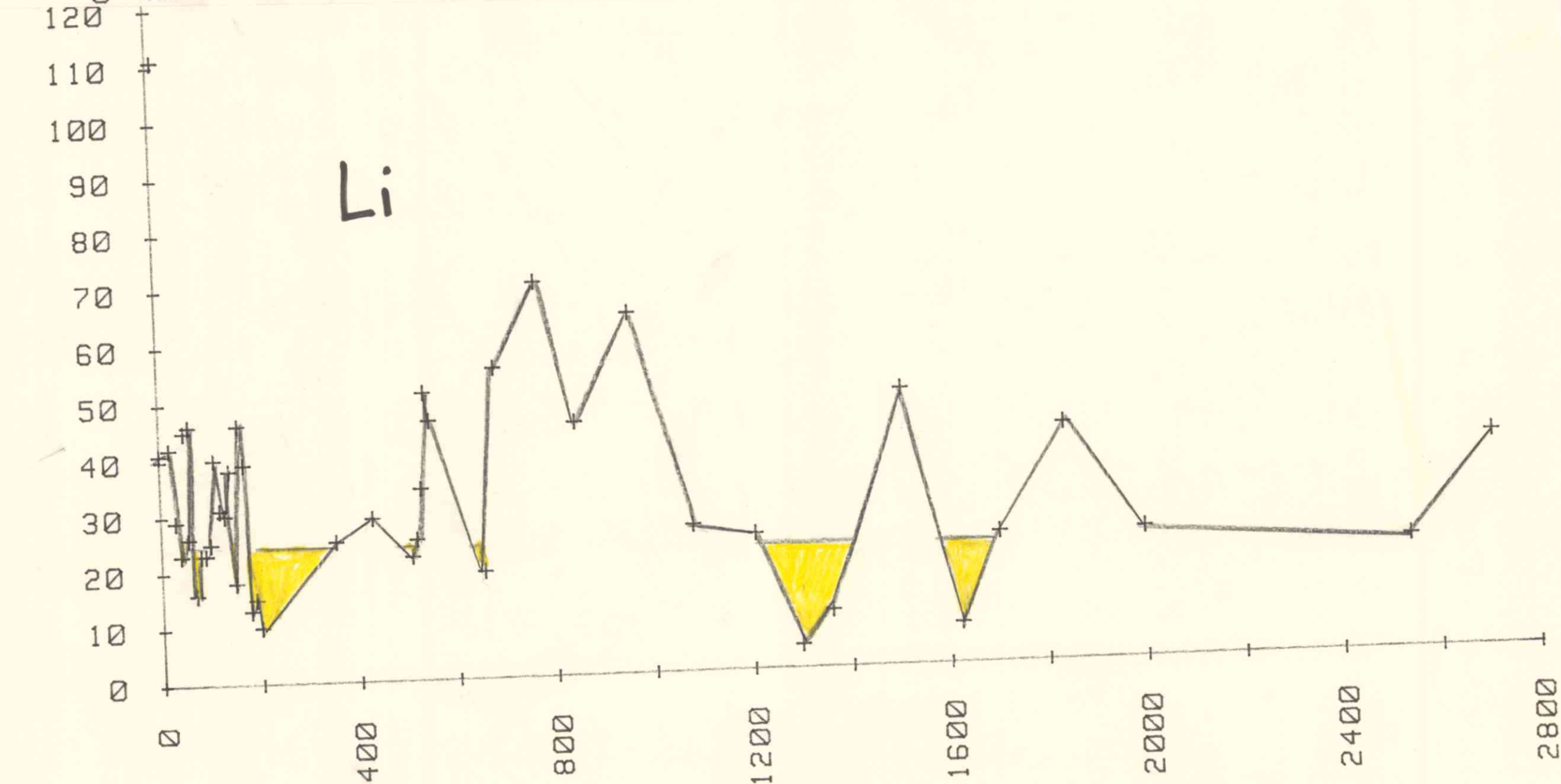
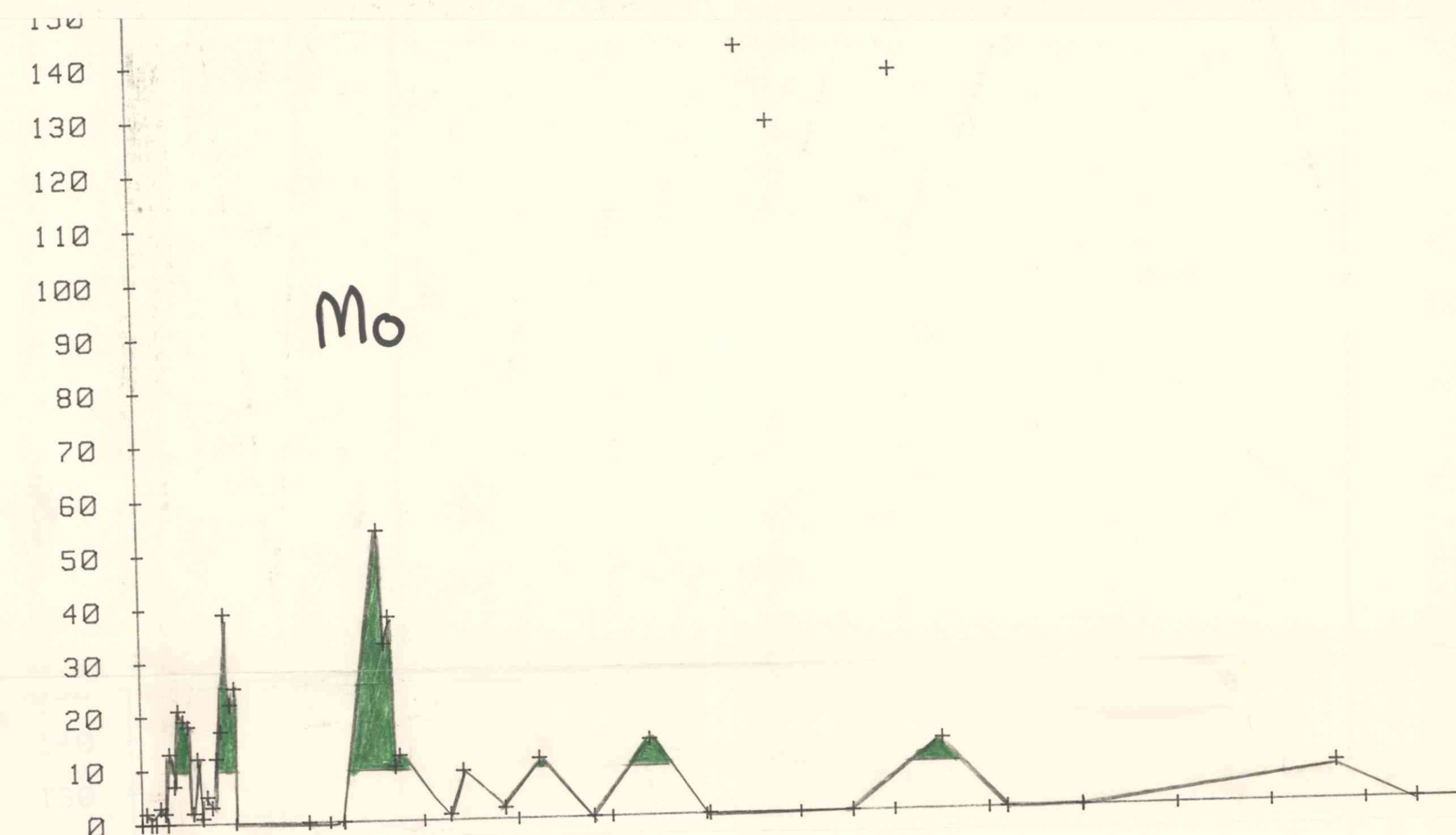
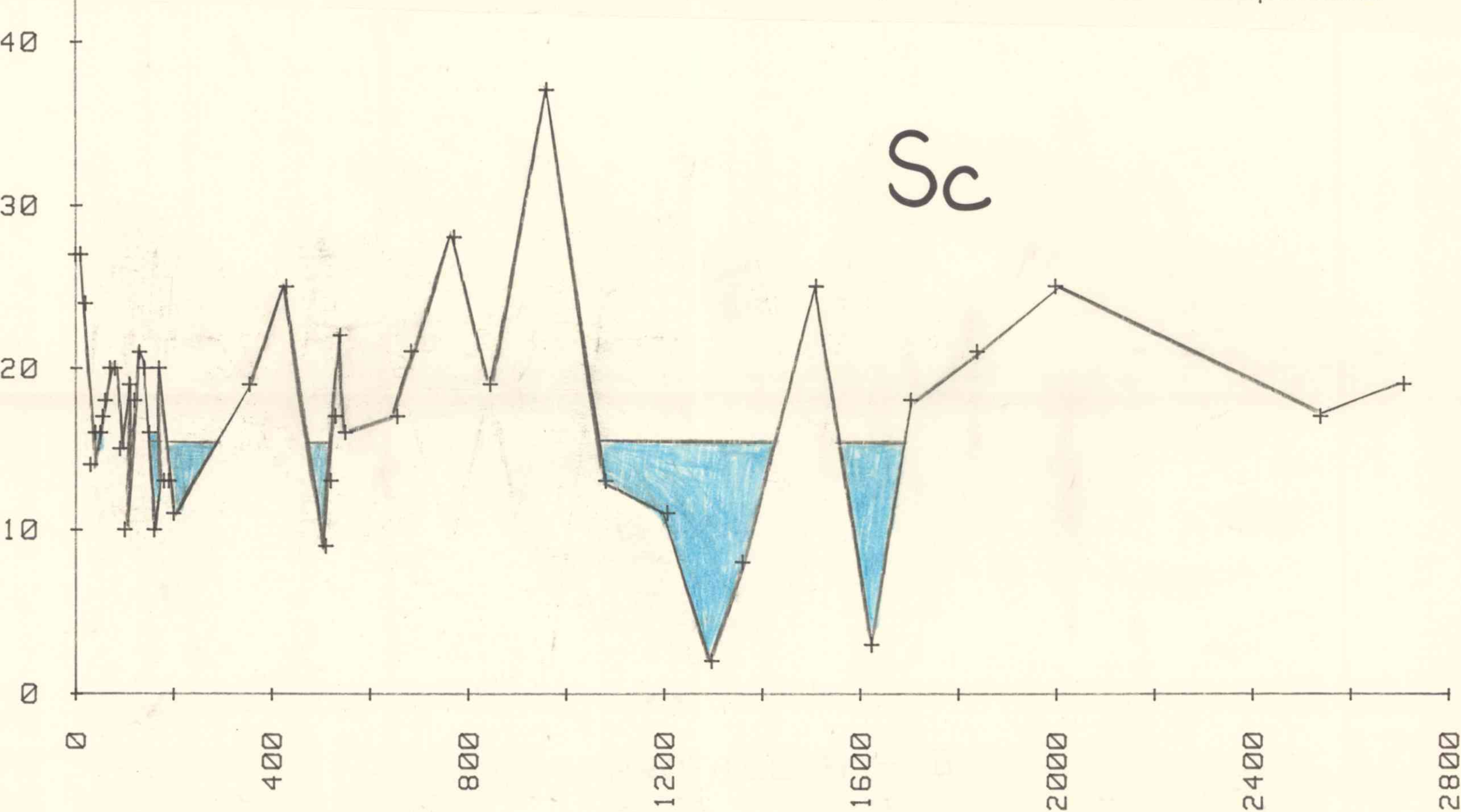
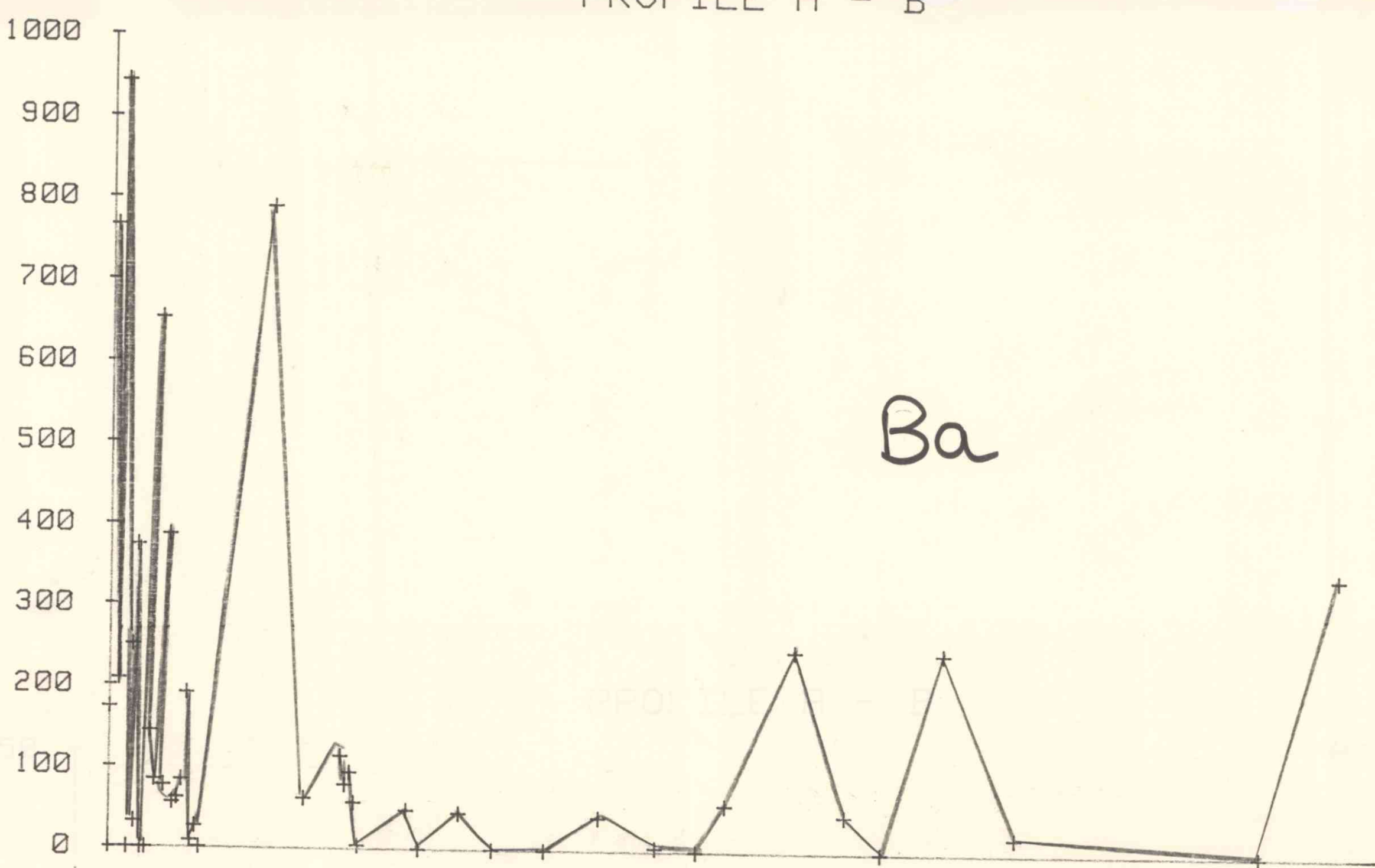
La

Ce

Pb

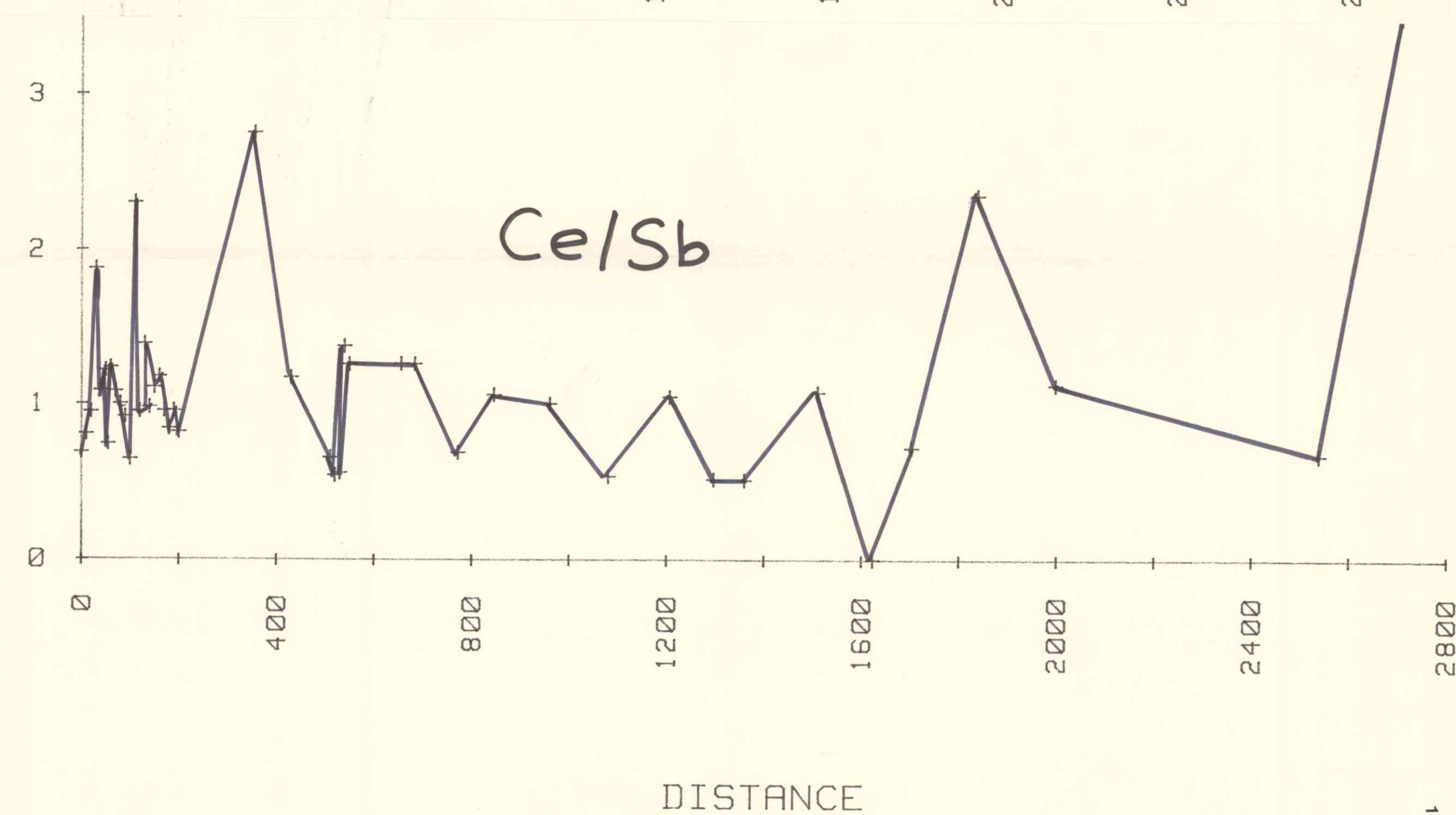
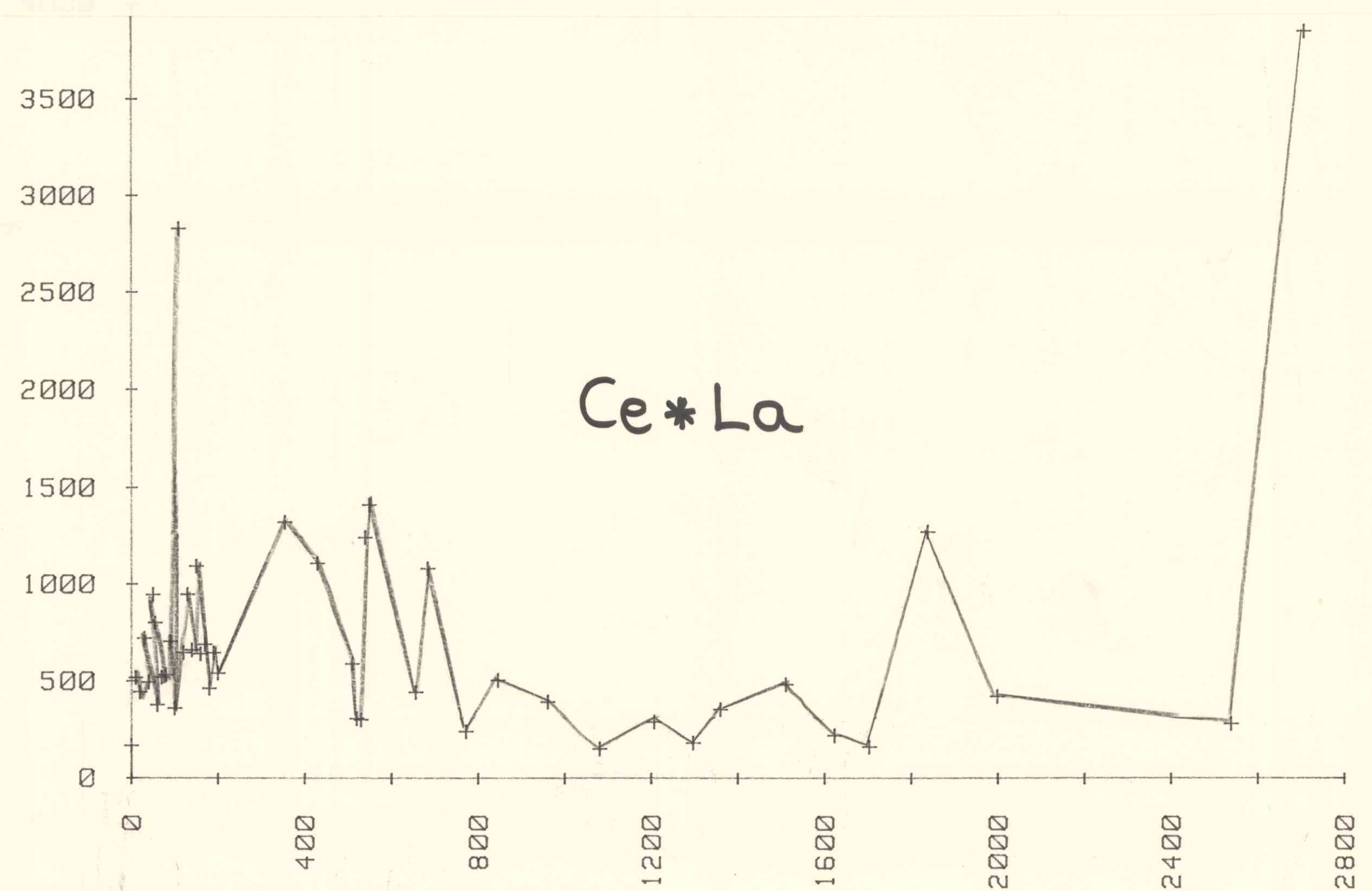
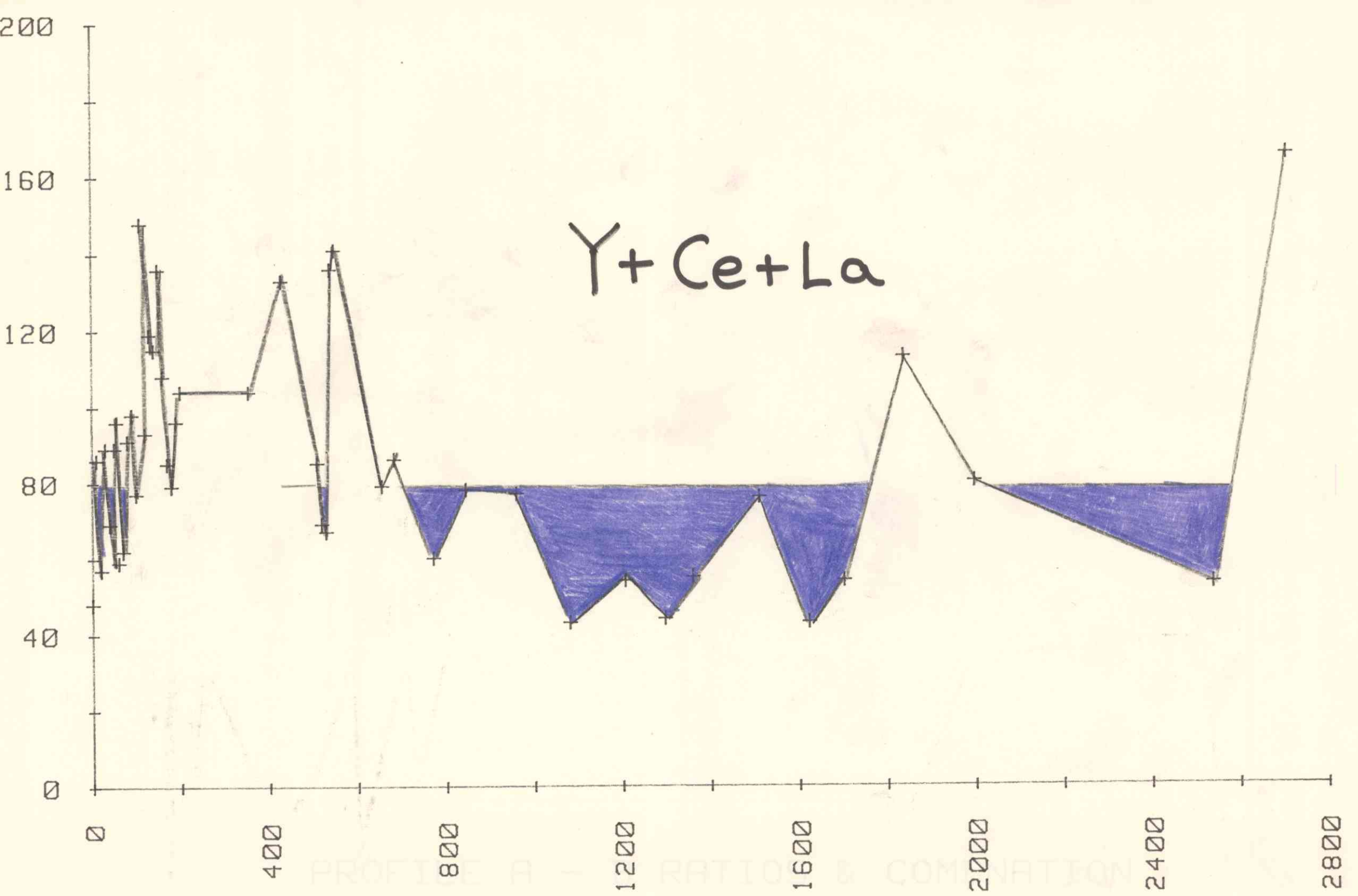
DISTANCE

PROFILE A - B



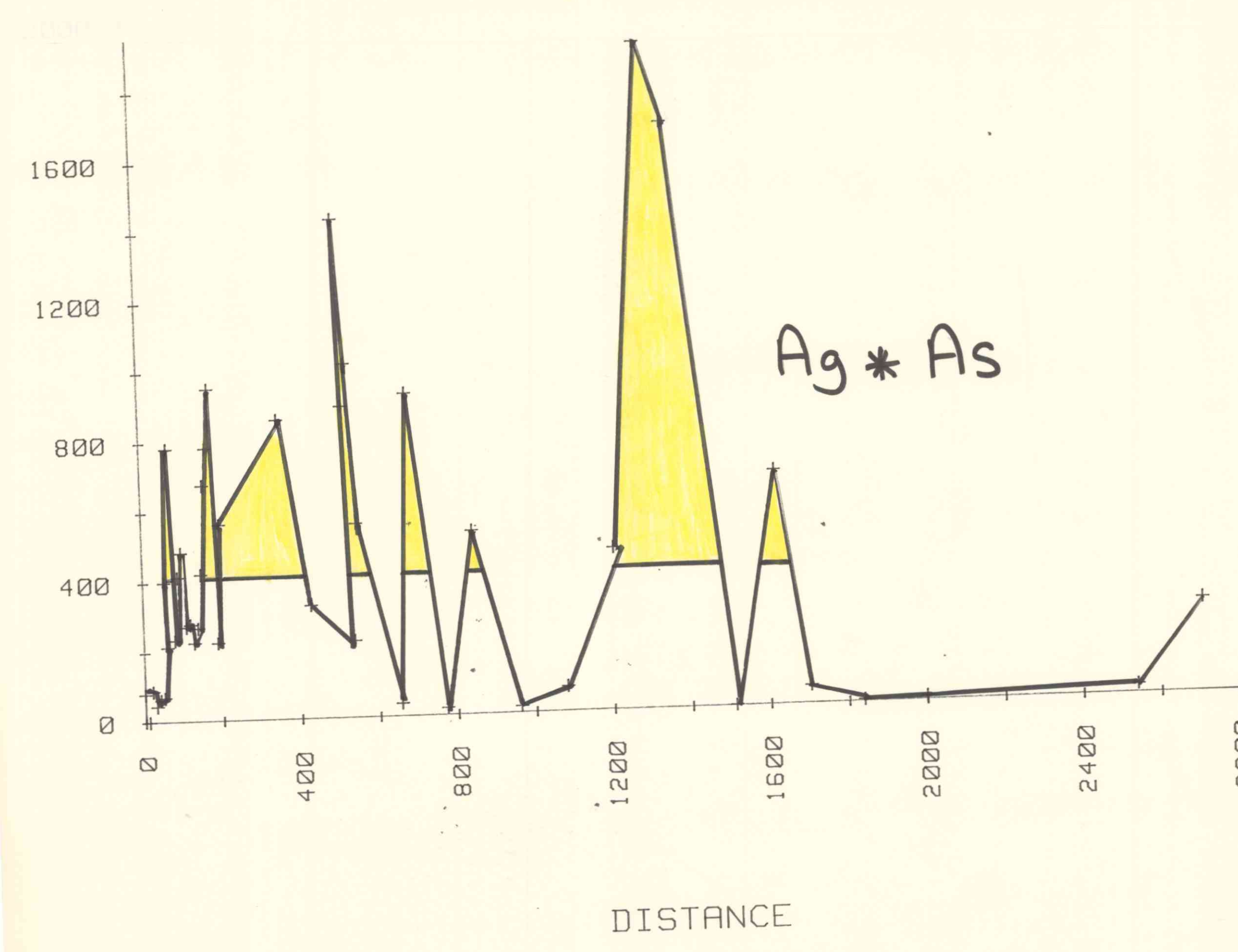
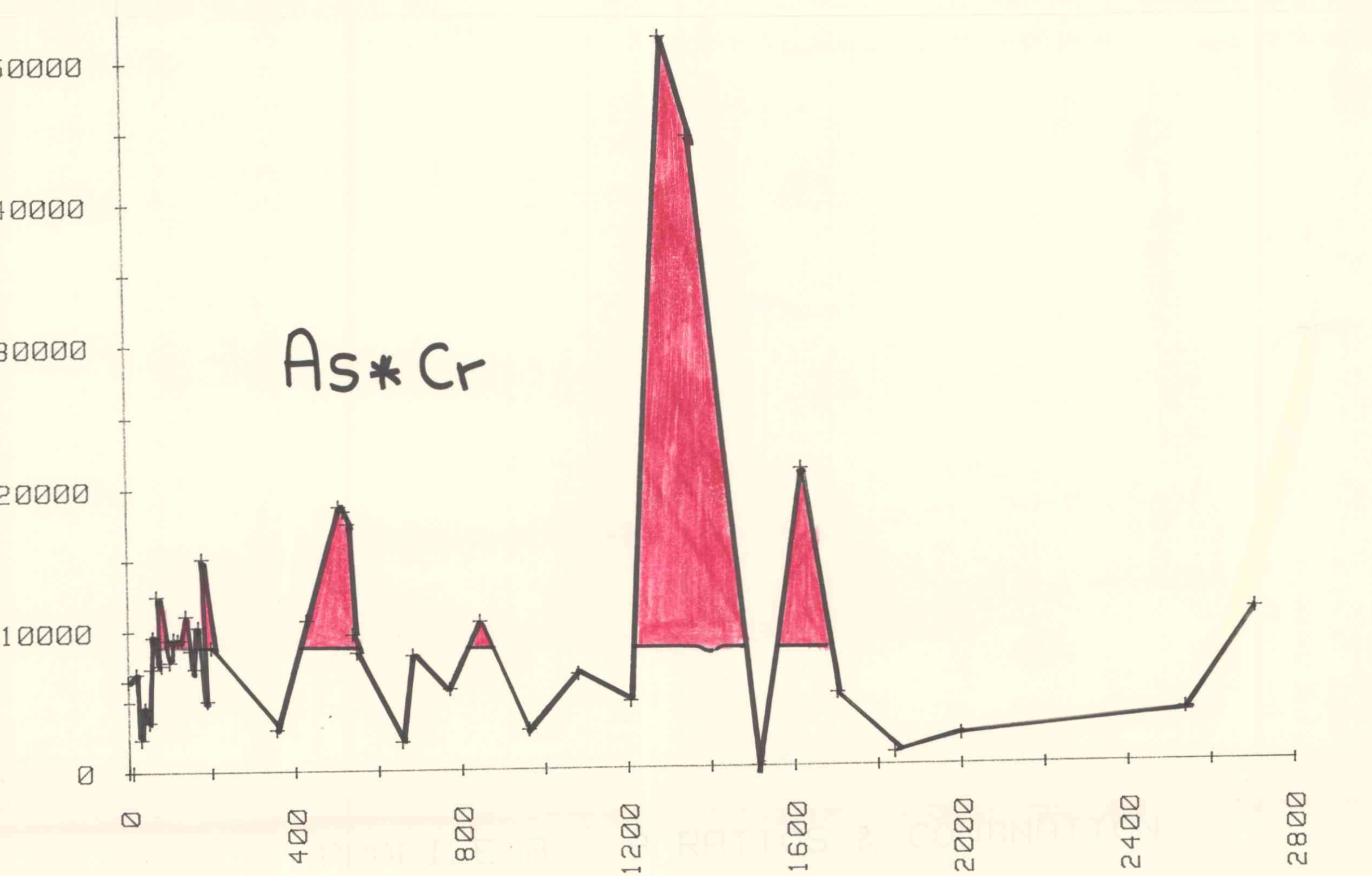
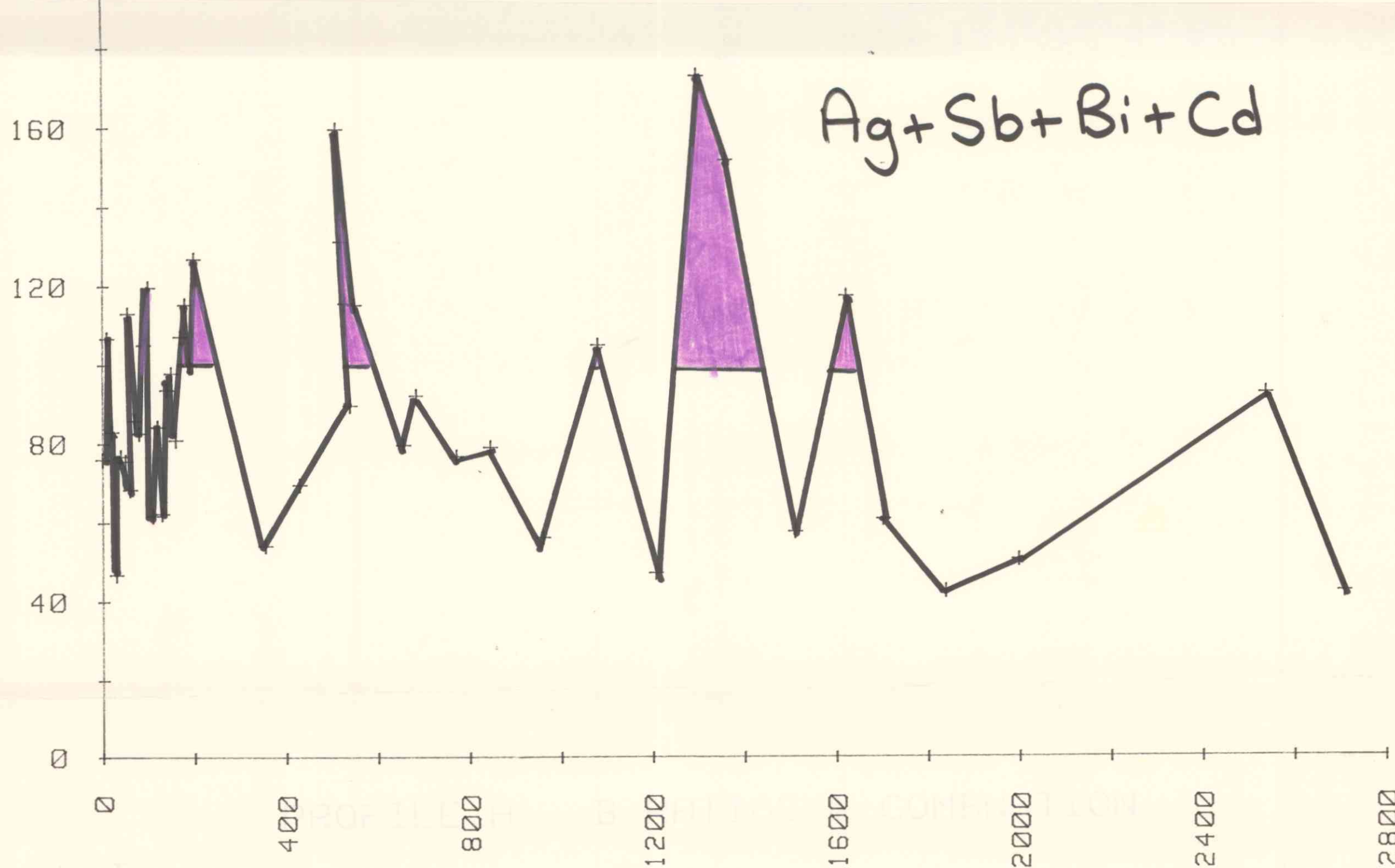
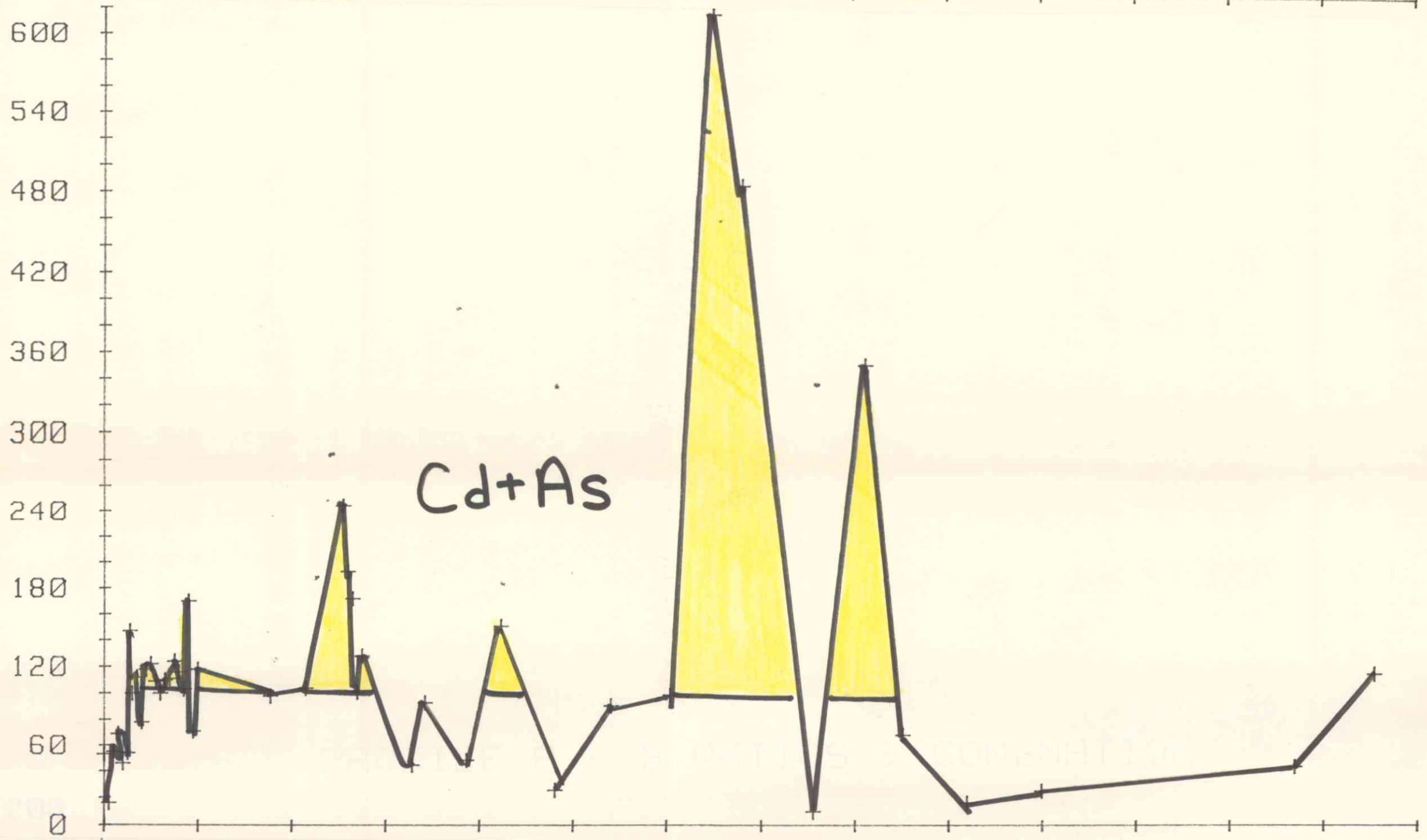
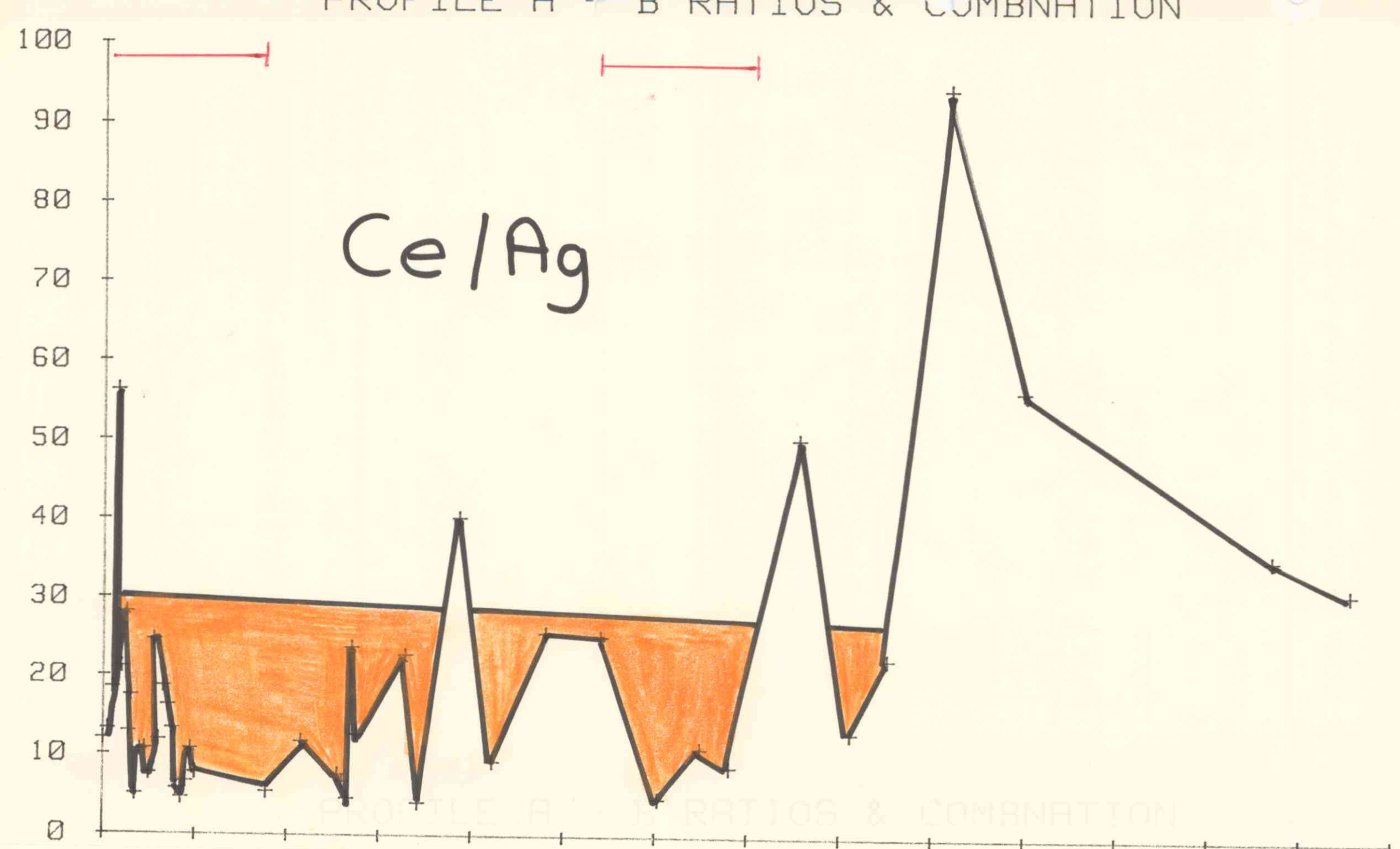
DISTANCE

PROFILE A - B RATIOS & COMBINATION



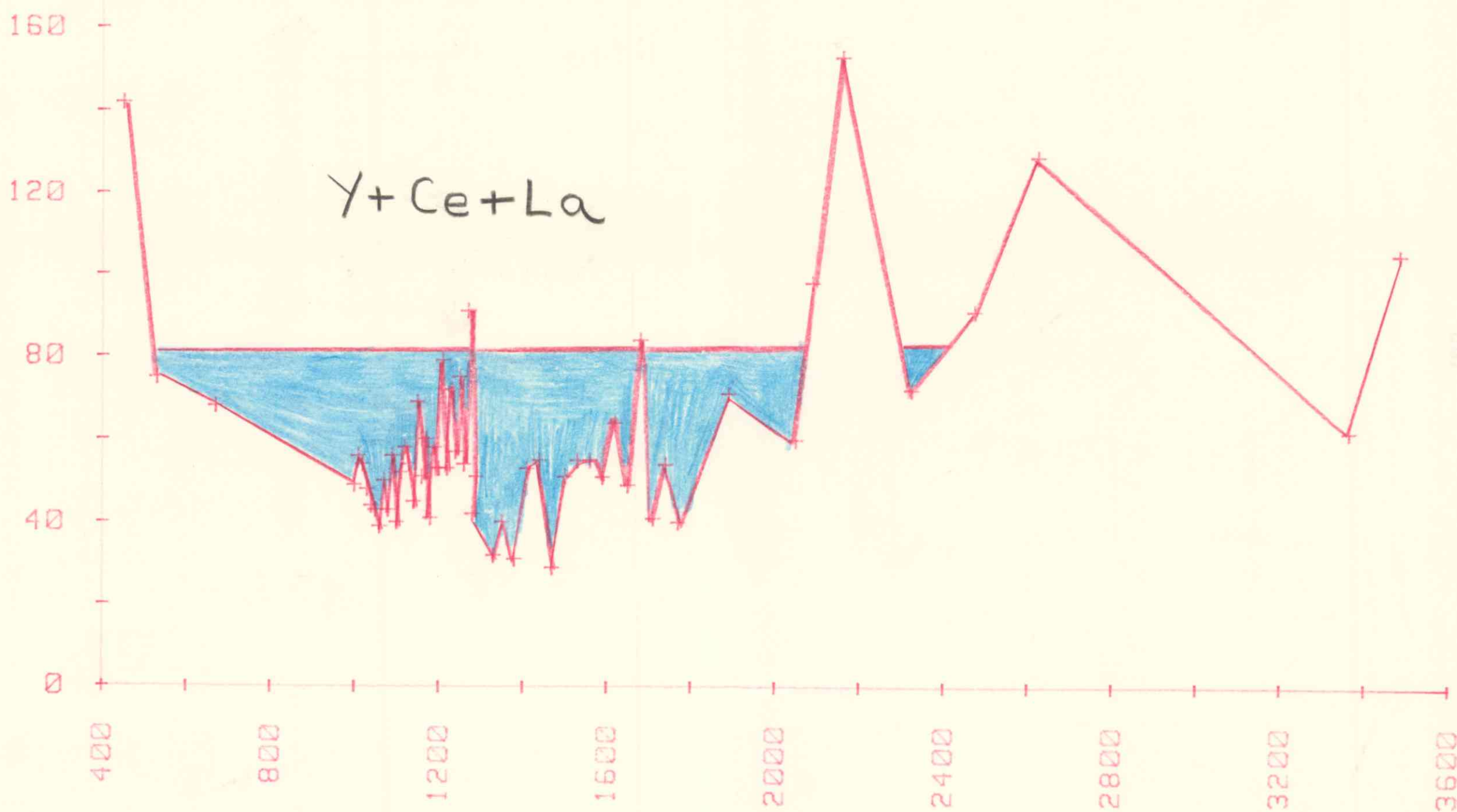
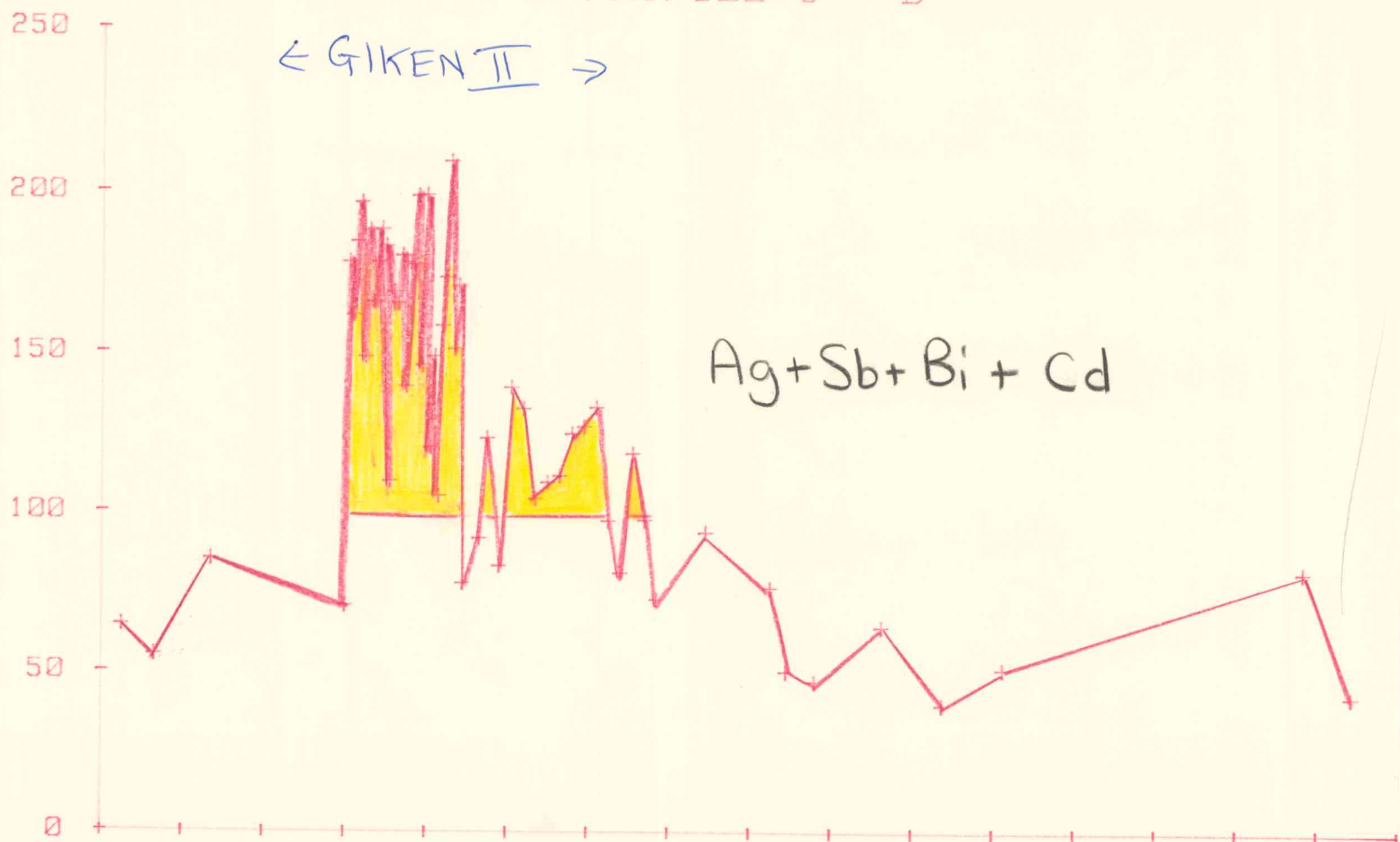
DISTANCE

PROFILE A - B RATIOS & COMBINATION



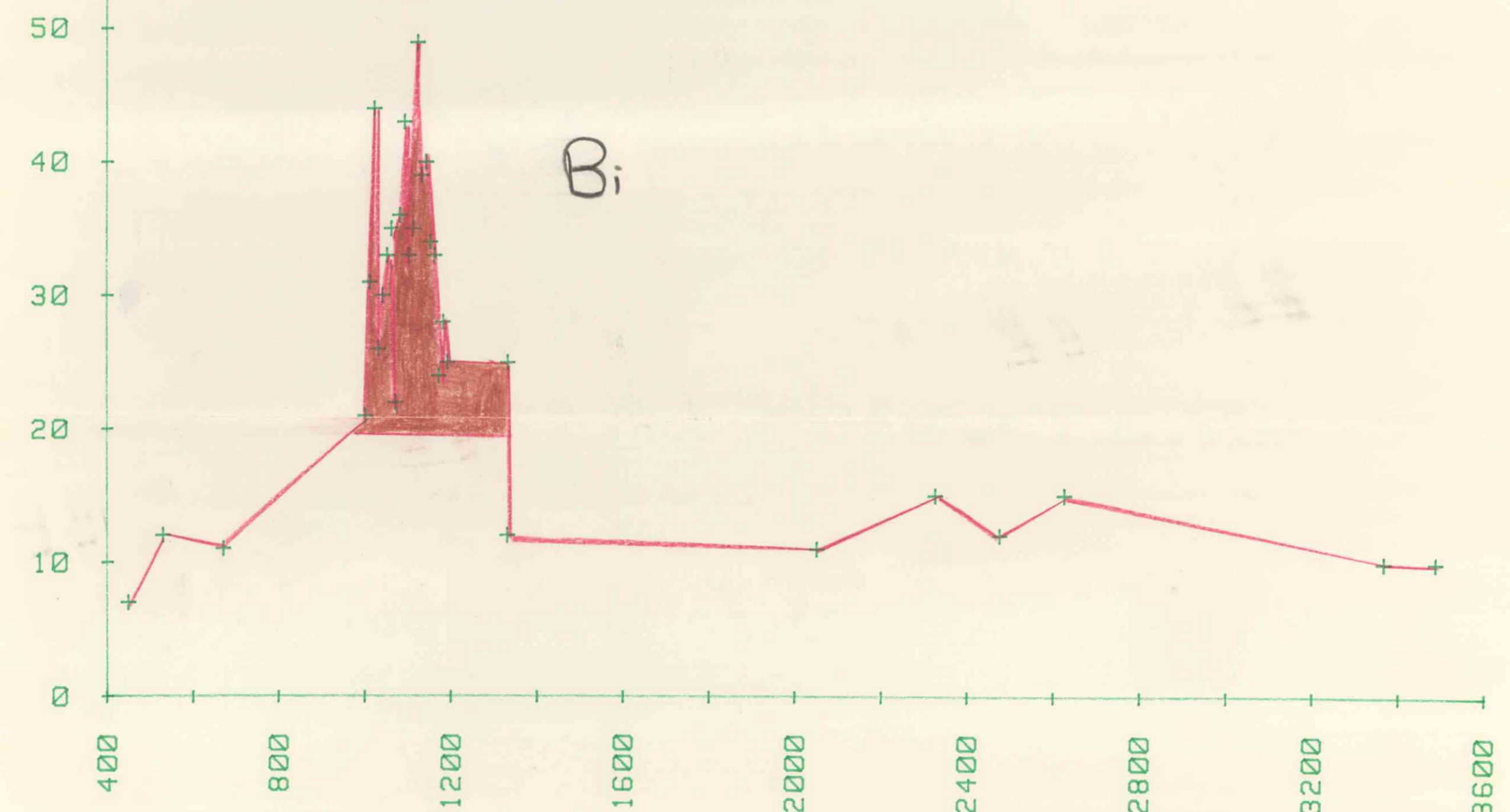
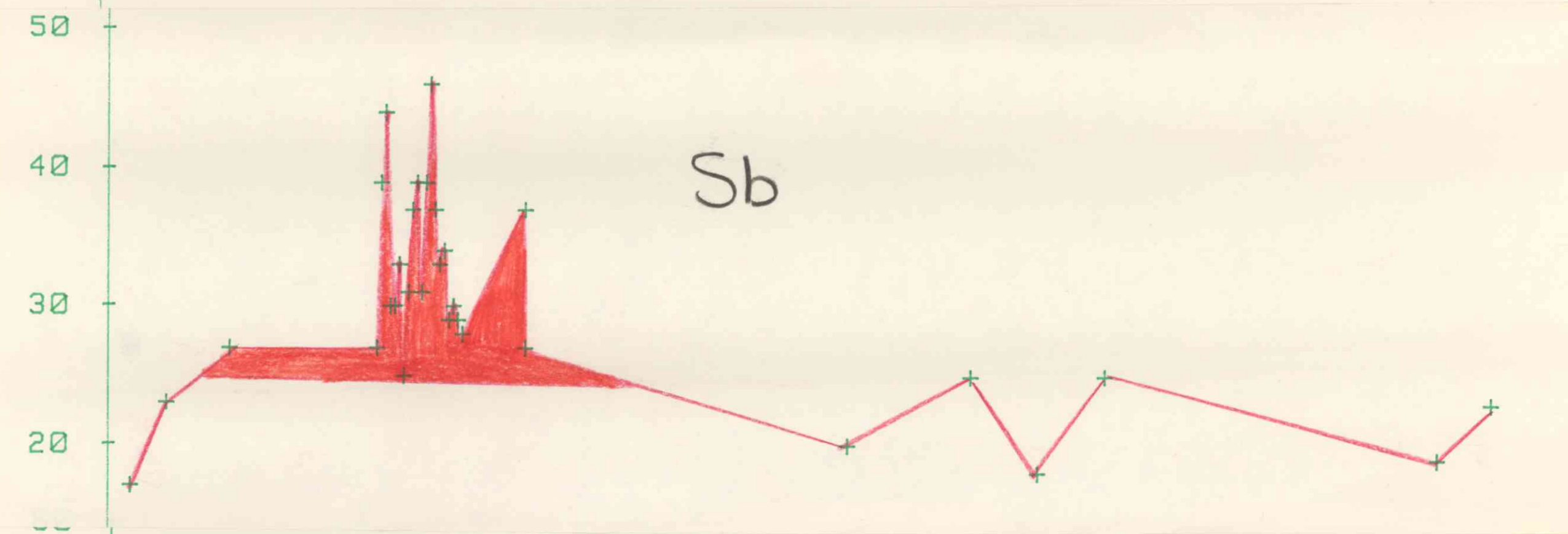
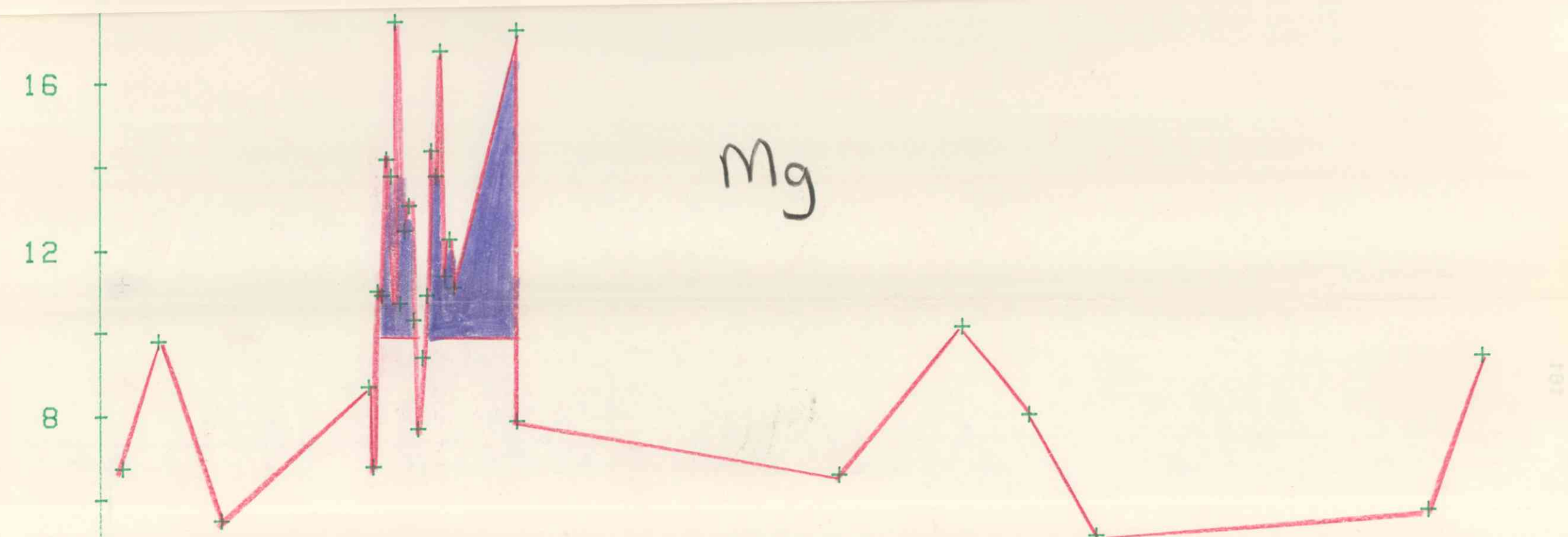
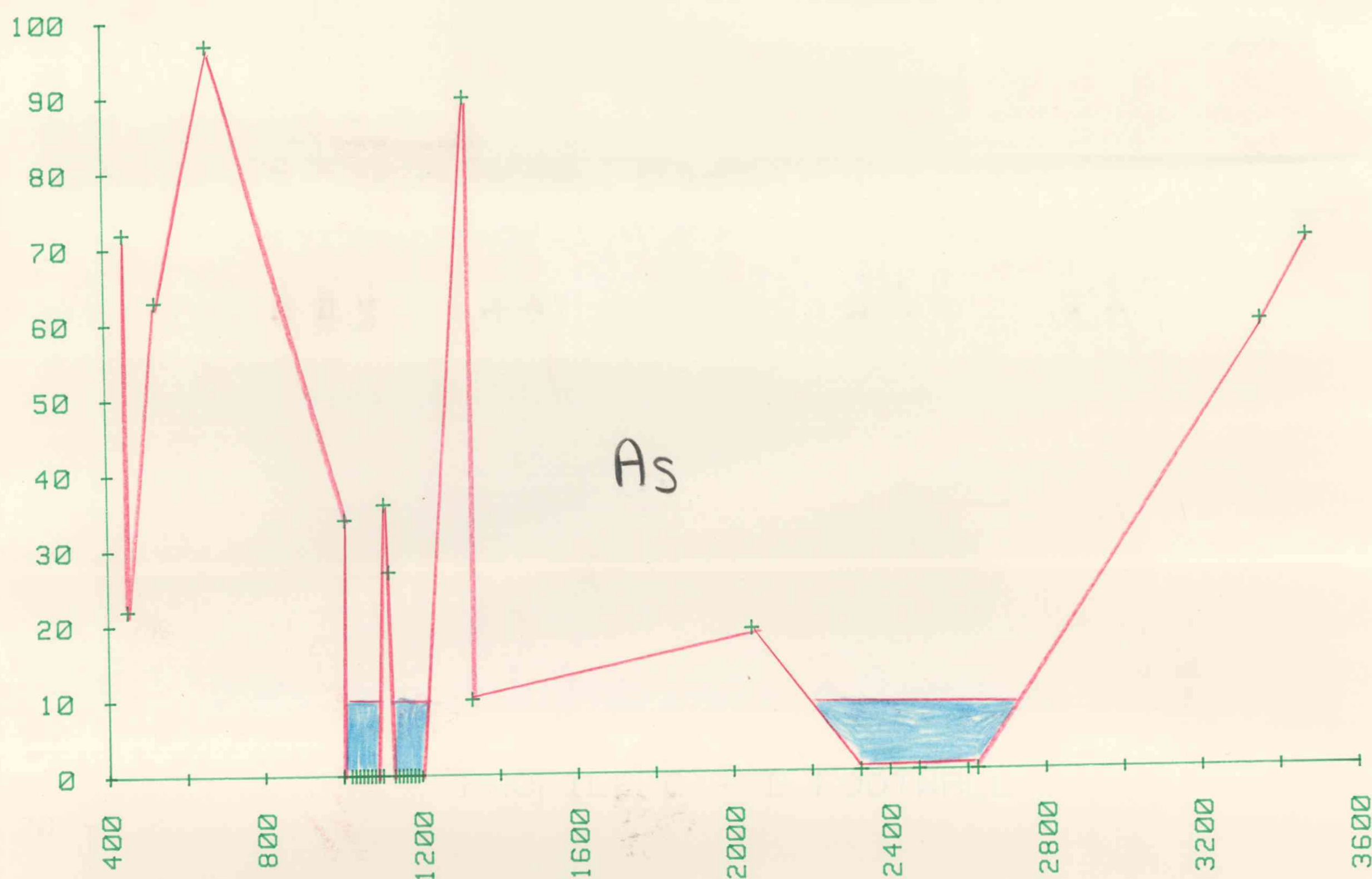
DISTANCE

← GIKEN II →



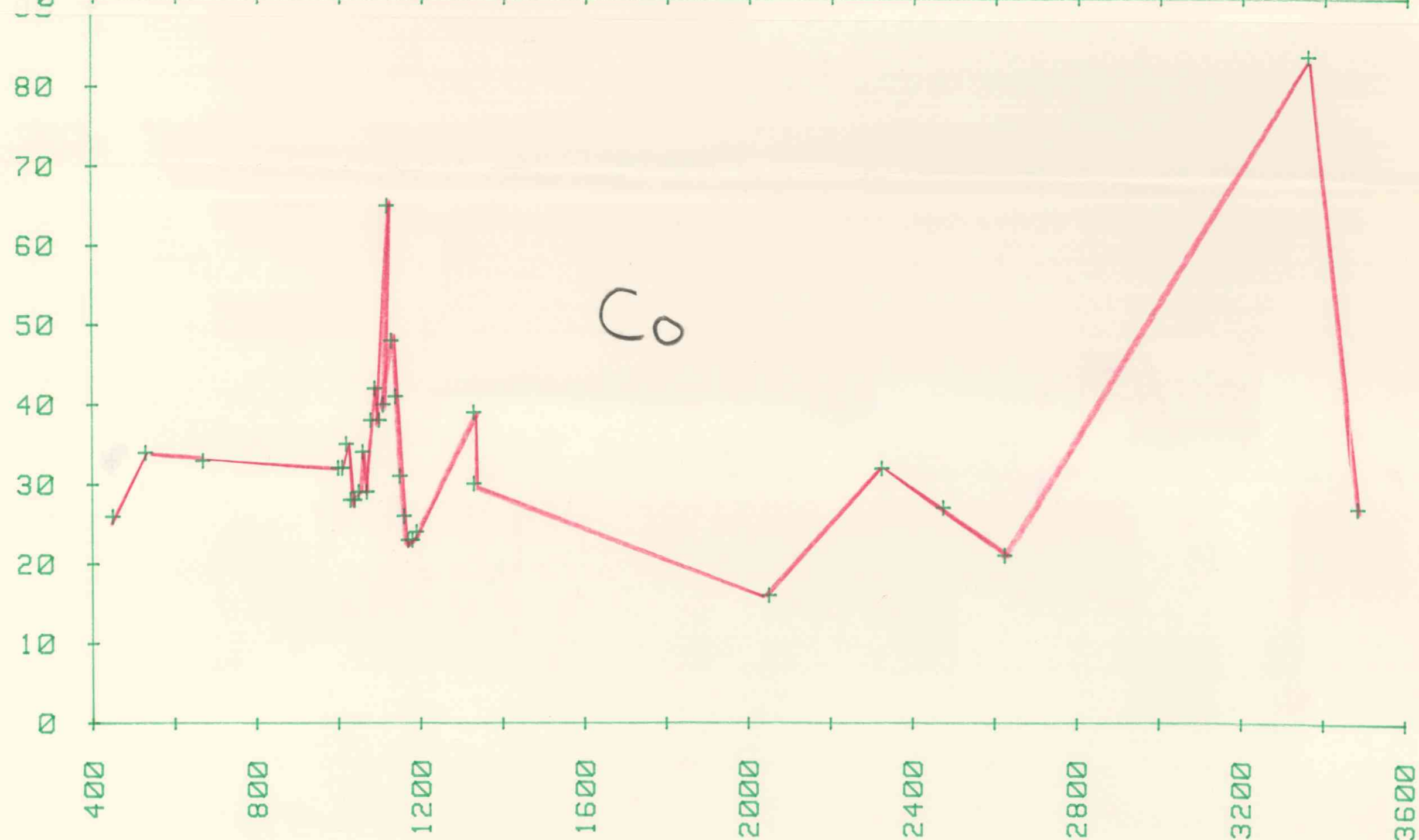
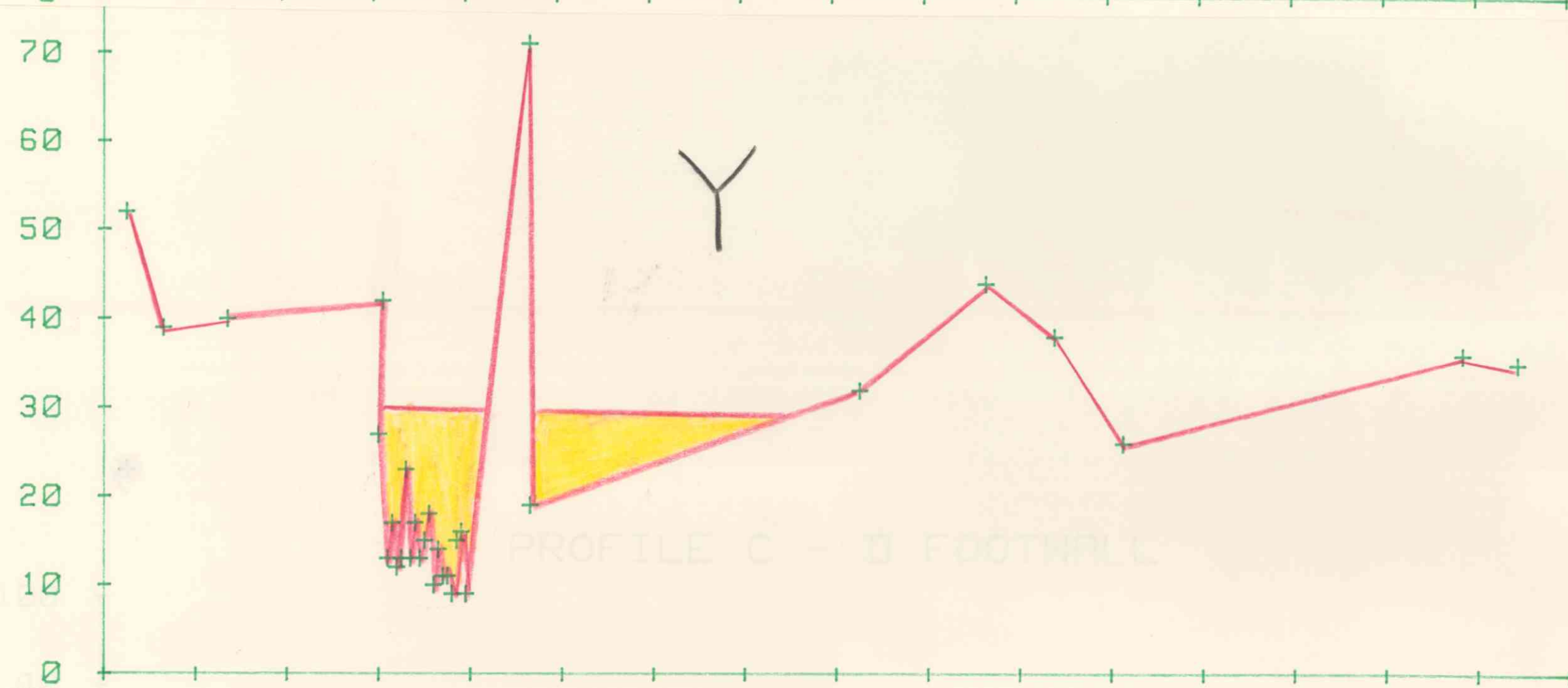
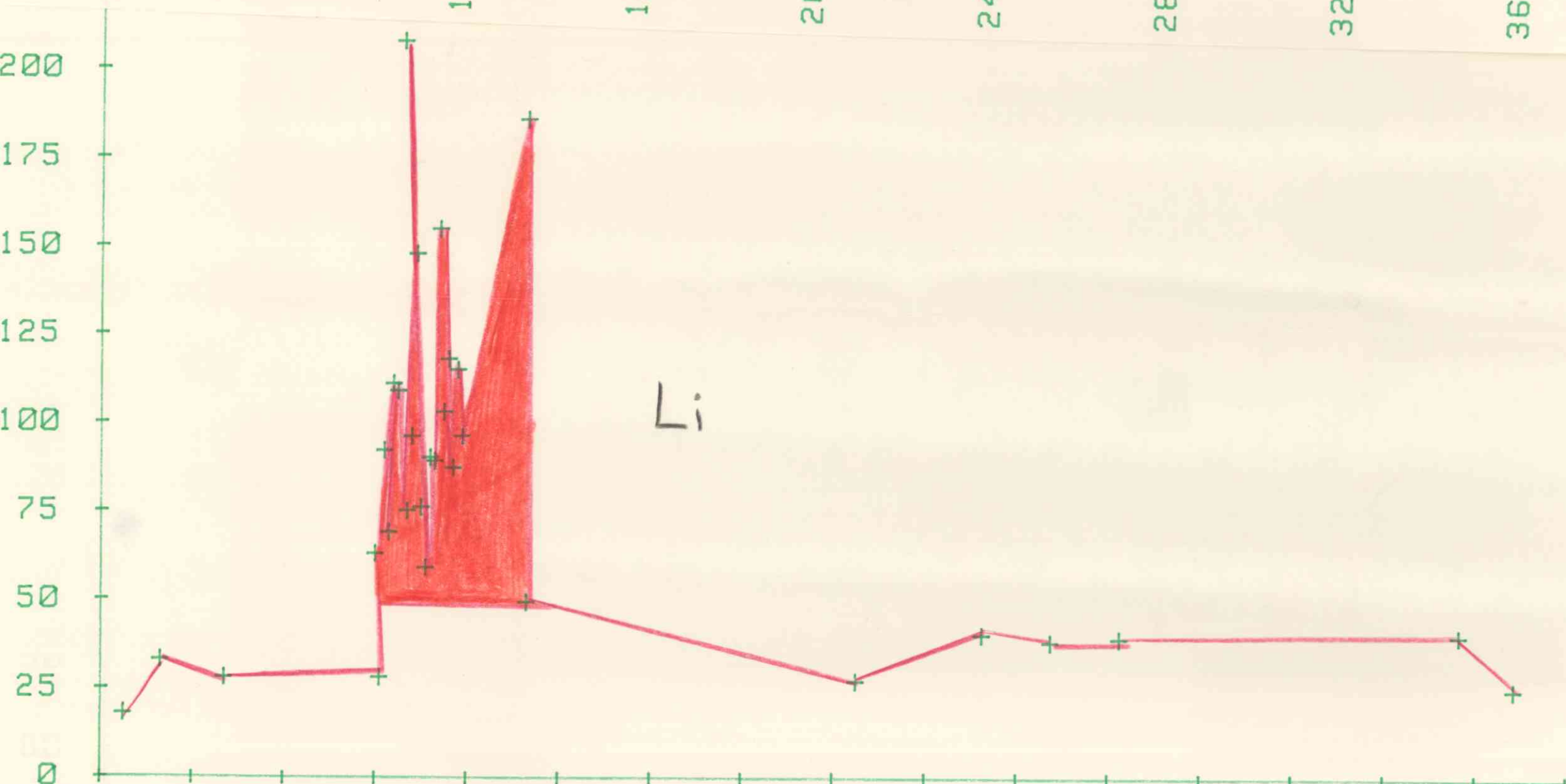
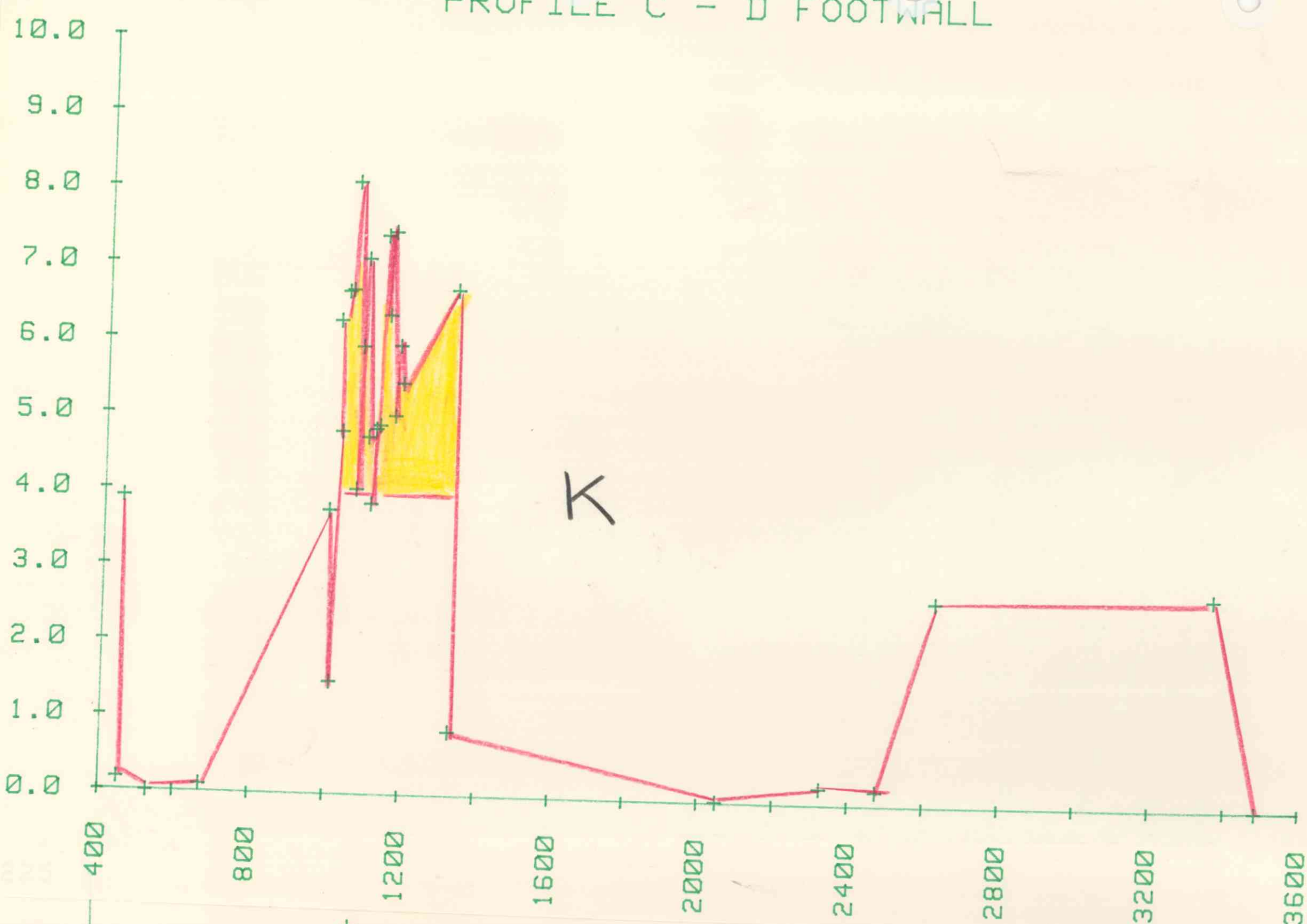
DISTANCE

PROFILE C - D FOOTWALL



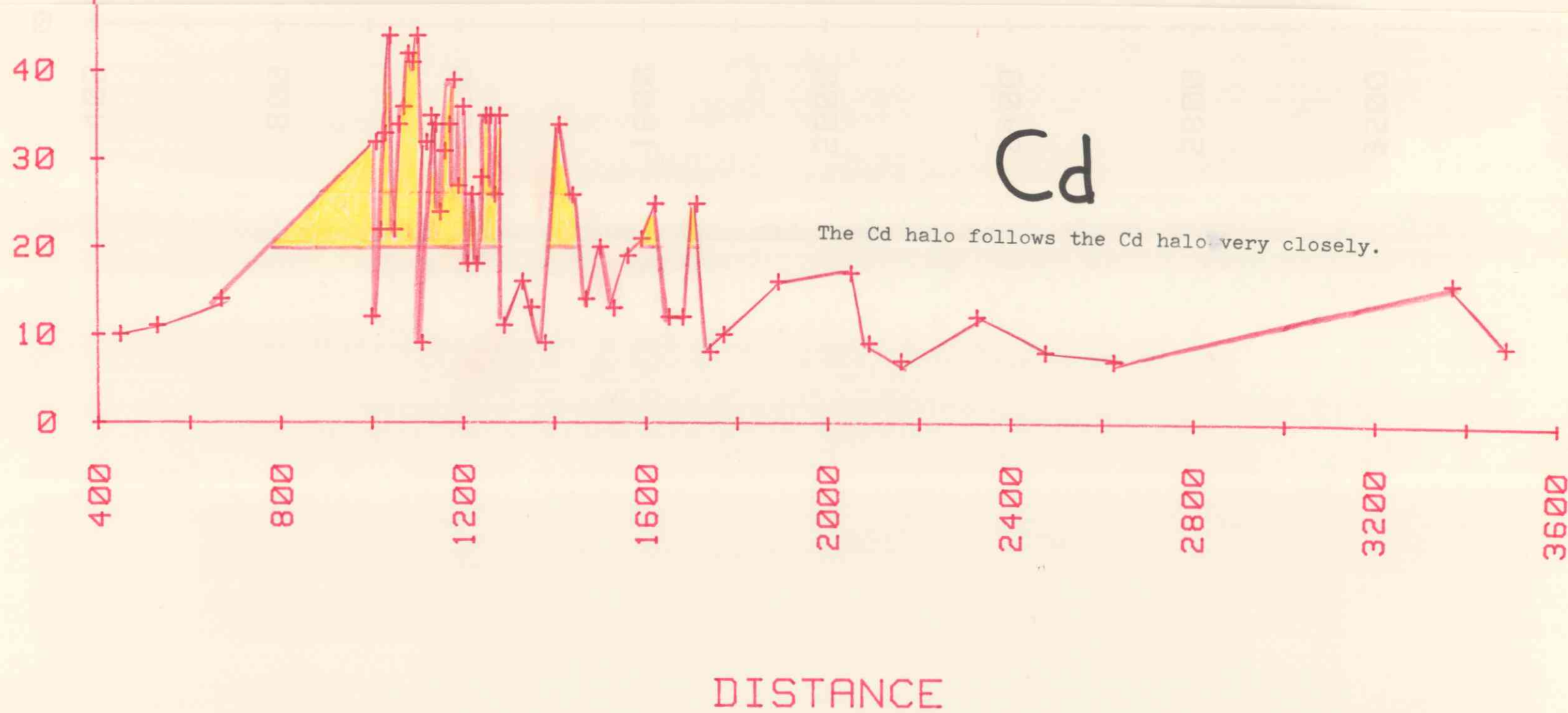
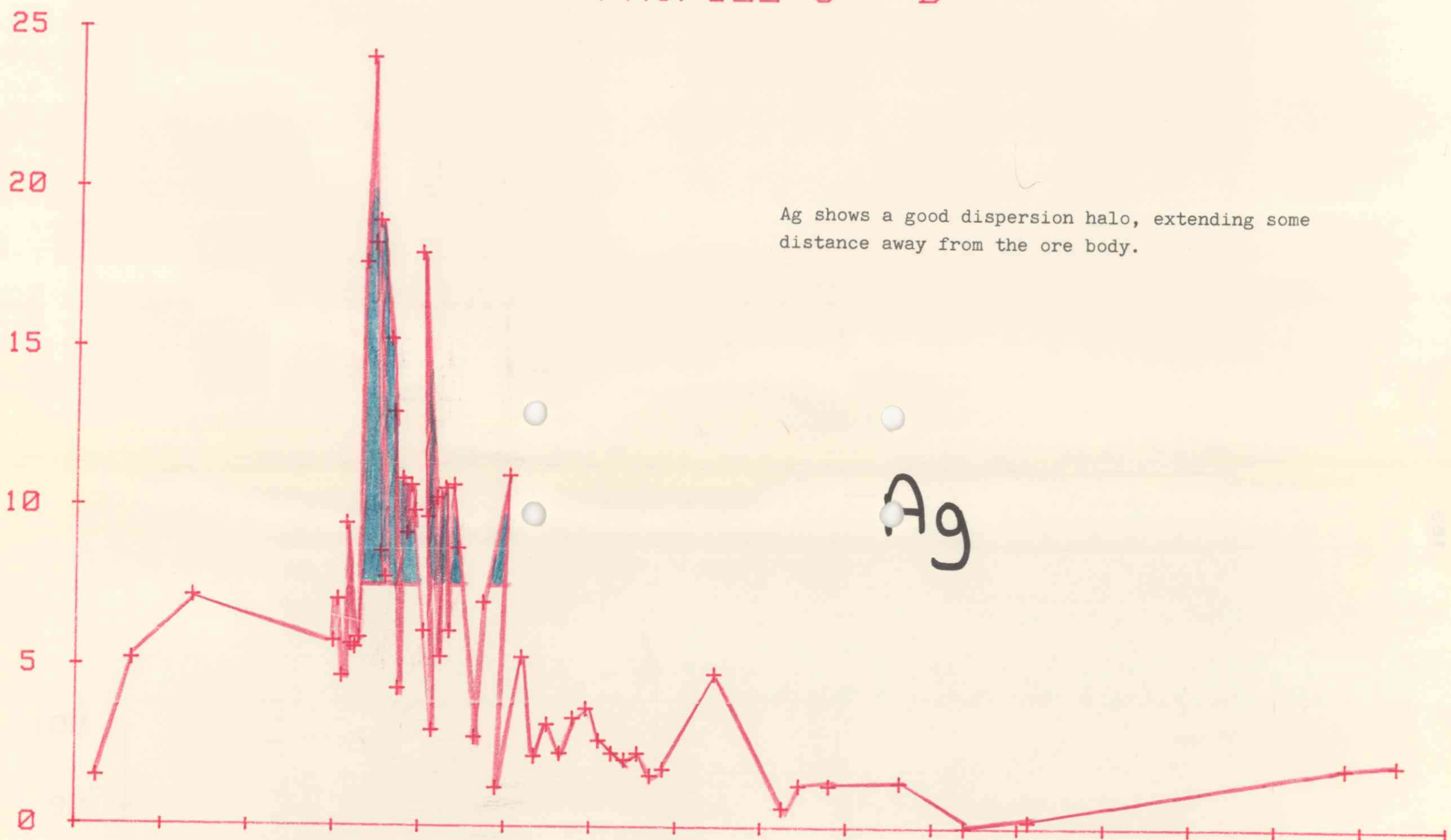
DISTANCE

PROFILE C - D FOOTWALL



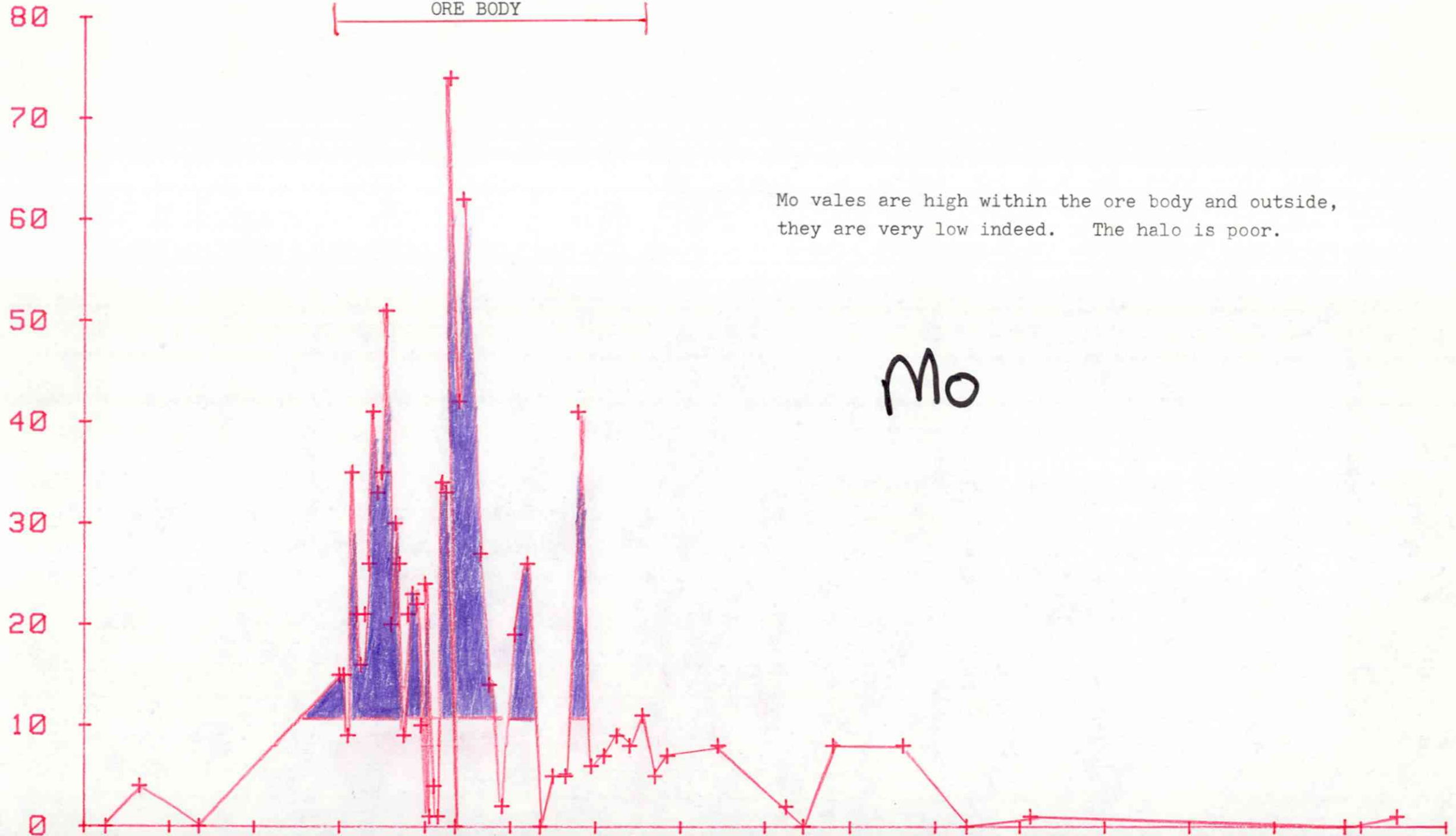
DISTANCE

PROFILE C - D

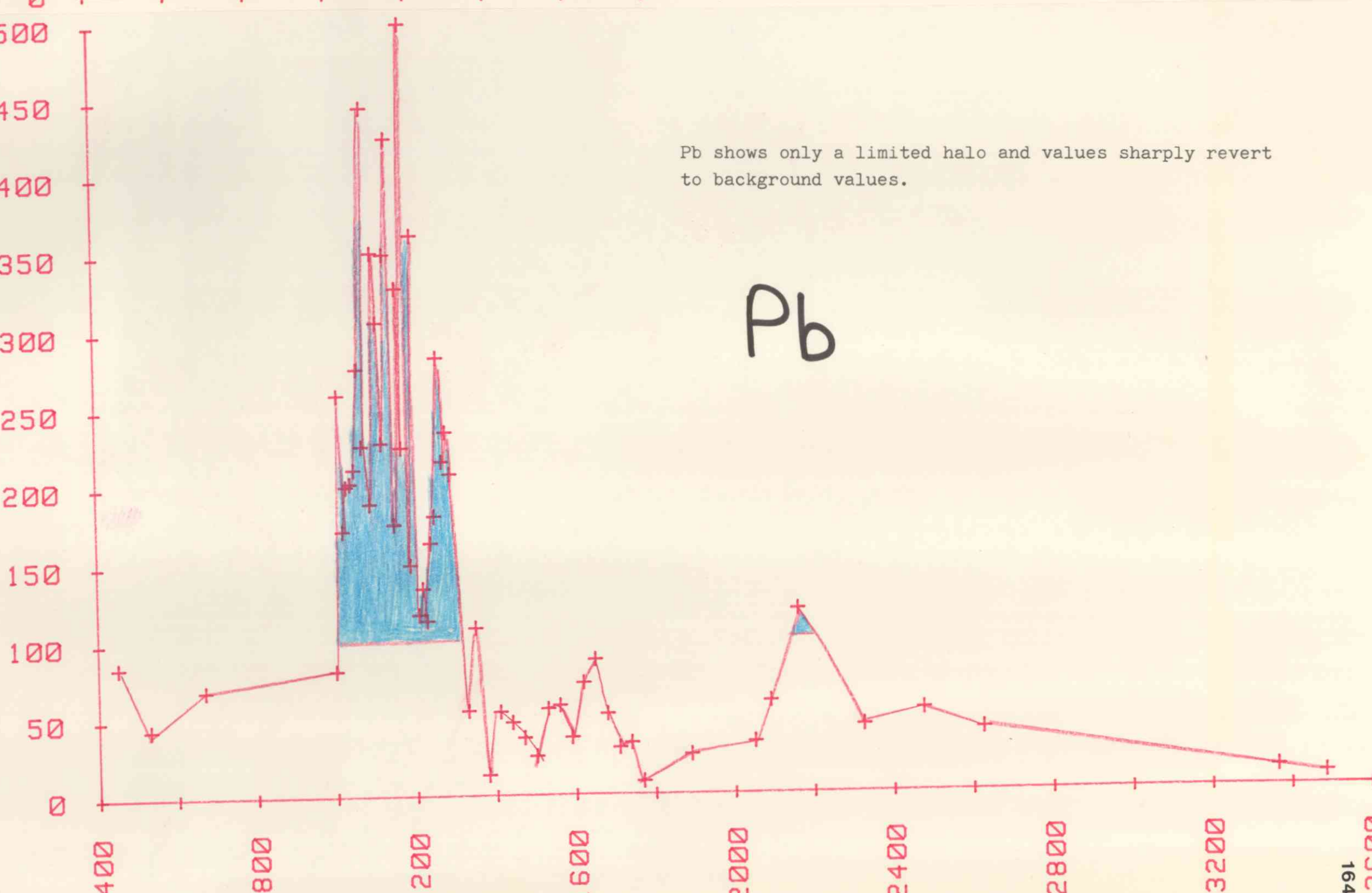
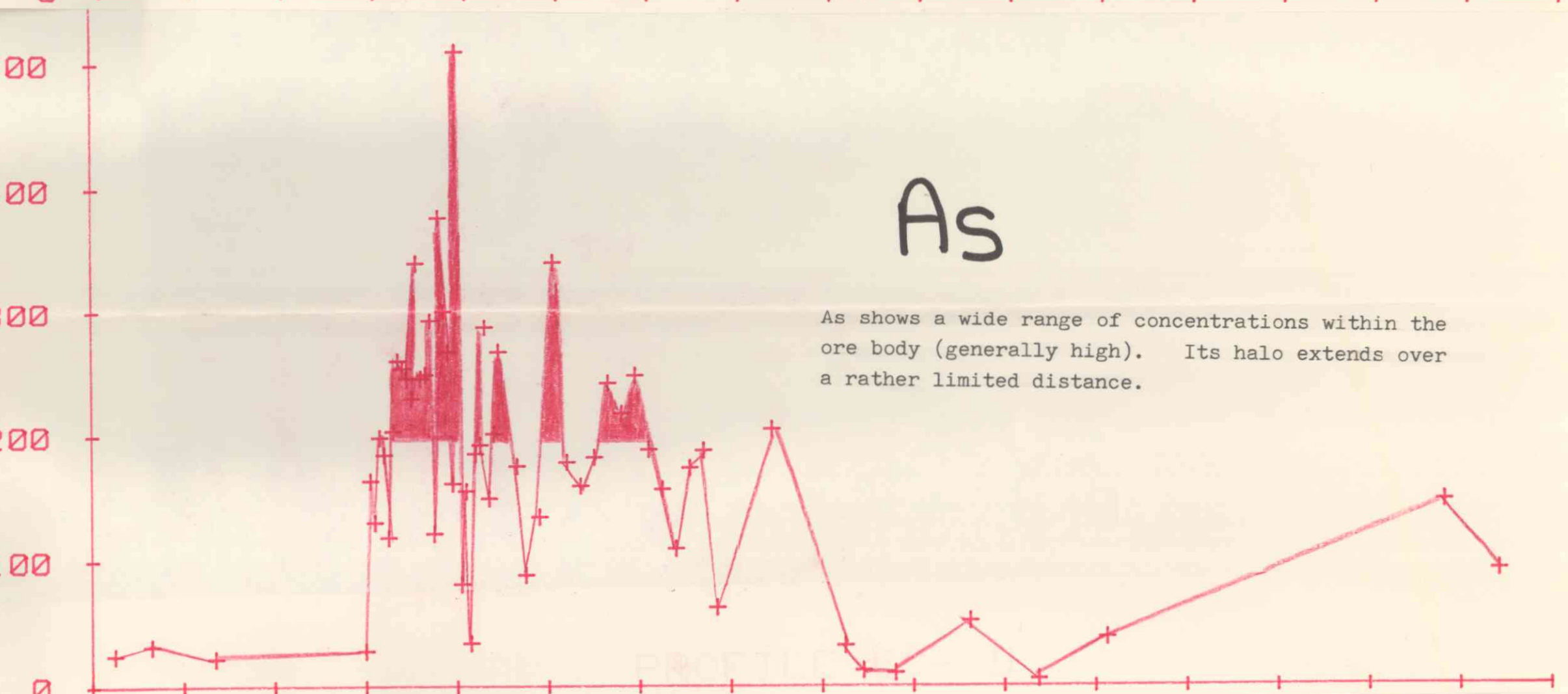
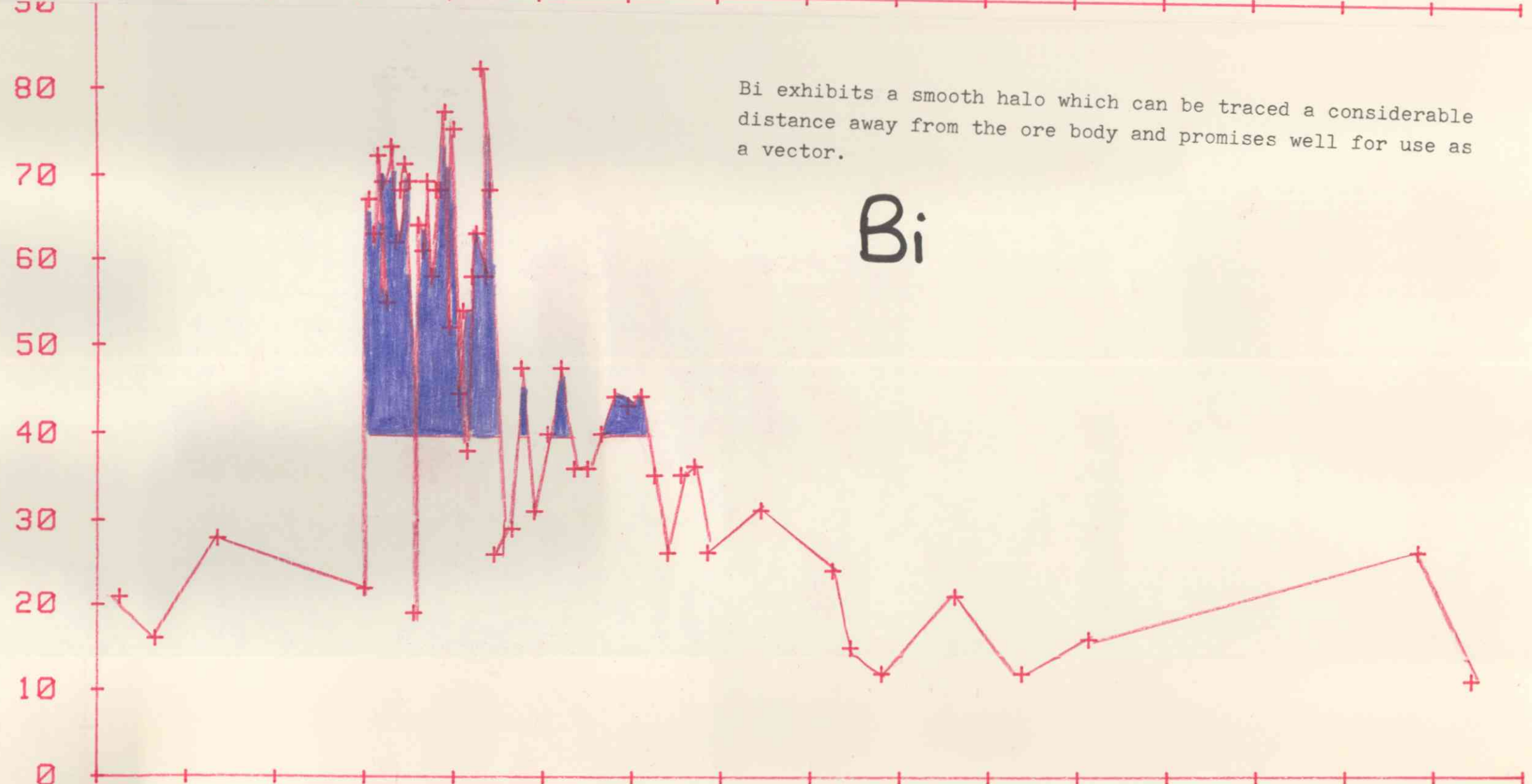
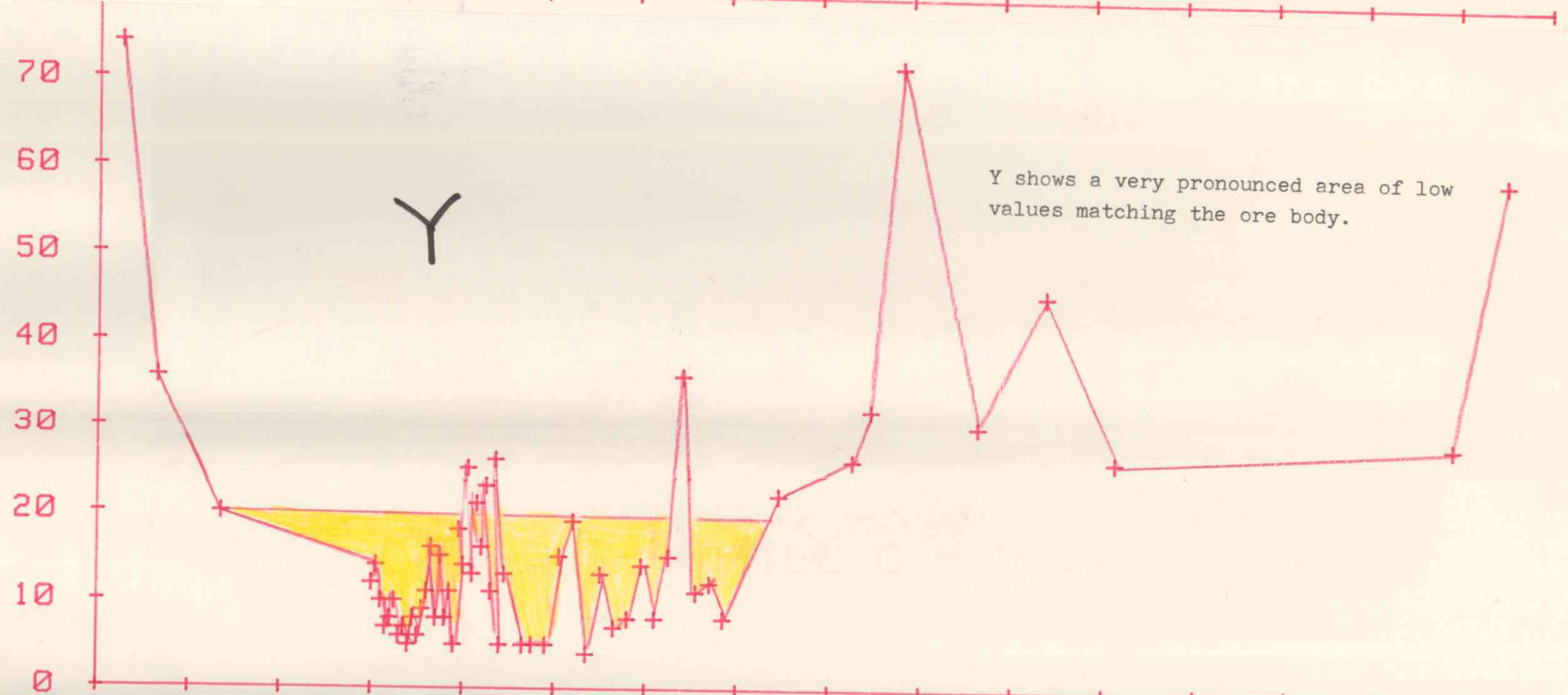
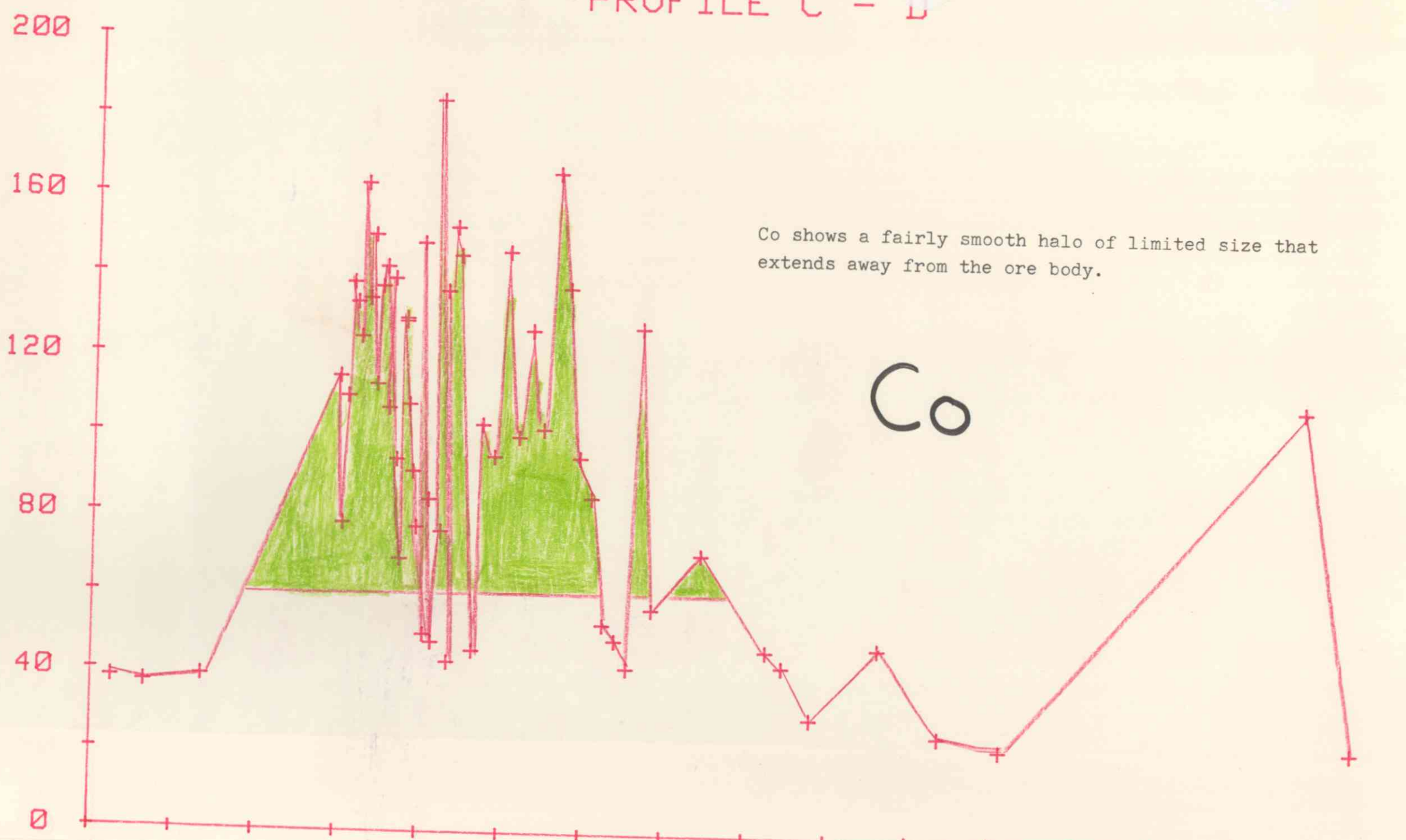


PROFILE C - 1

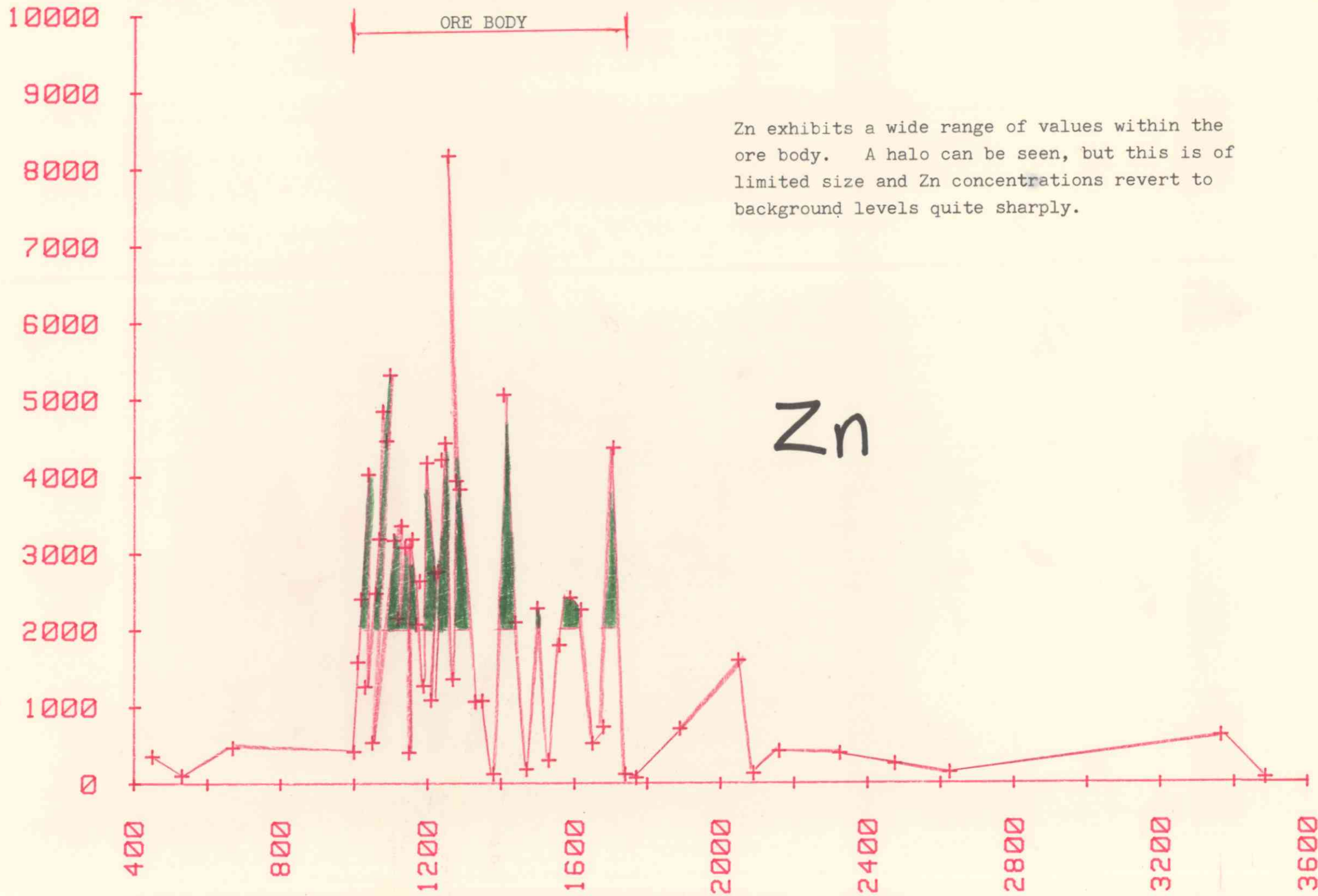
ORE BODY



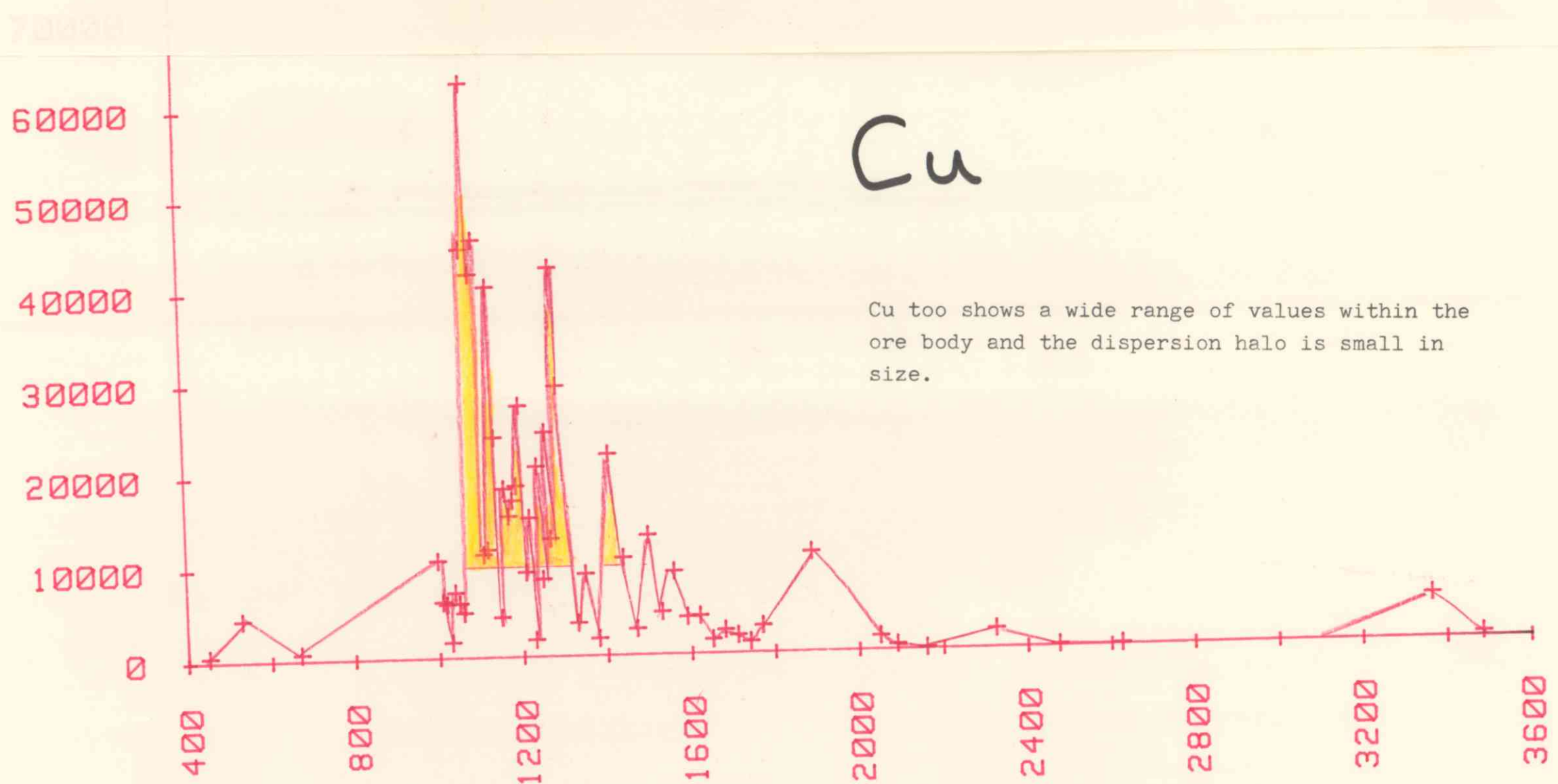
PROFILE C - D



PROFILE C - D



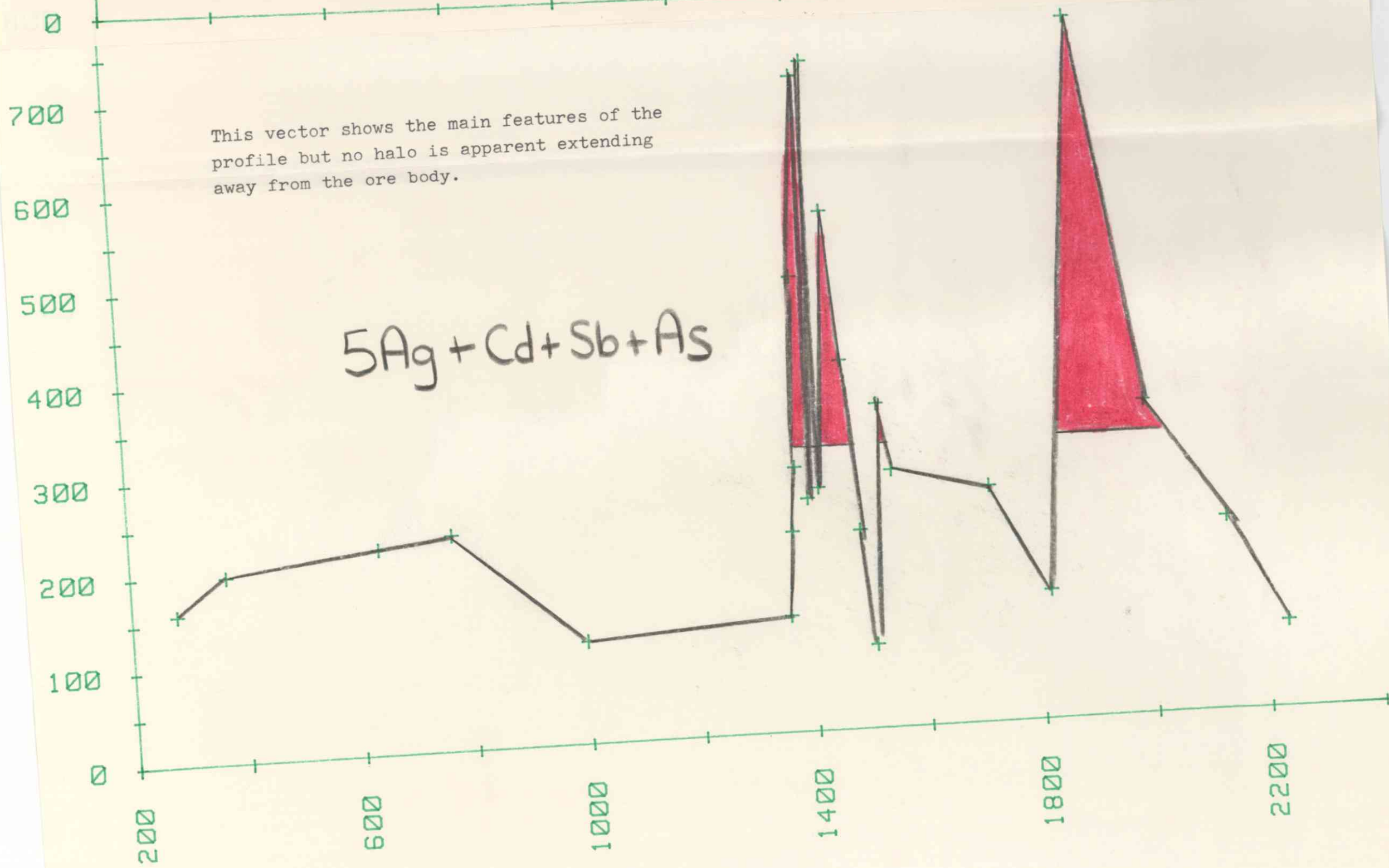
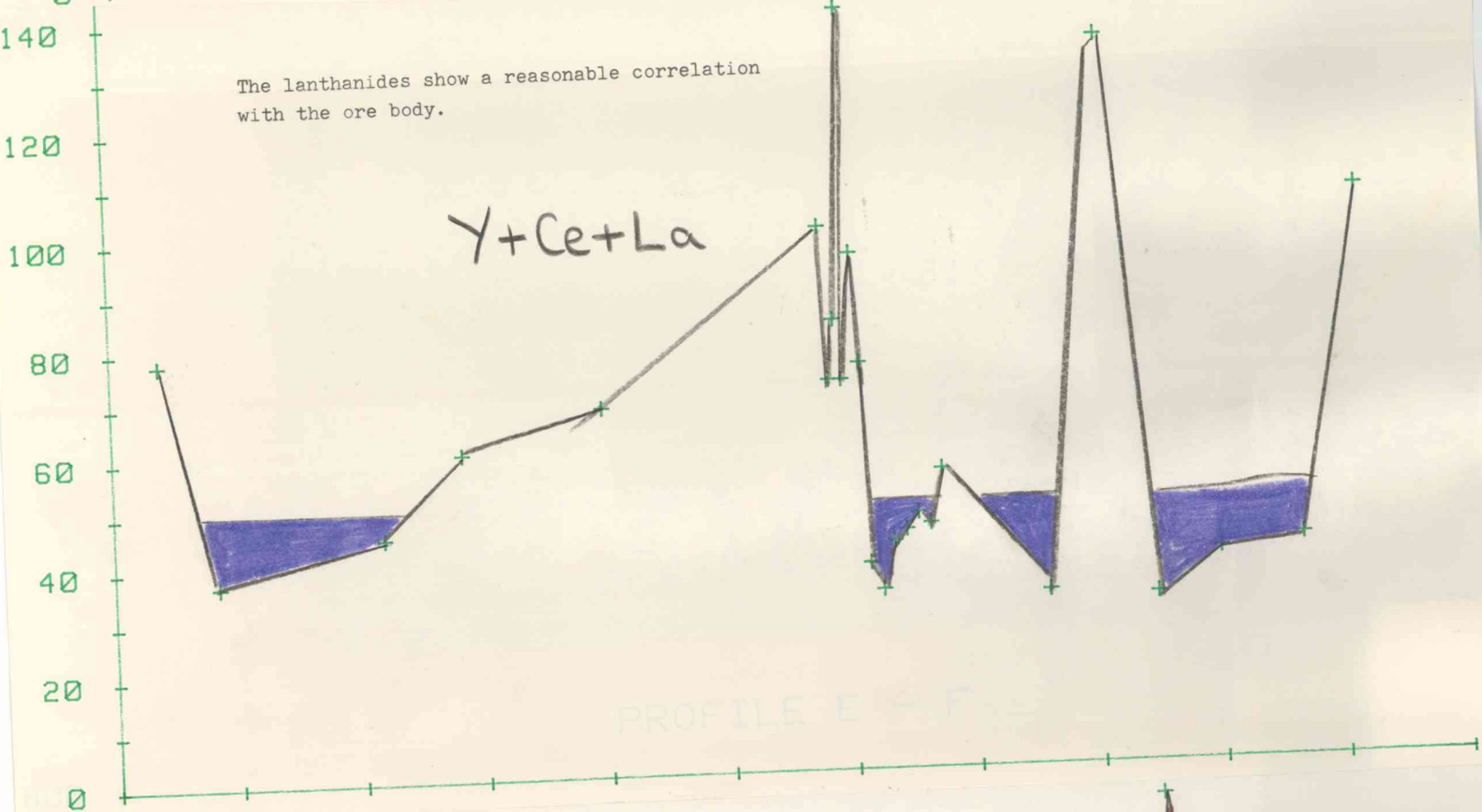
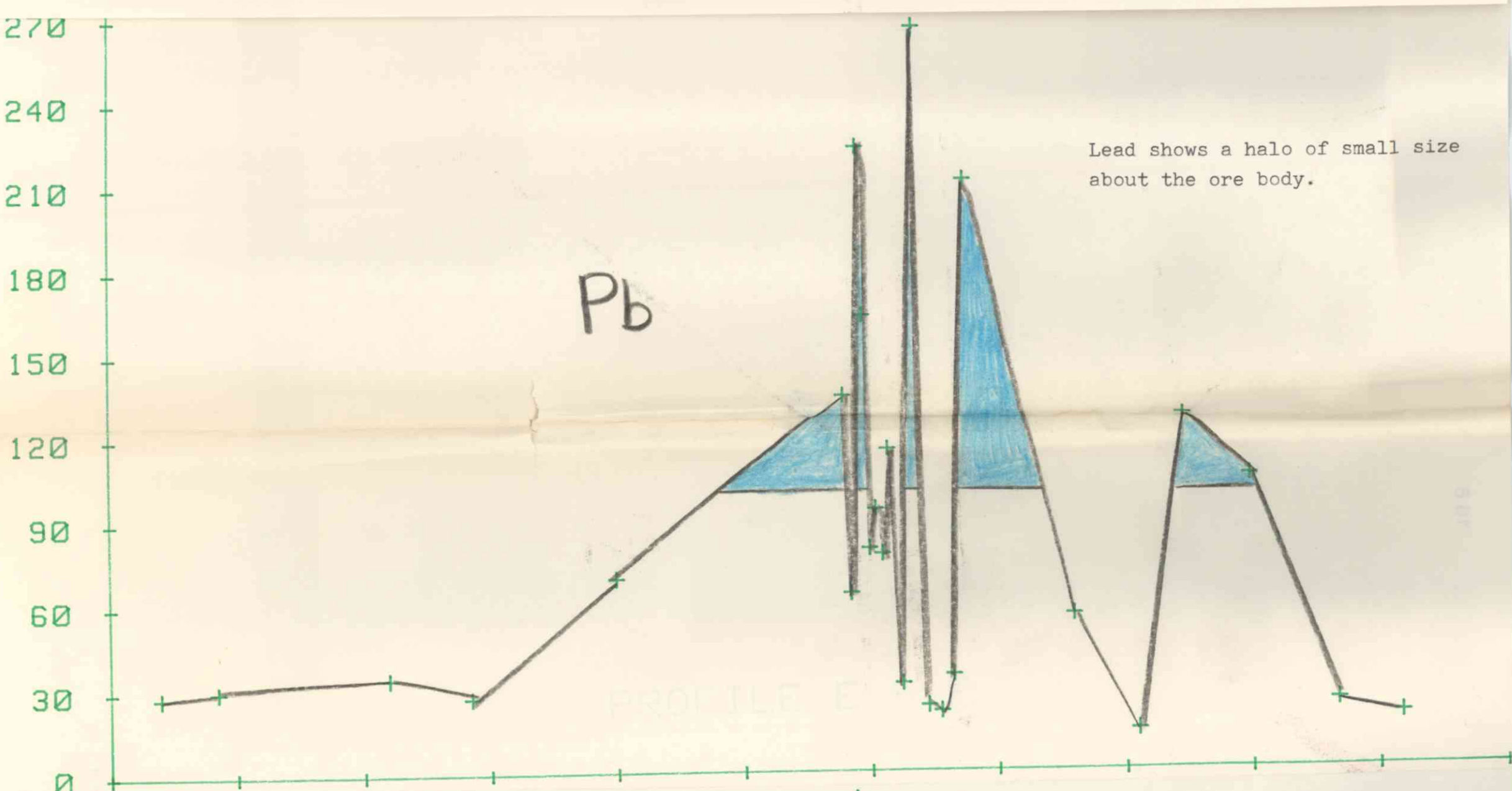
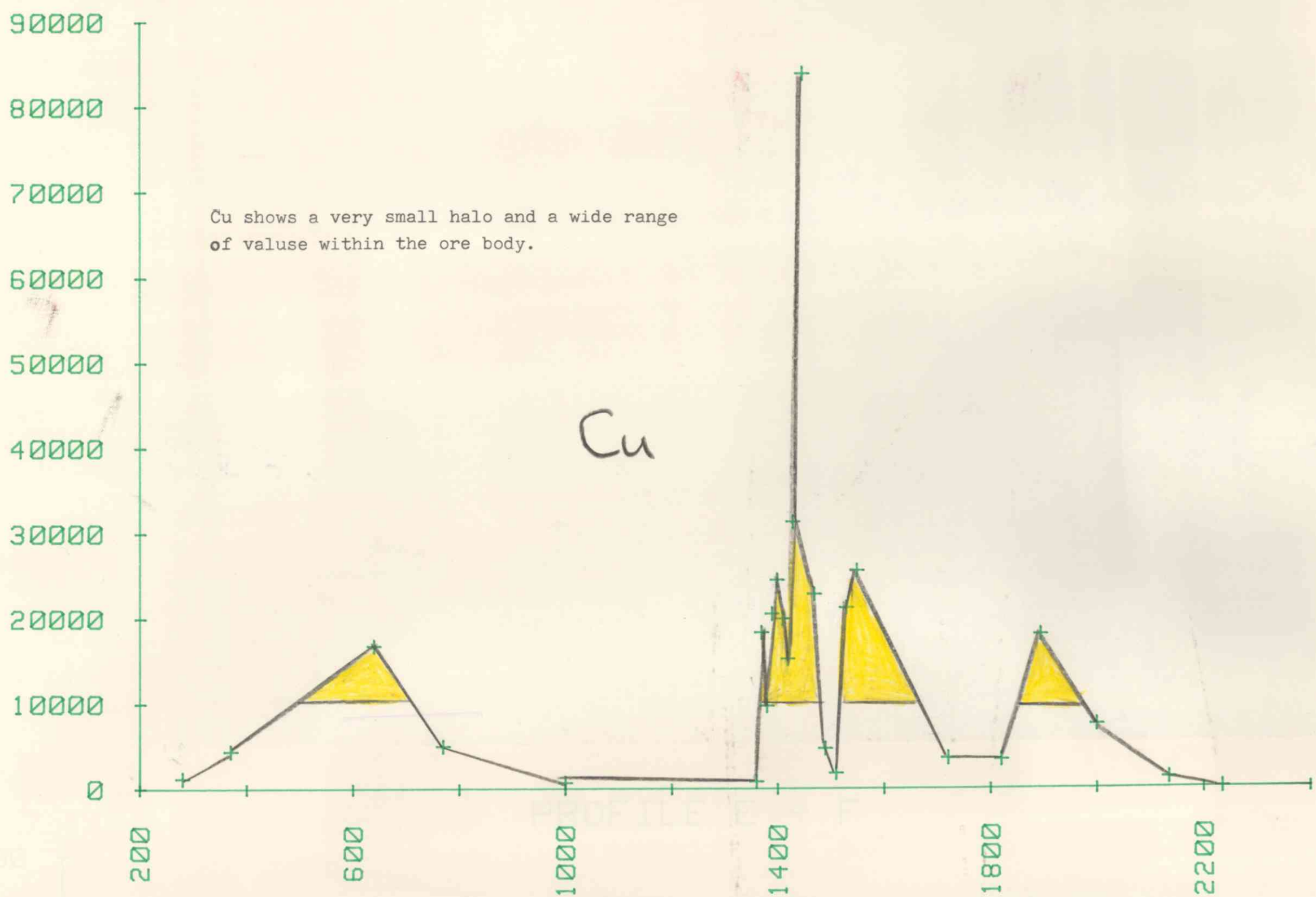
Zn exhibits a wide range of values within the ore body. A halo can be seen, but this is of limited size and Zn concentrations revert to background levels quite sharply.



Cu too shows a wide range of values within the ore body and the dispersion halo is small in size.

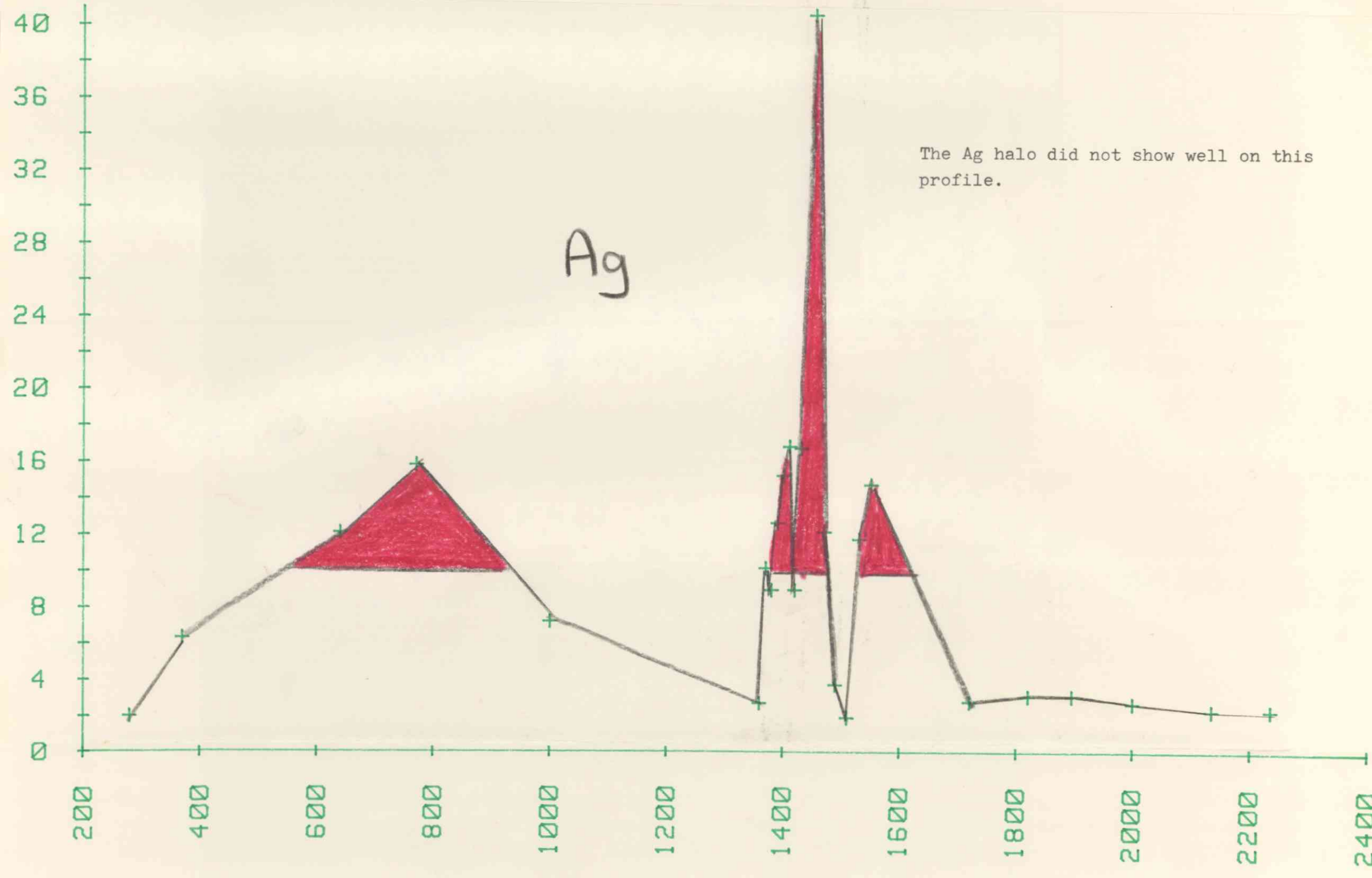
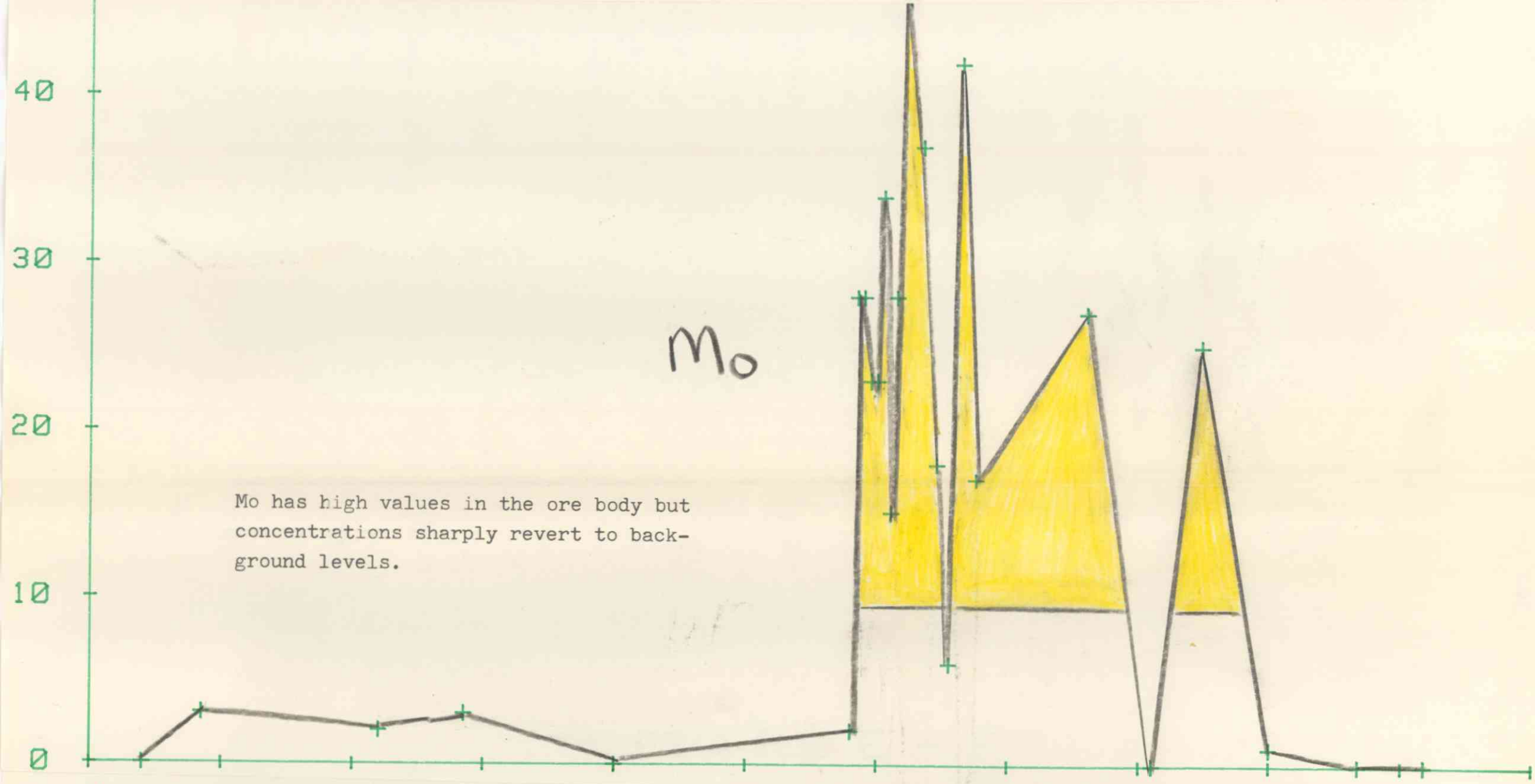
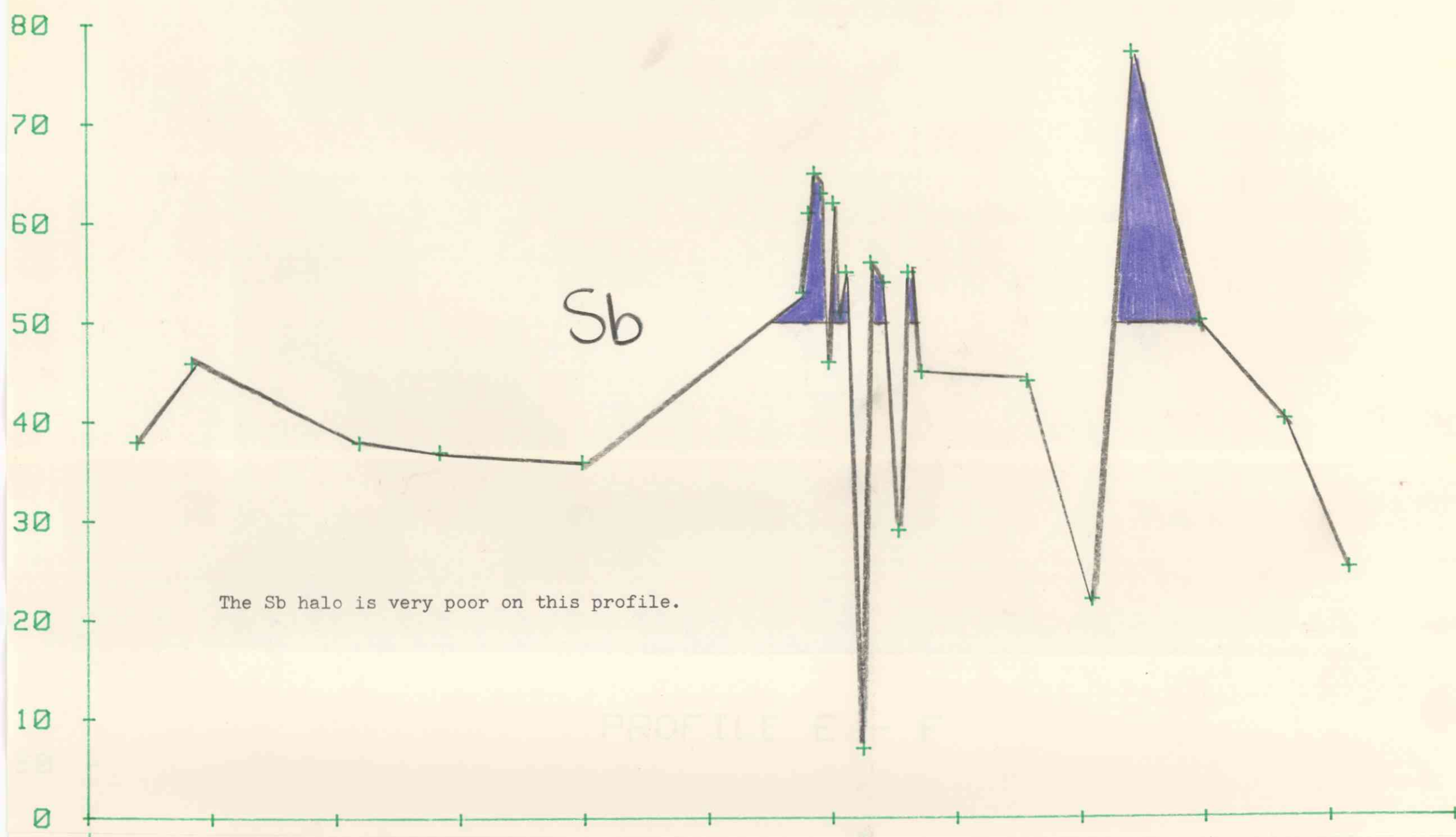
DISTANCE

PROFILE E - F



DISTANCE

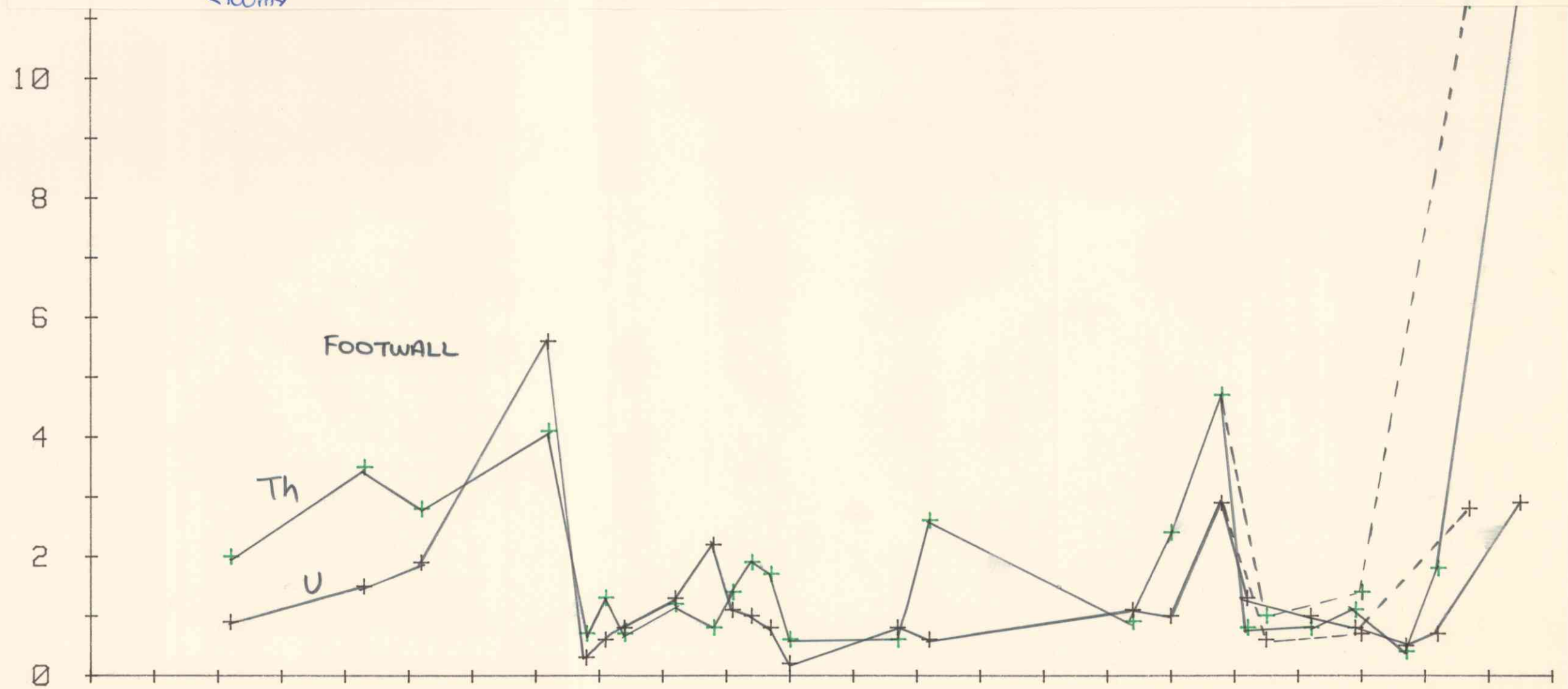
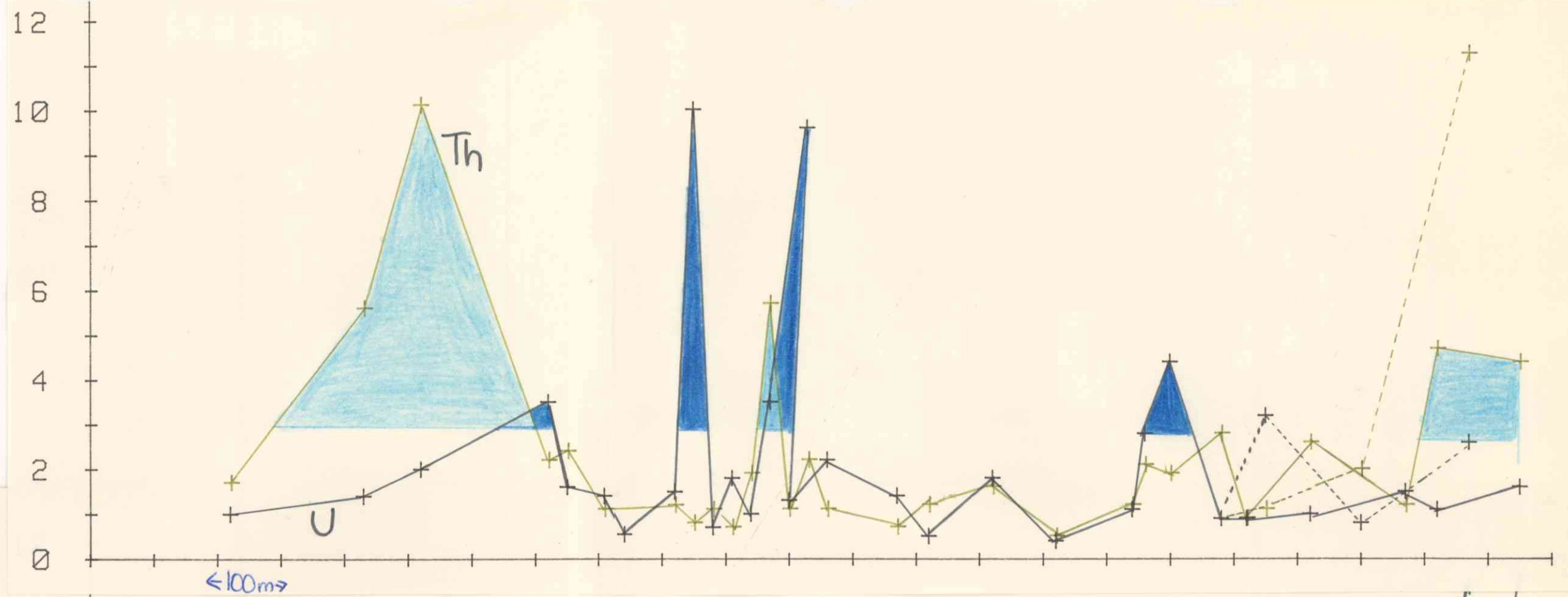
PROFILE E - F

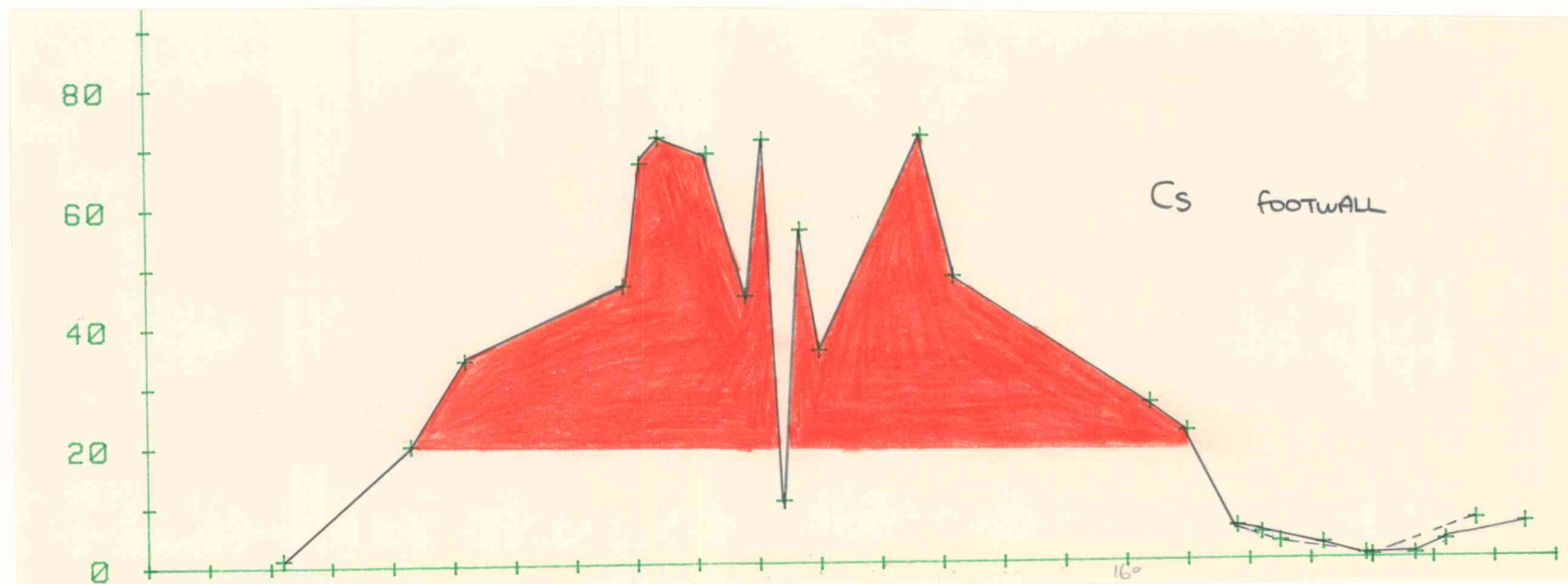
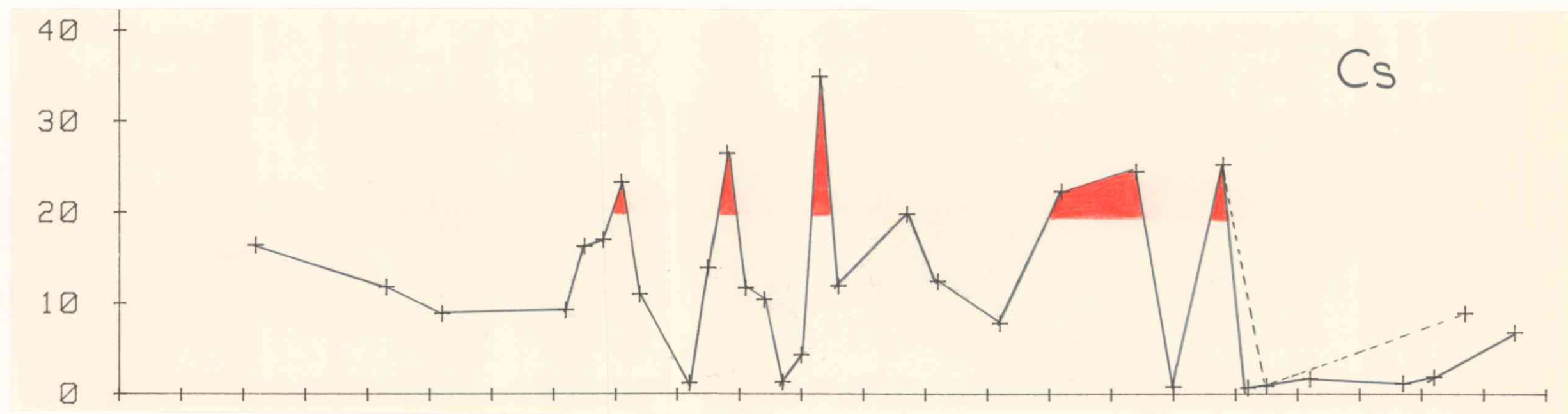


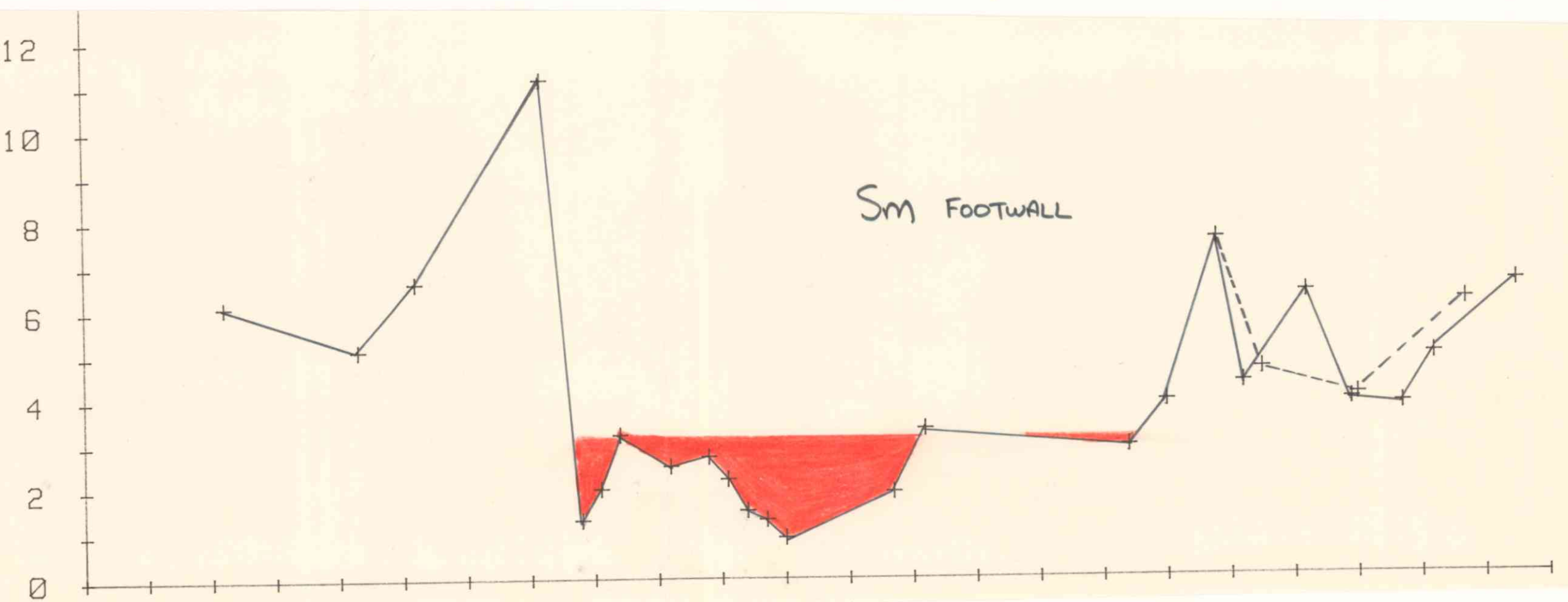
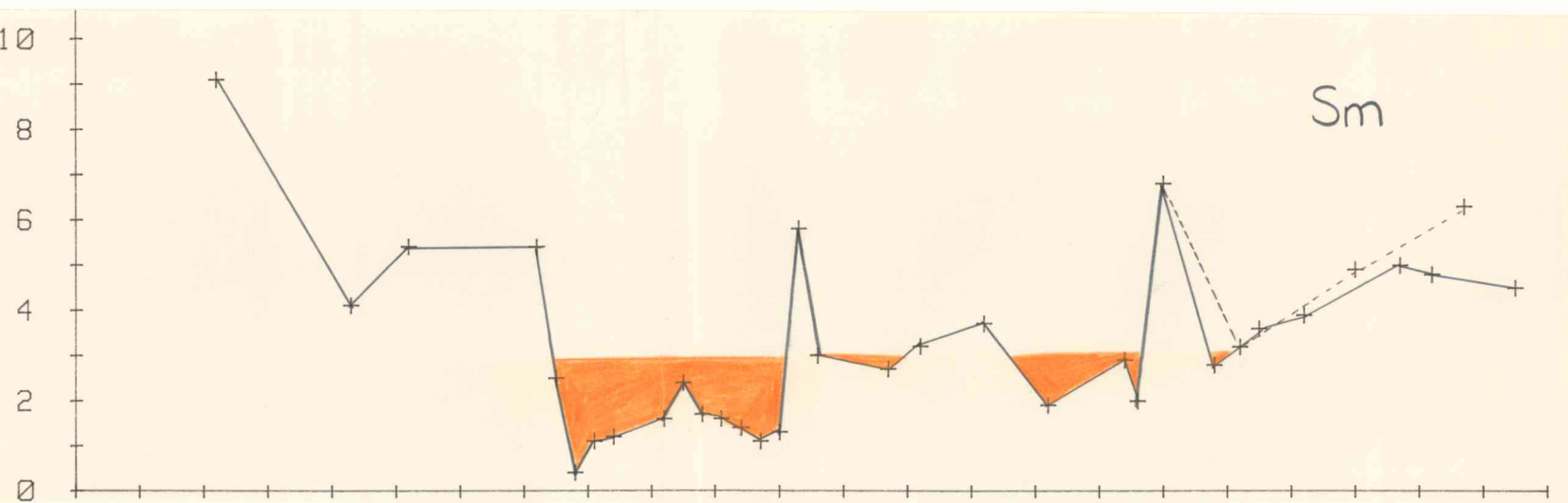
DISTANCE

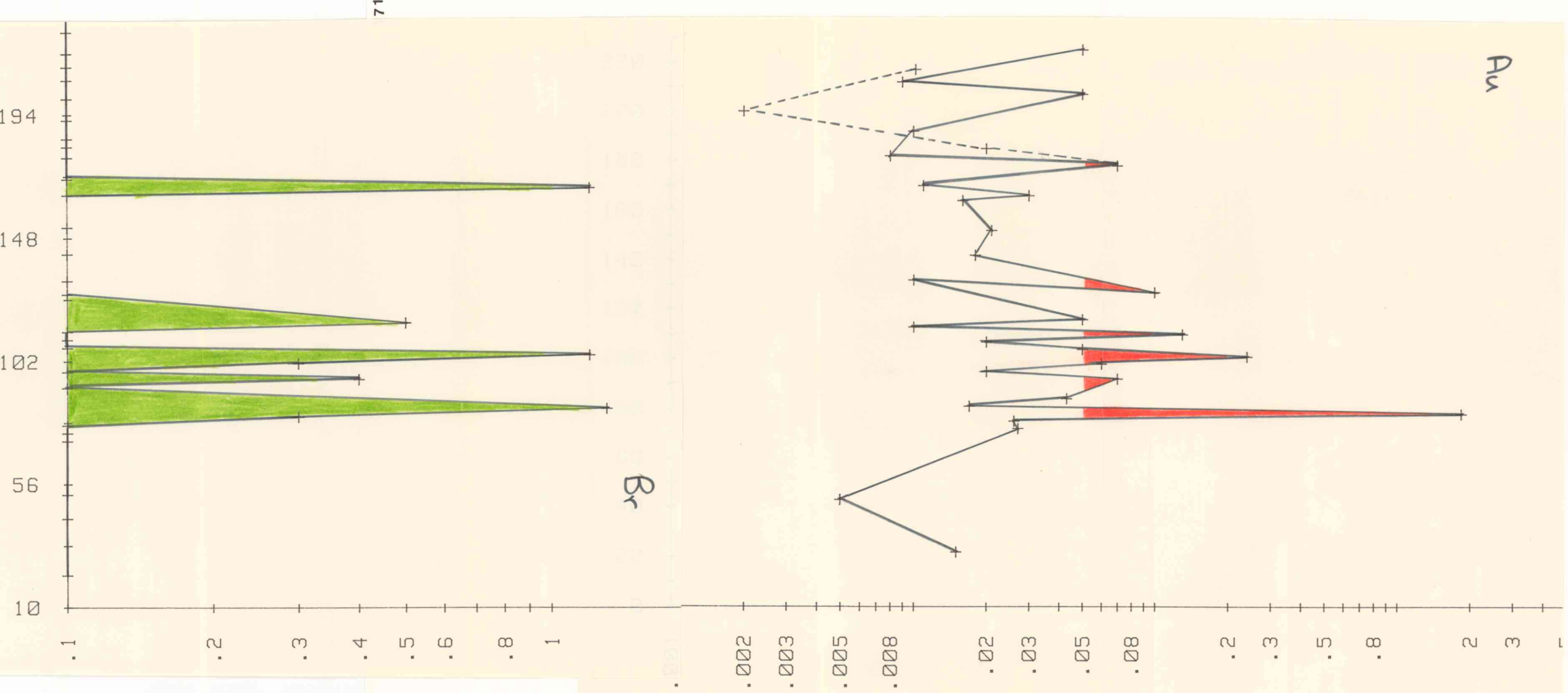
Neutron activation Elements

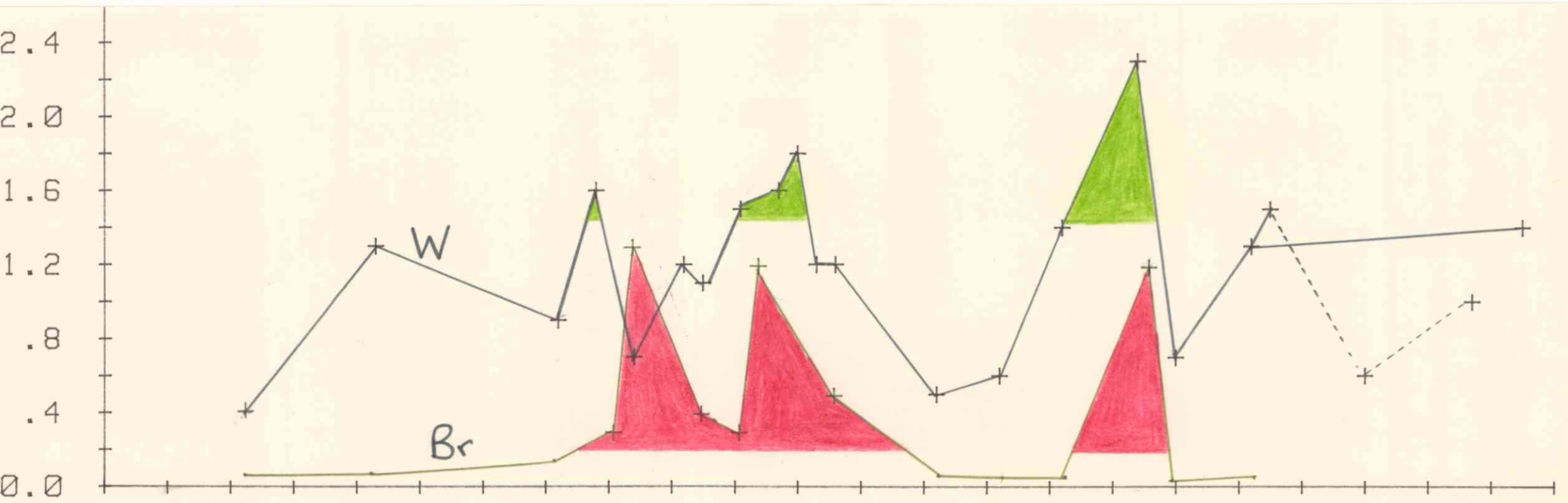
These are plotted along a profile indicated on pp. 20-24 of the report. They are constructed in an E-W manner and show the halos associated with the Giken II and the Giken West ore bodies.

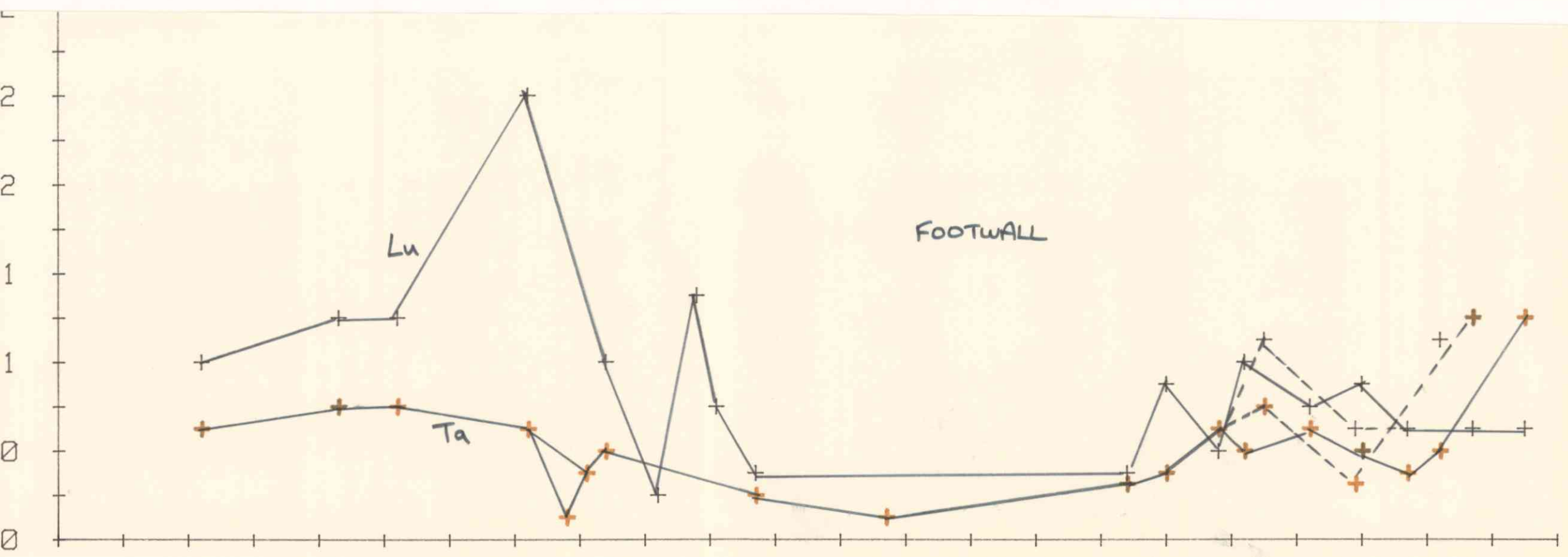
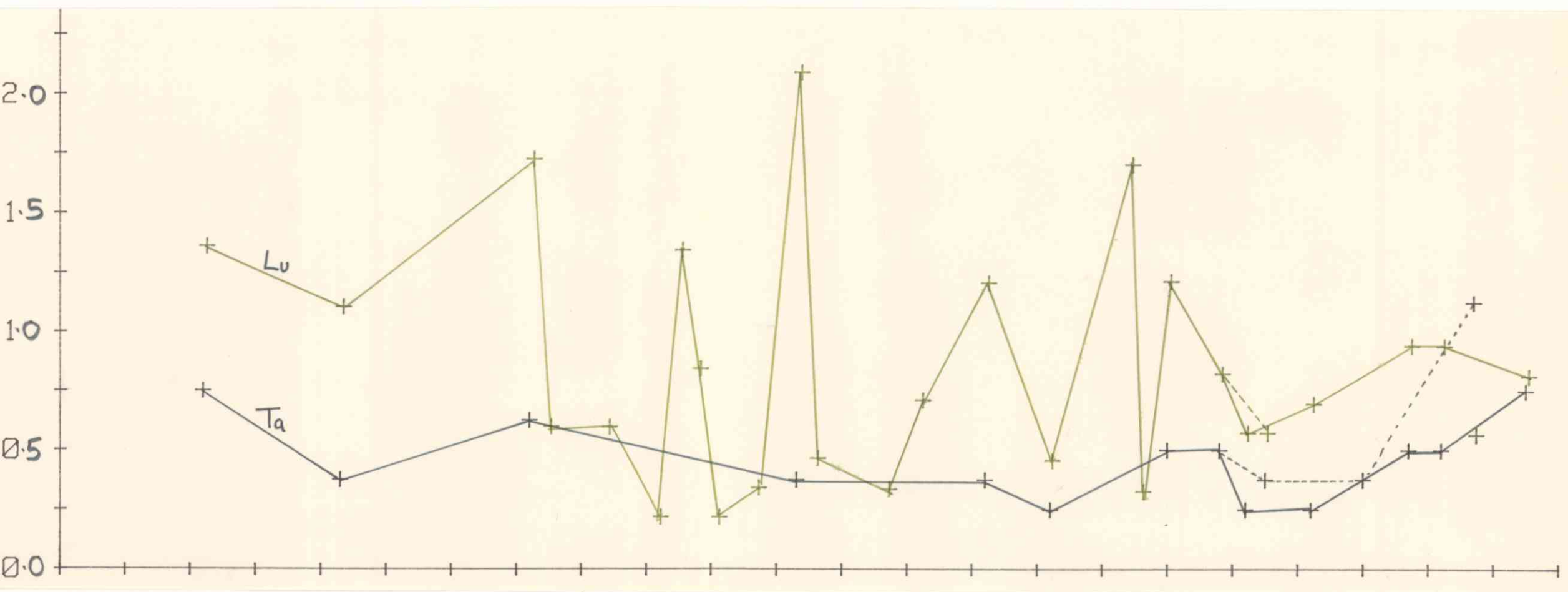


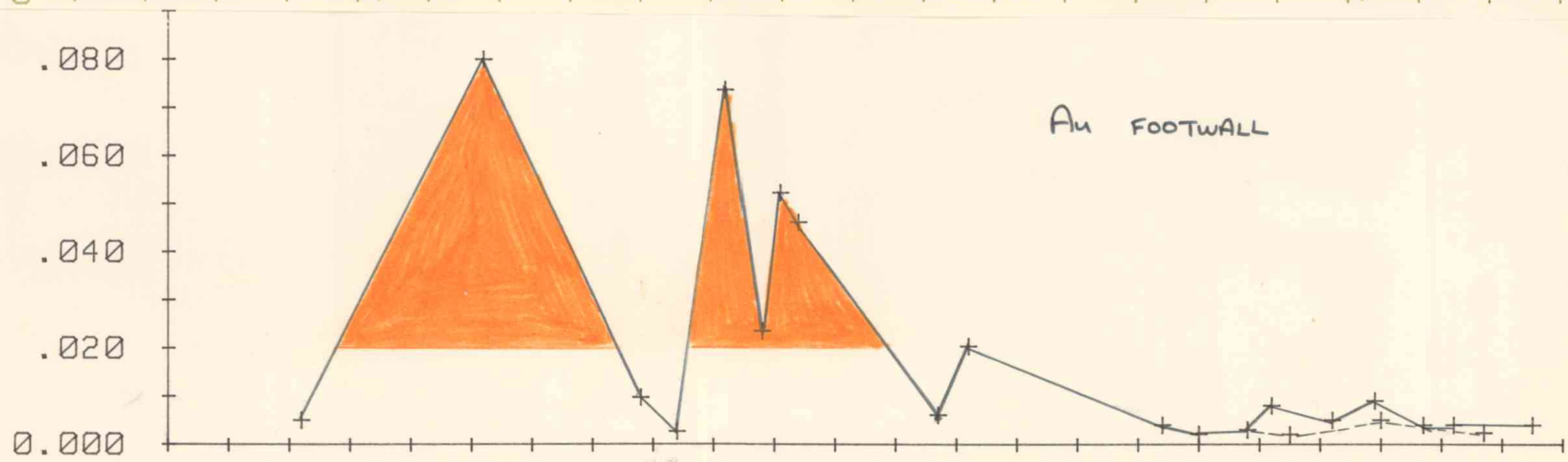
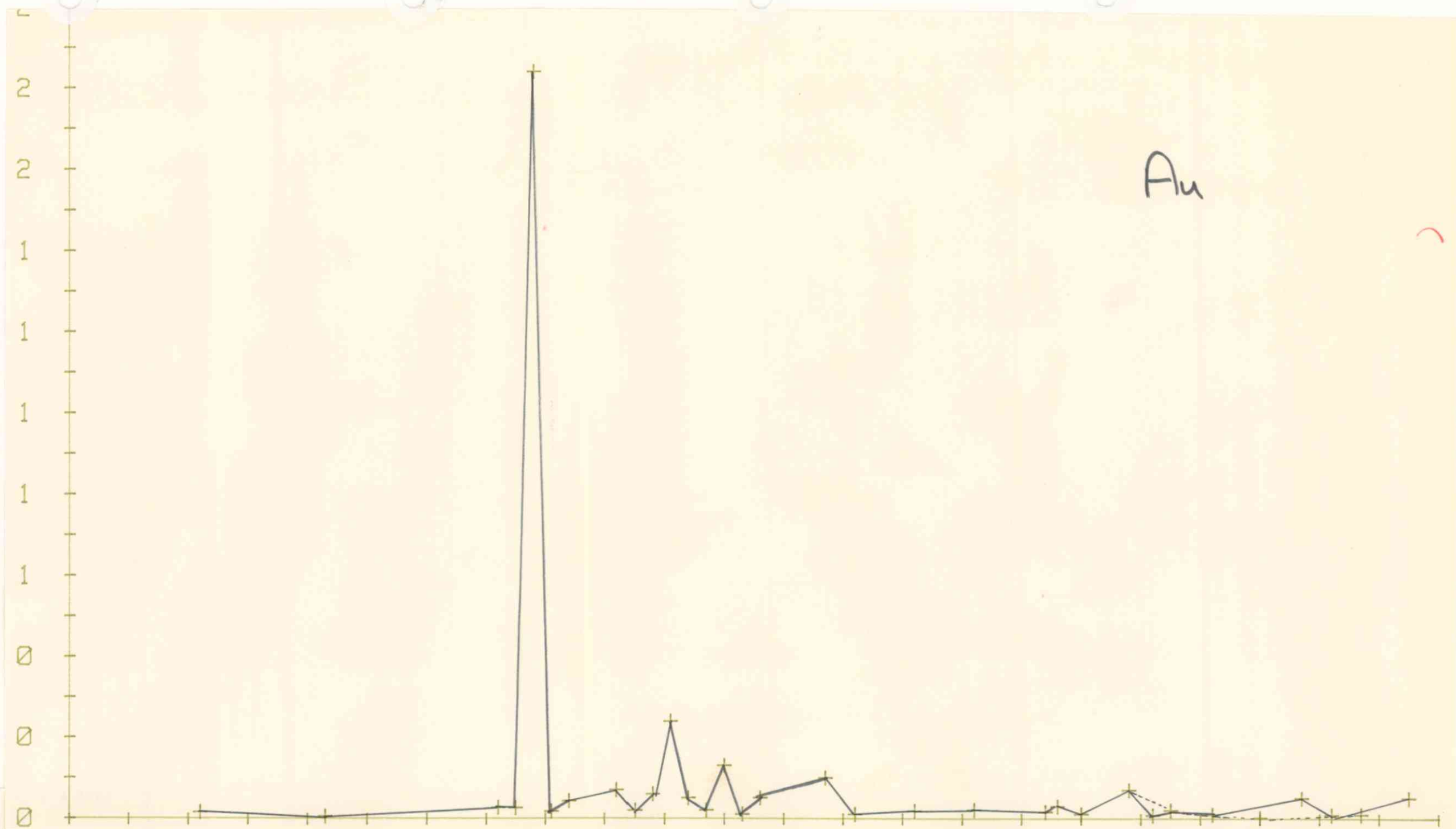


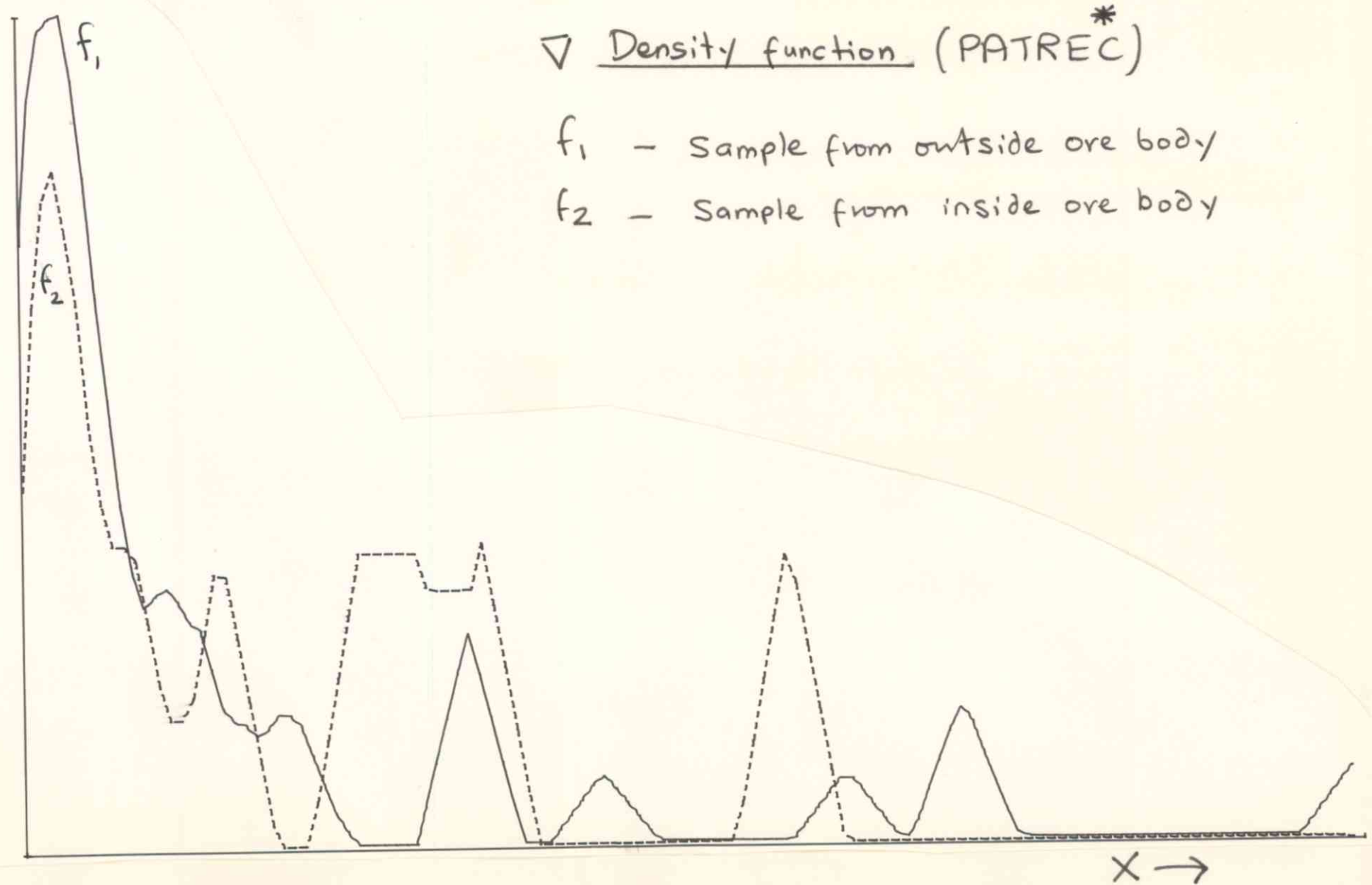
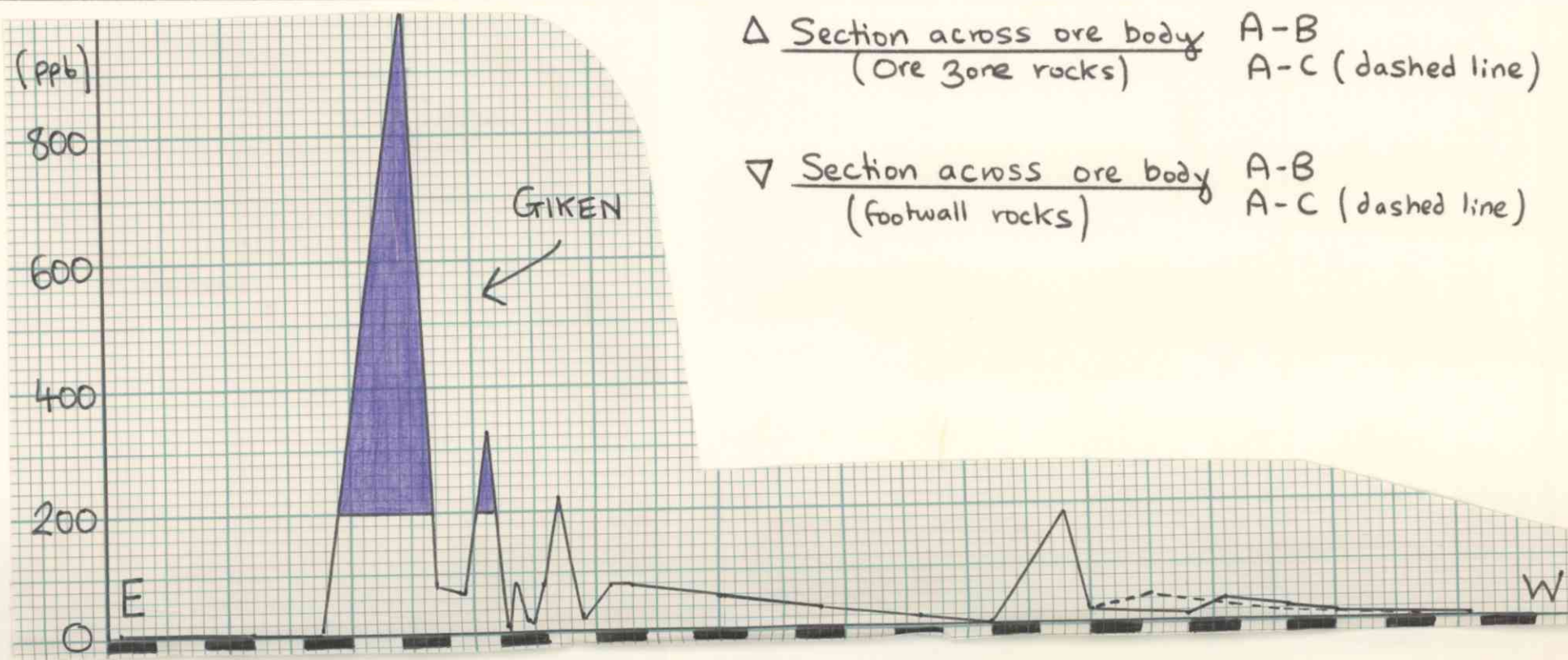












APPENDIX IV

CONTOUR MAPS

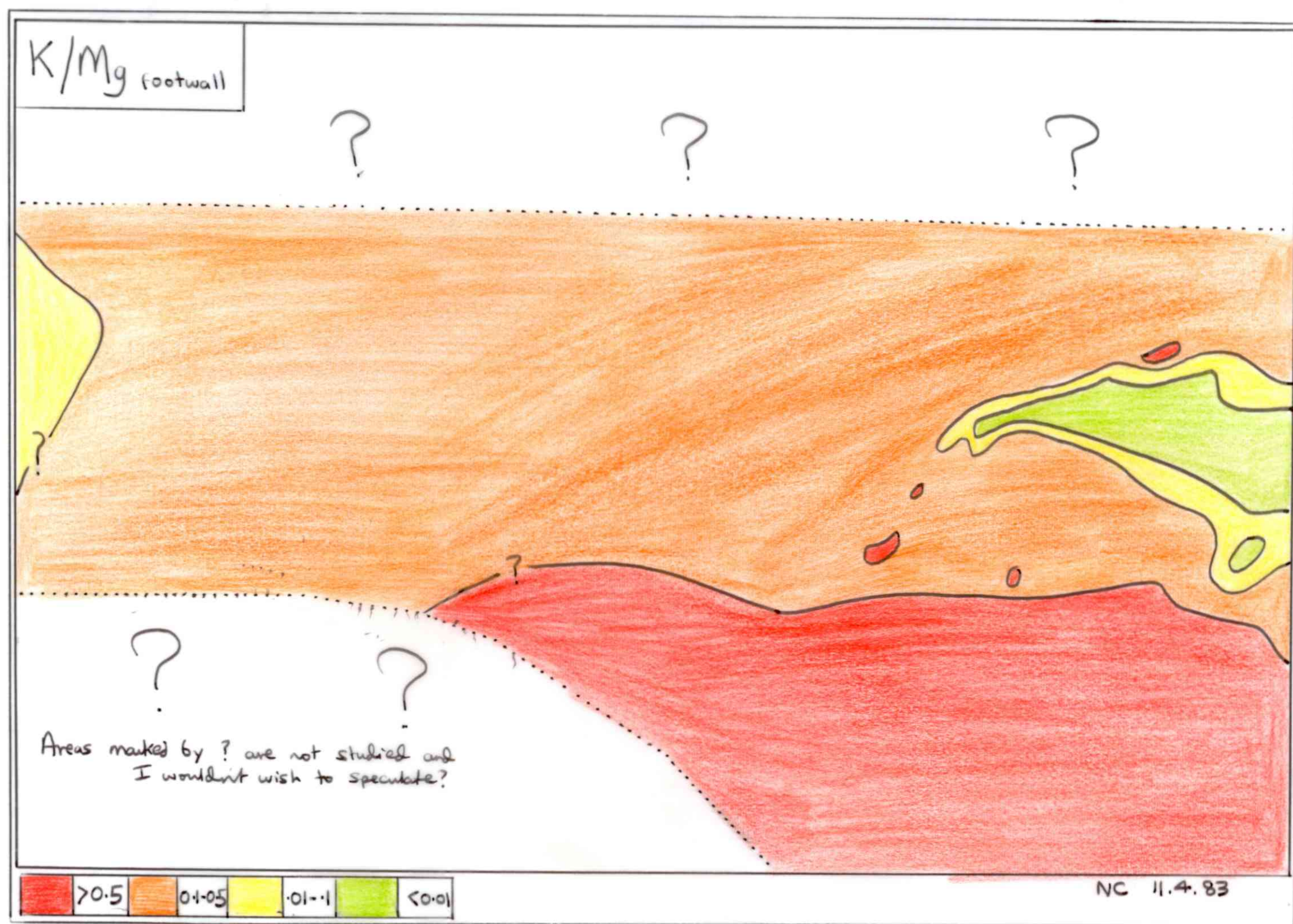
Please refer to page 30 of text.

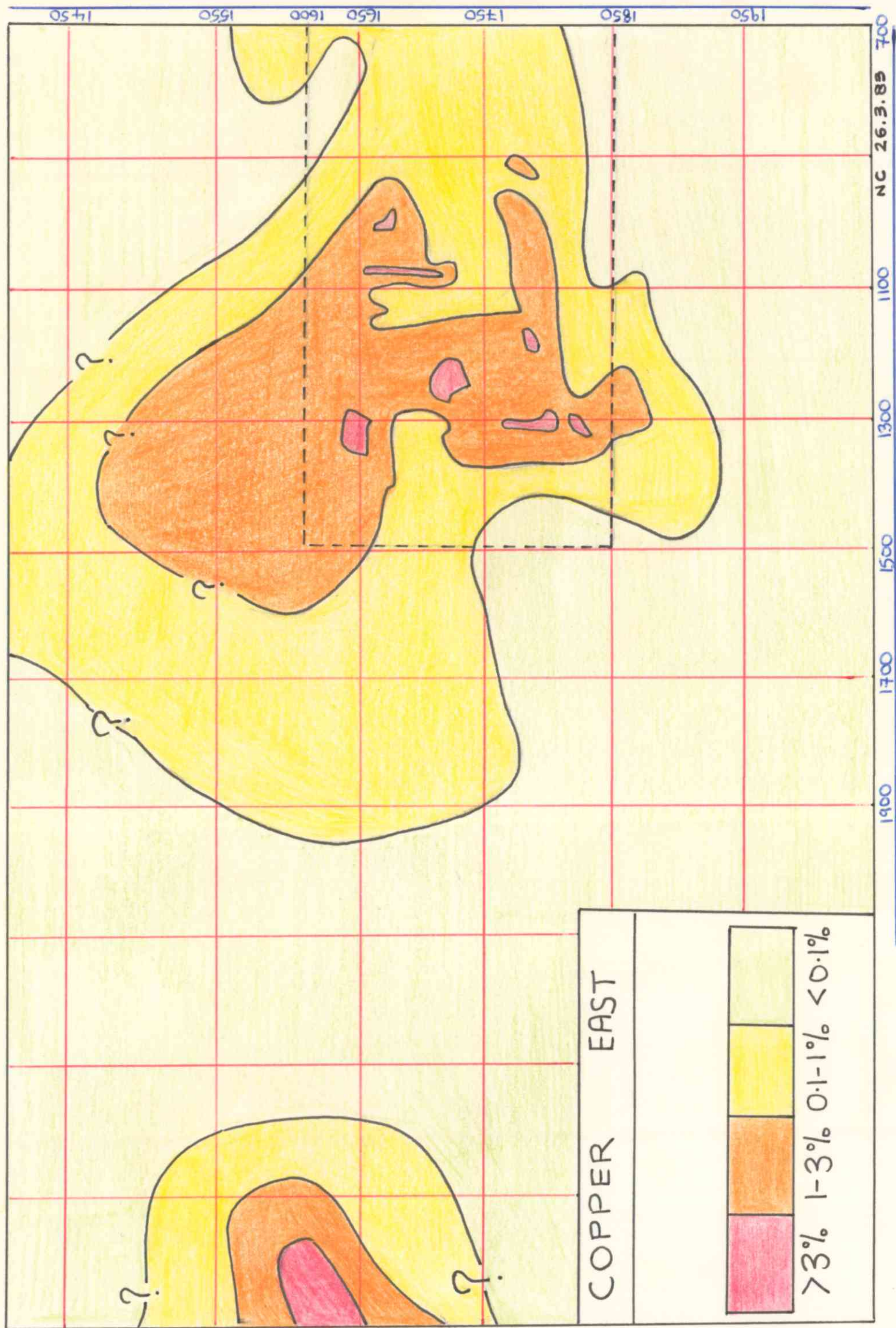
These are hand-drawn maps and subject to limitations!!

There are 4 sheets:

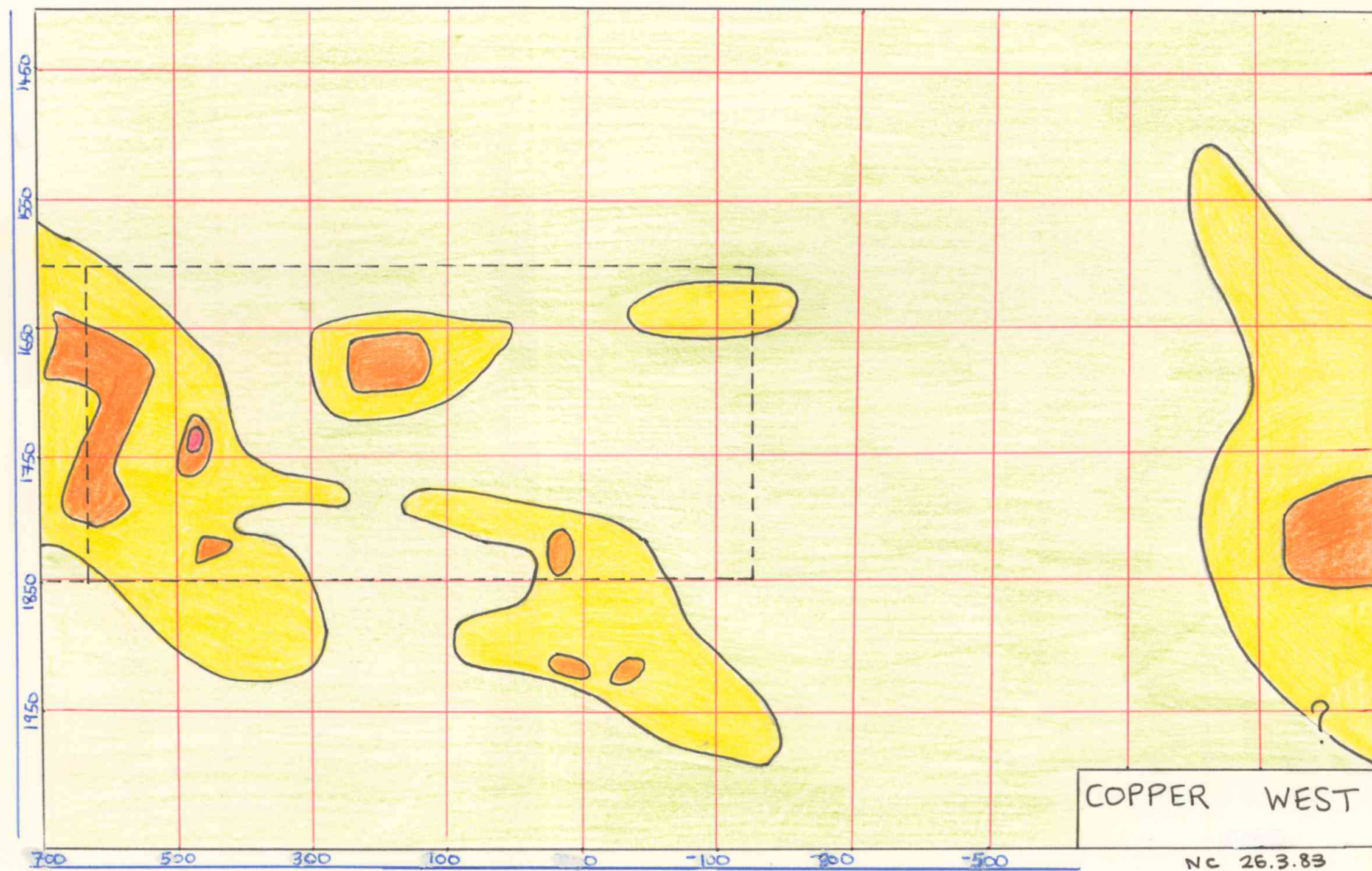
1. Eastern area Cu , K/Mg(foot)
2. Western area Cu
3. Eastern area around ore body Cu,Ag,Y,Hg,Cu/Ag,Ni,Mo
V,K/Mg(foot),K(foot)
4. Western area around ore body. Cu

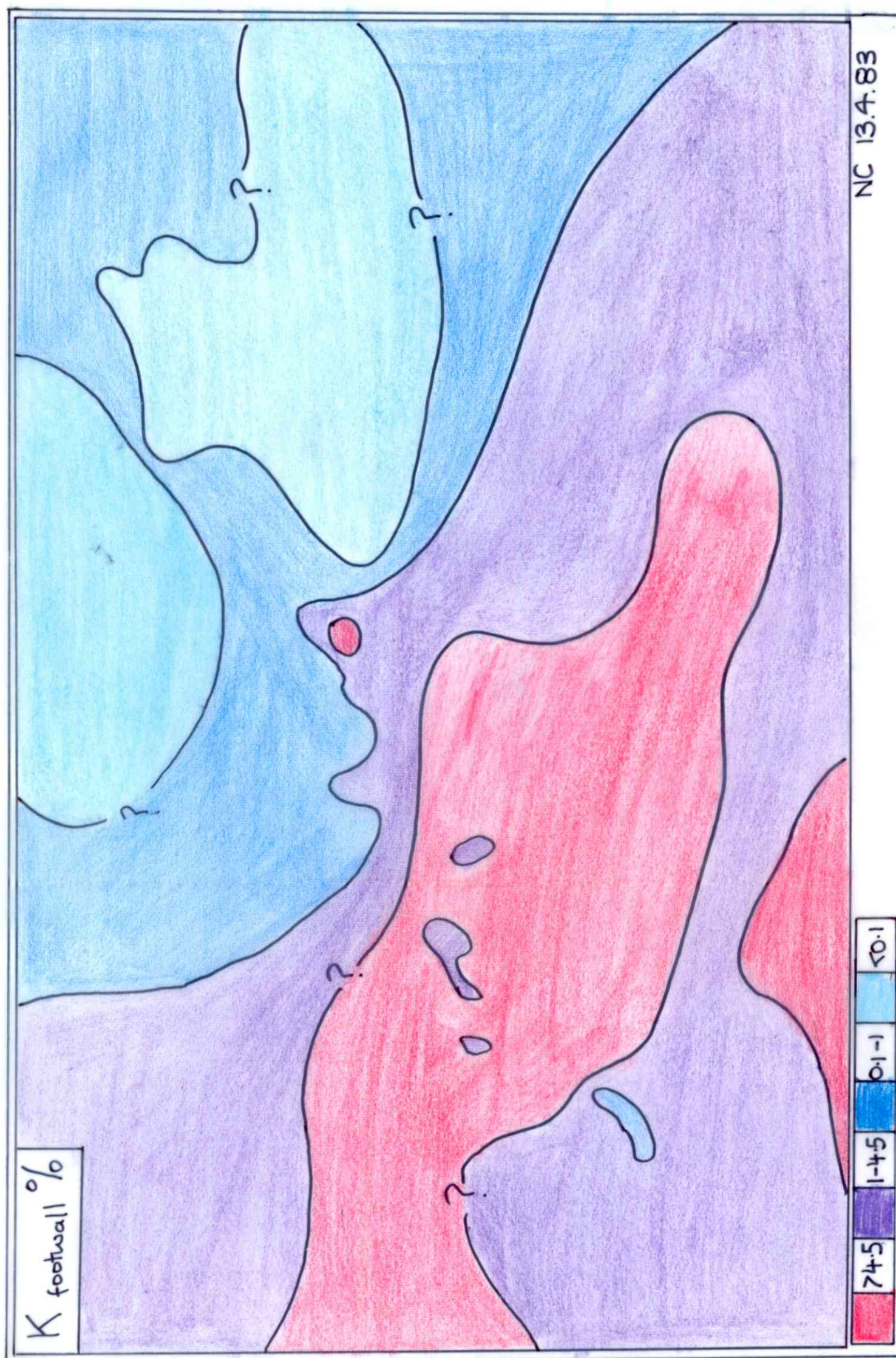
Cu maps are drawn on card and the other elements as transparent overlays designed to go over the Cu maps.





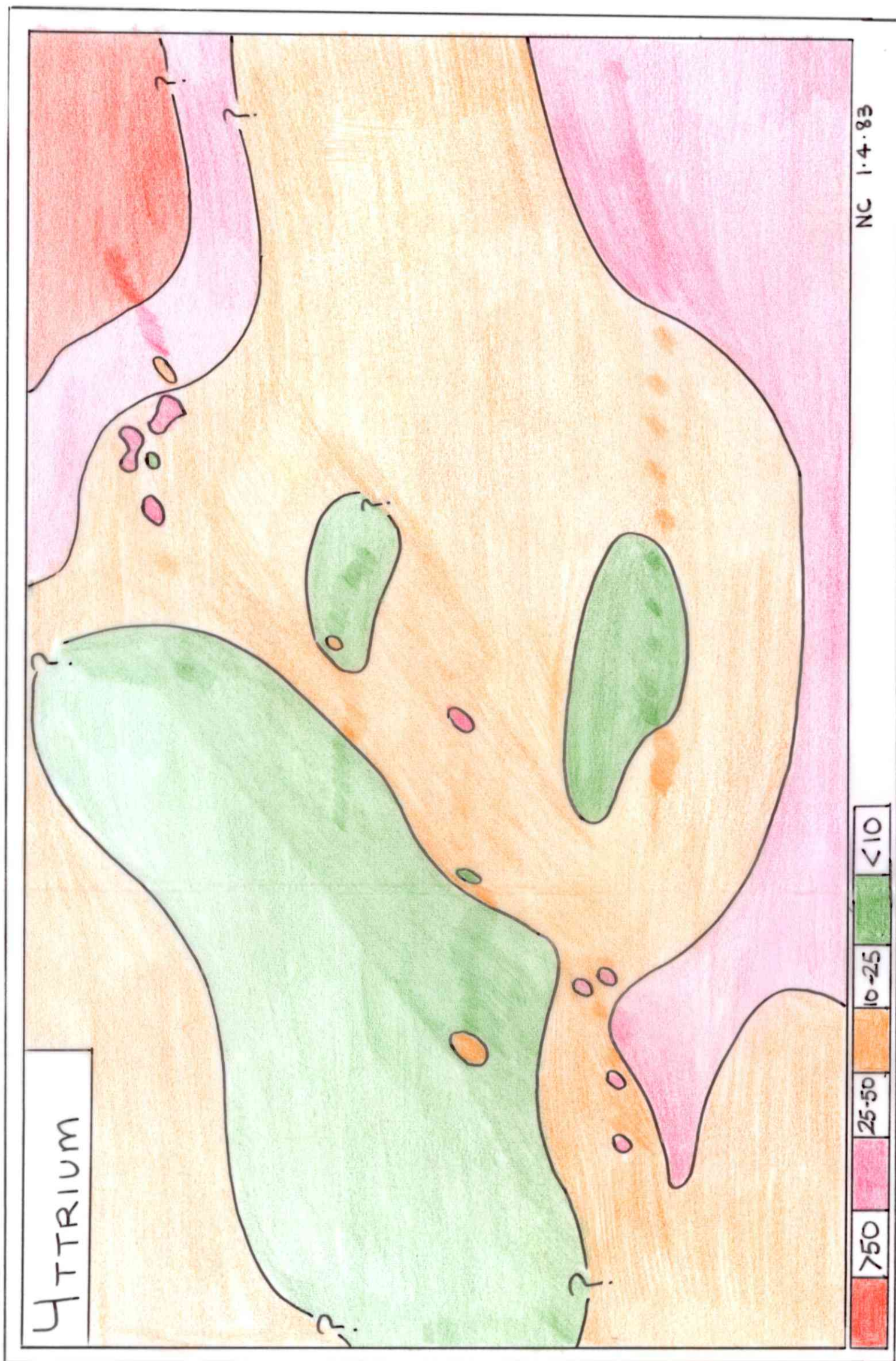
Please note that the X axis is exaggerated. Co-ordinates are the standard co-ordinates of other maps.



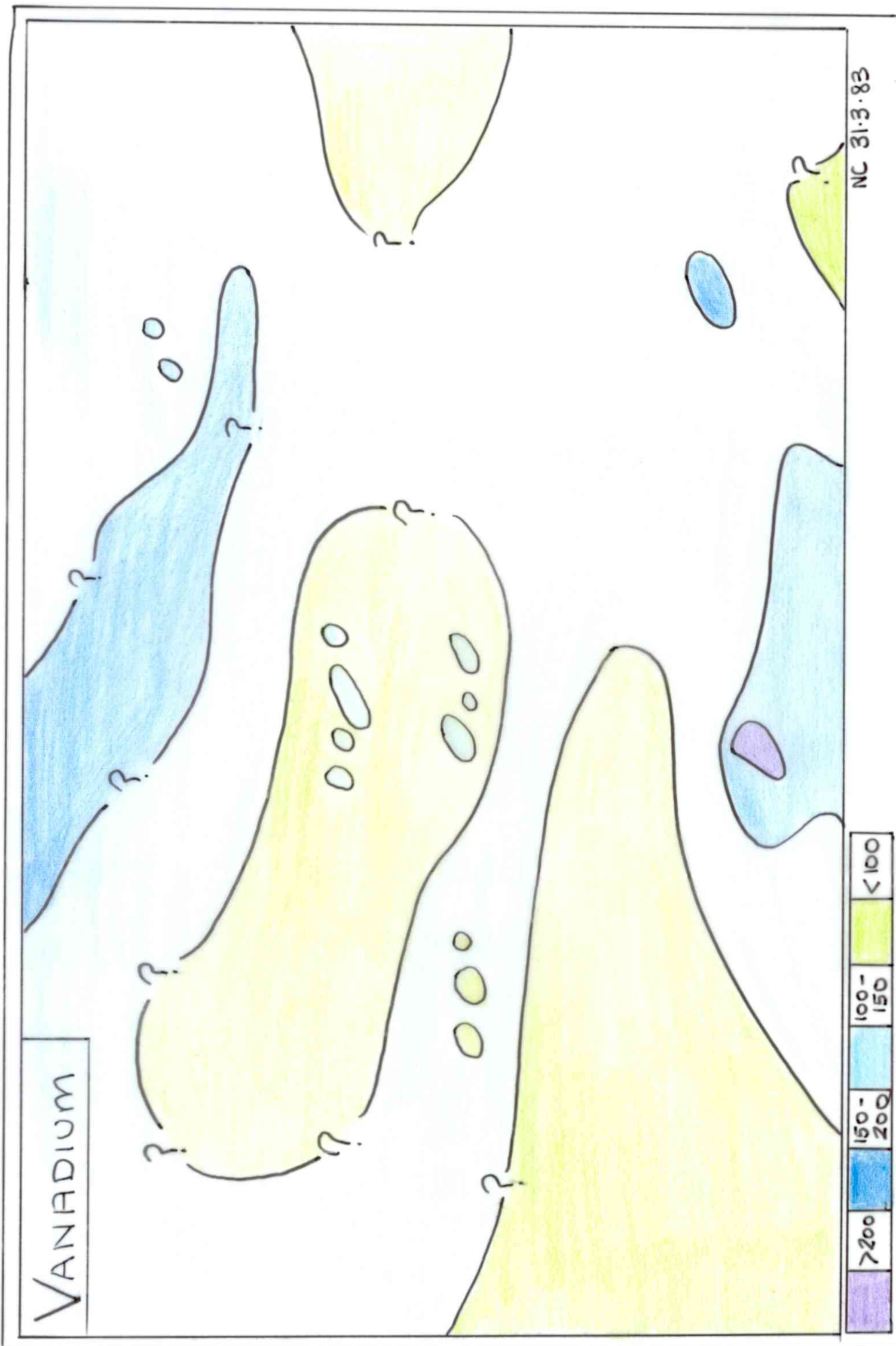


The K% content of the footwall is high in the main part of the ore body, but there is a 'low' in the area of -233 Charlotta.

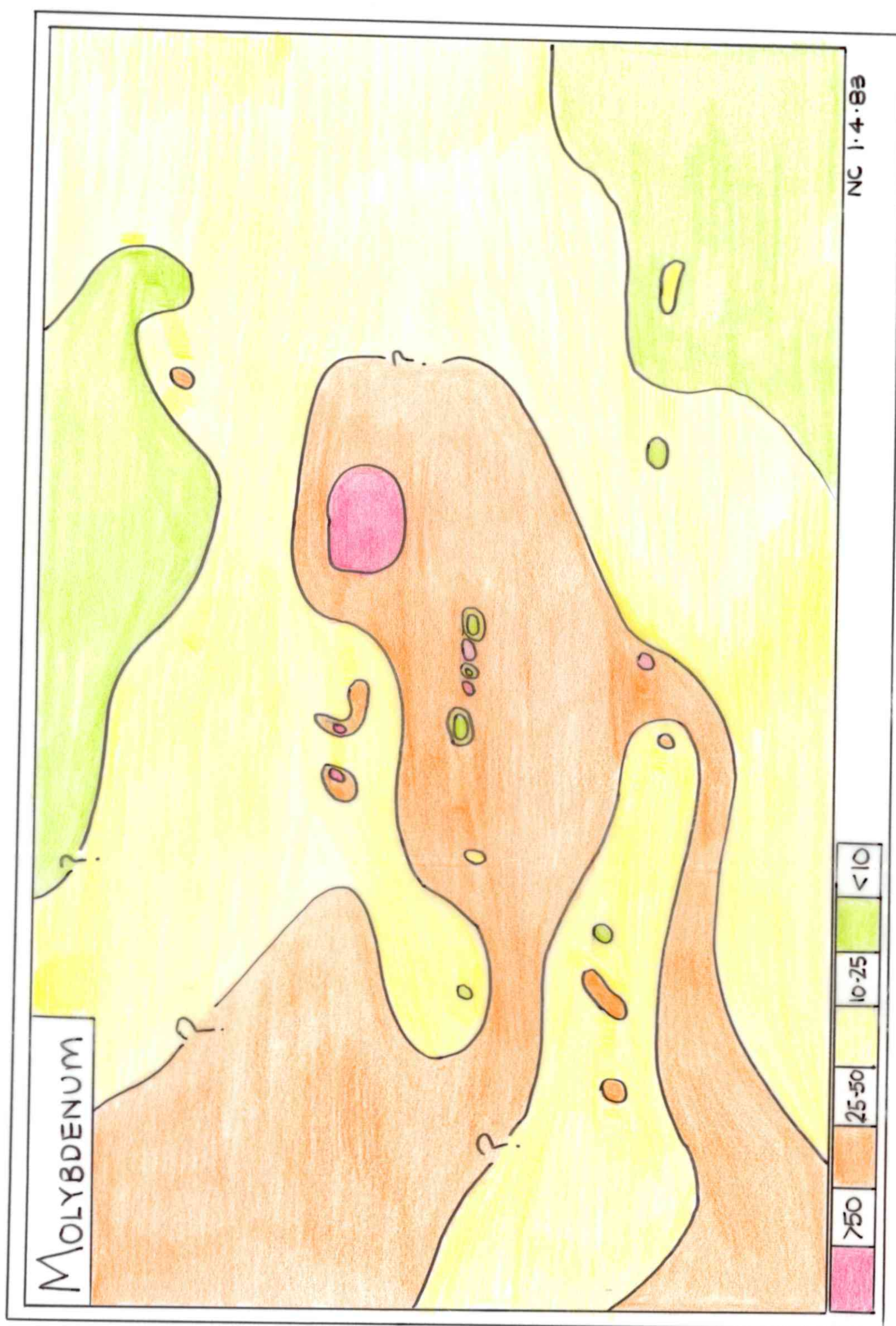




The contour map for Y shows low values in the most mineralised parts, supporting the inverse halo effect.



V shows a weak inverse halo around the mineralisation.

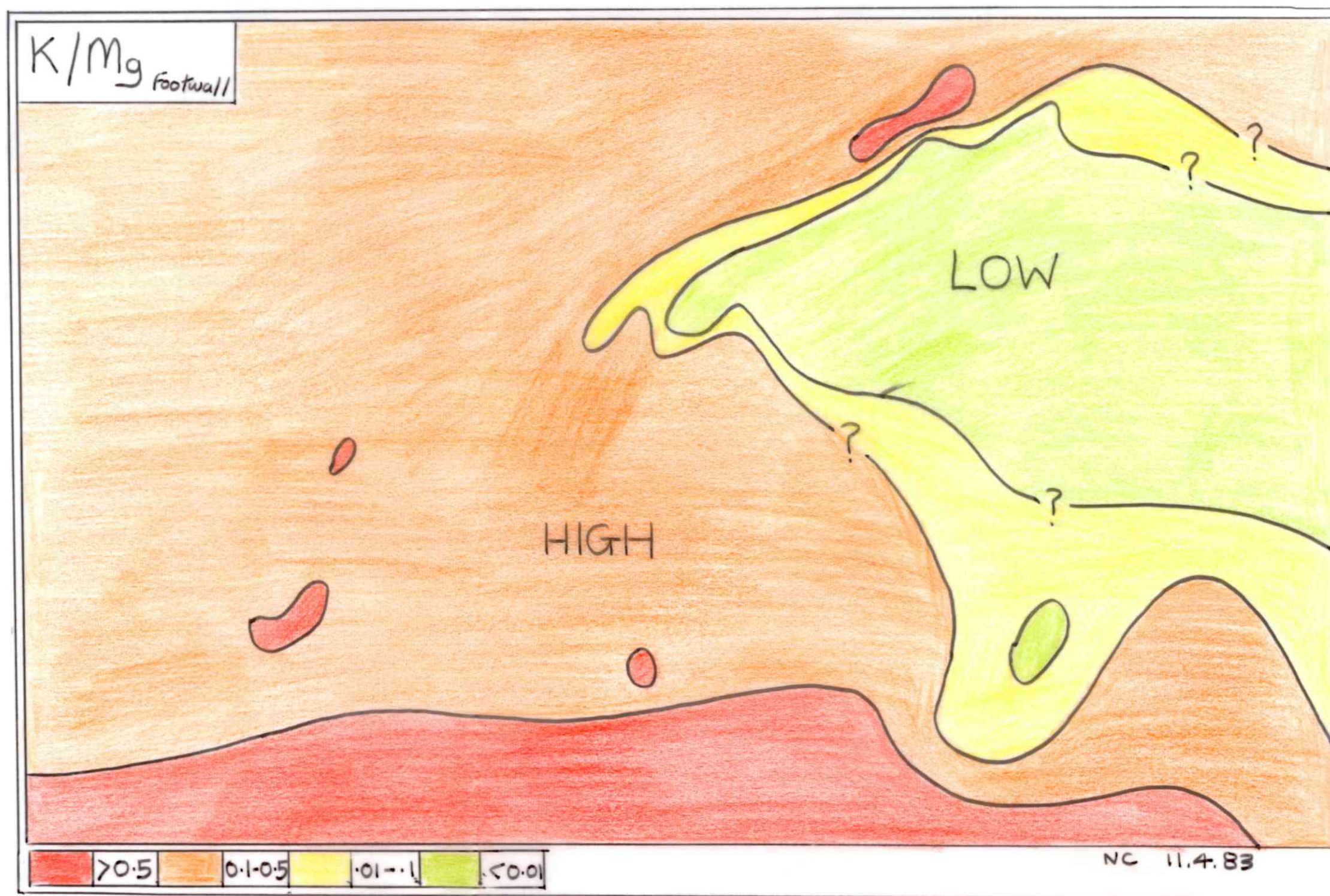


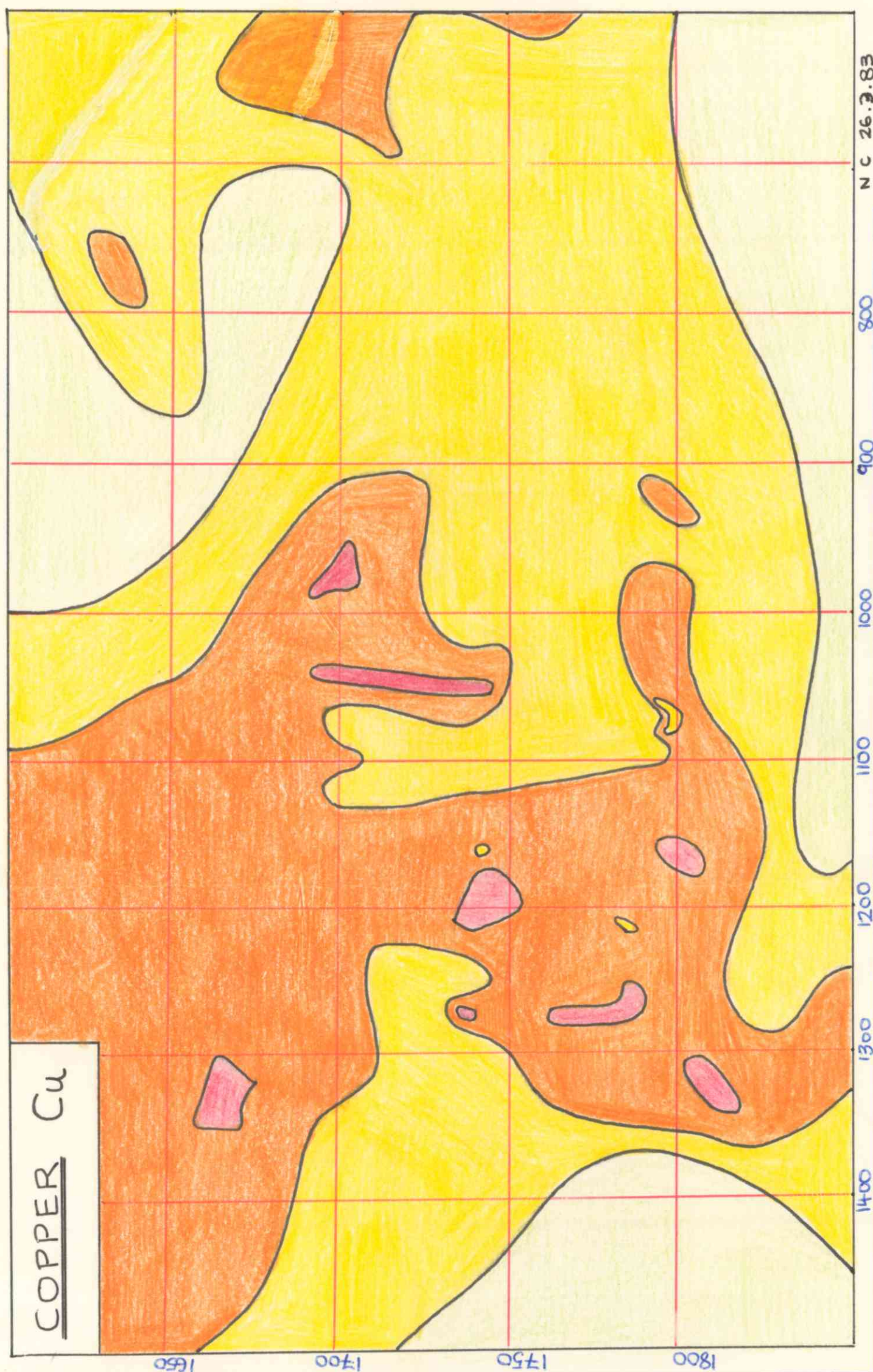
Mo shows a rather poorly defined area of high content in the areas of highest mineralisation.



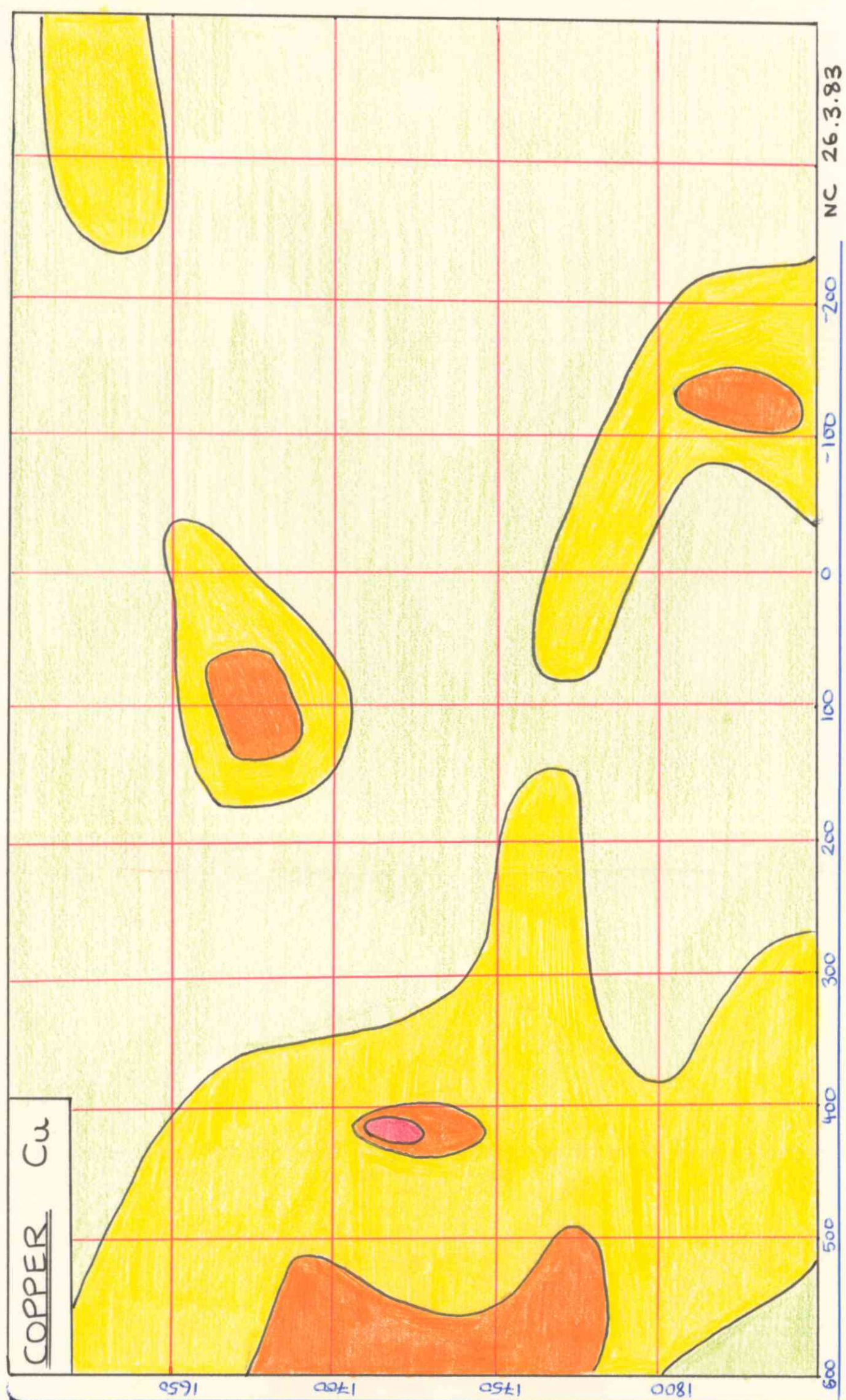


Ag for the eastern part of the mine area. Ag shows a 'high' in the deeper levels of the mine and is very close to the Cu map.





Eastern part of mine area around the ore body. Vertical scale exaggerated!

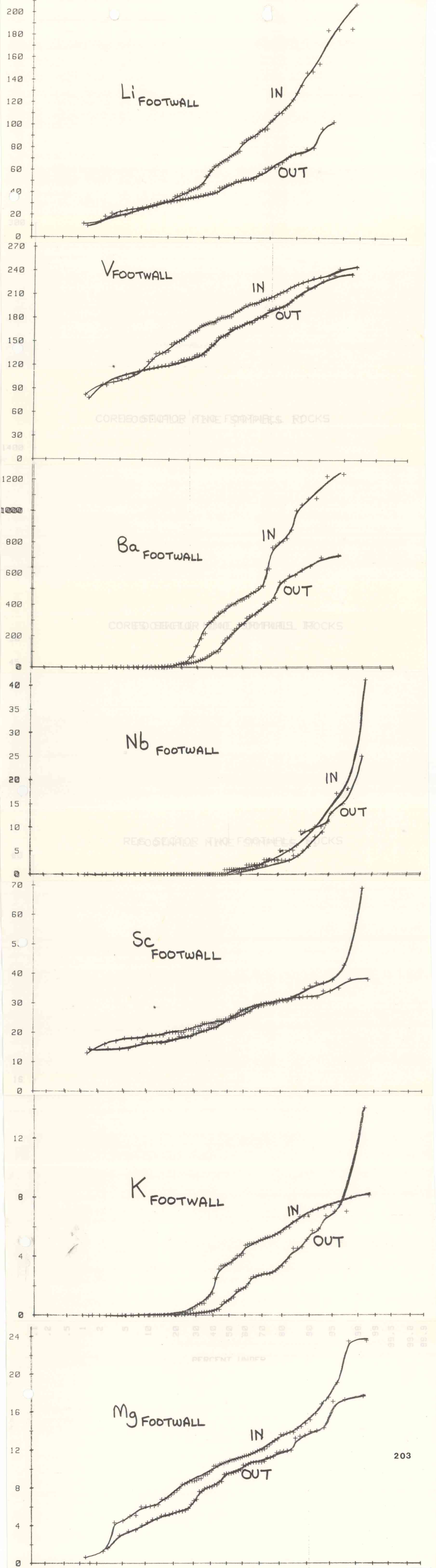


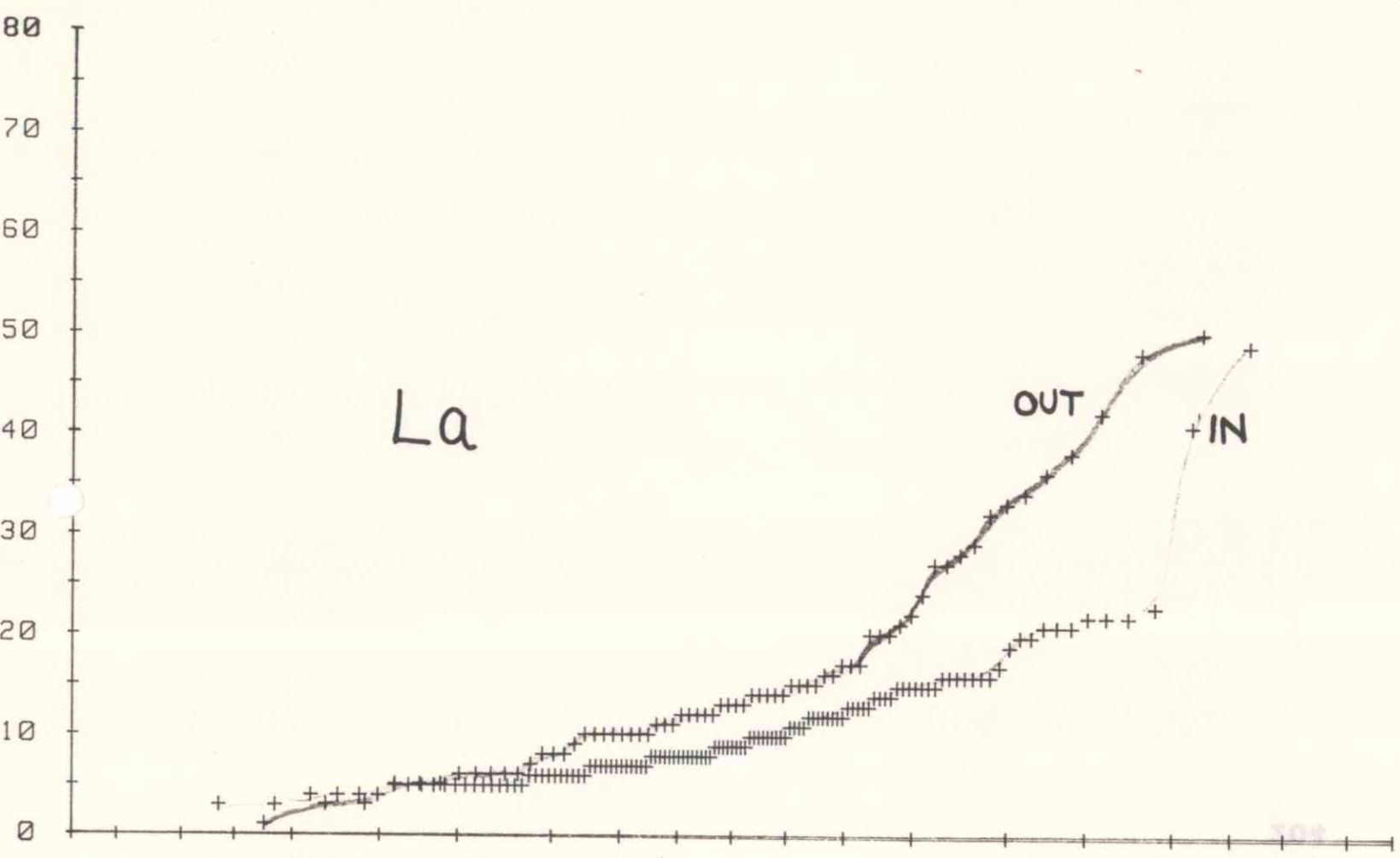
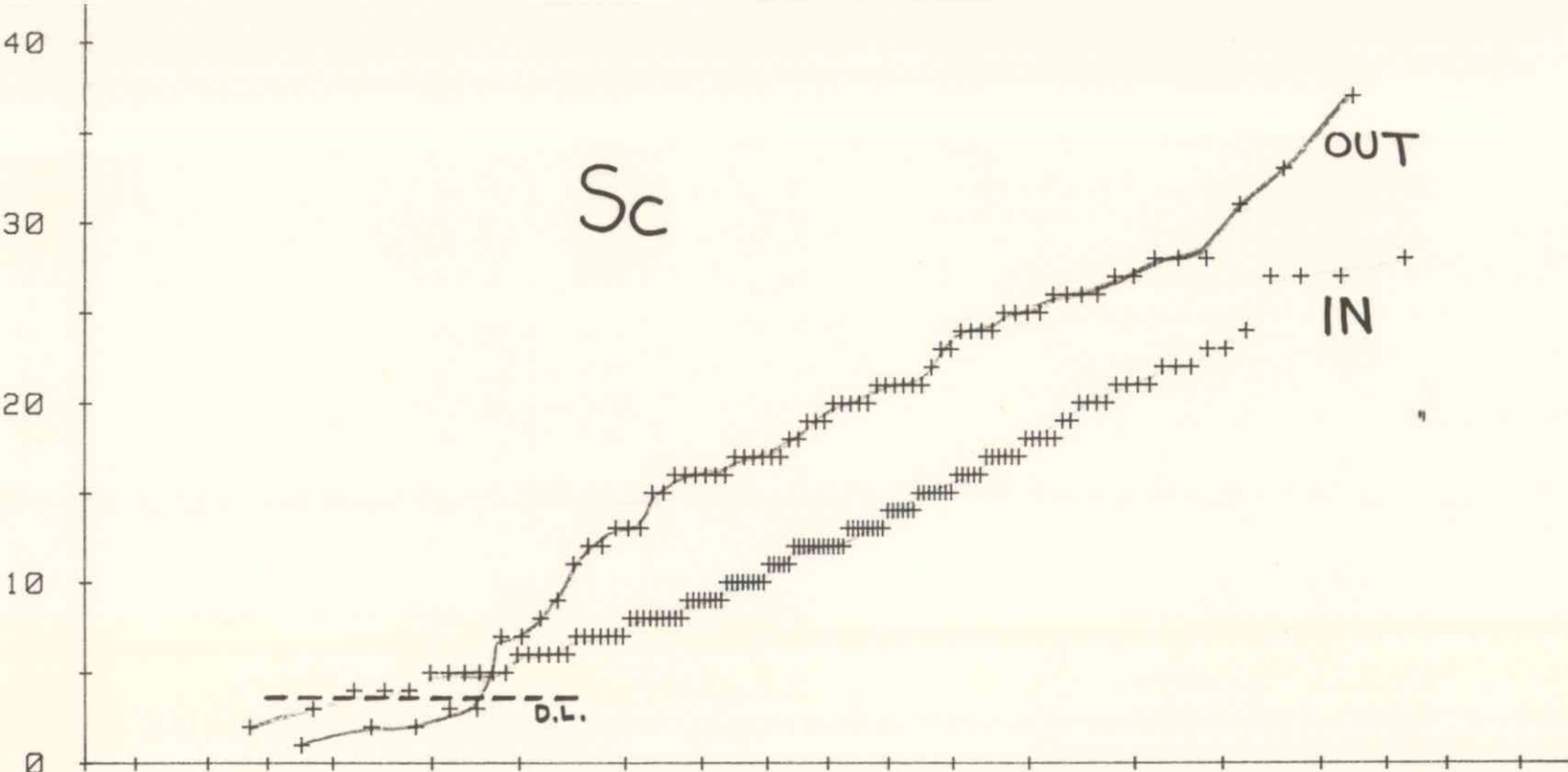
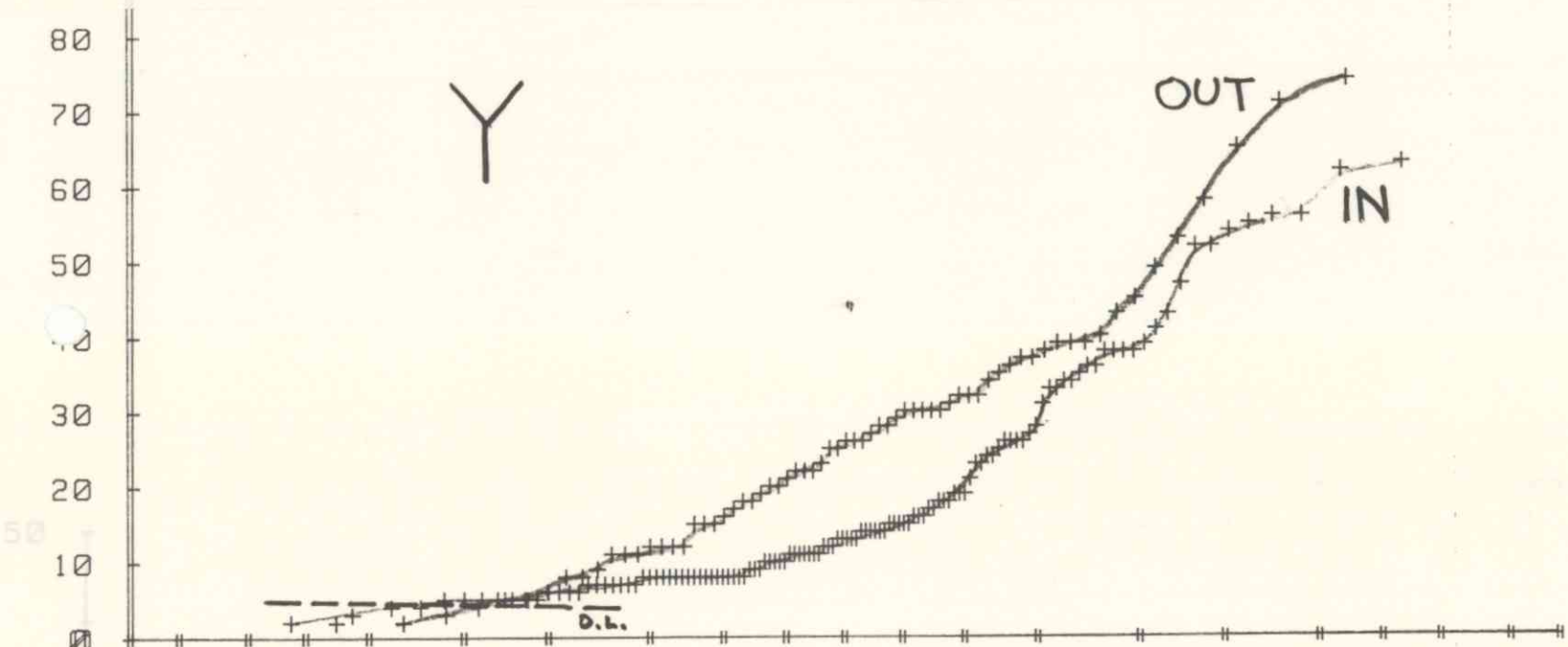
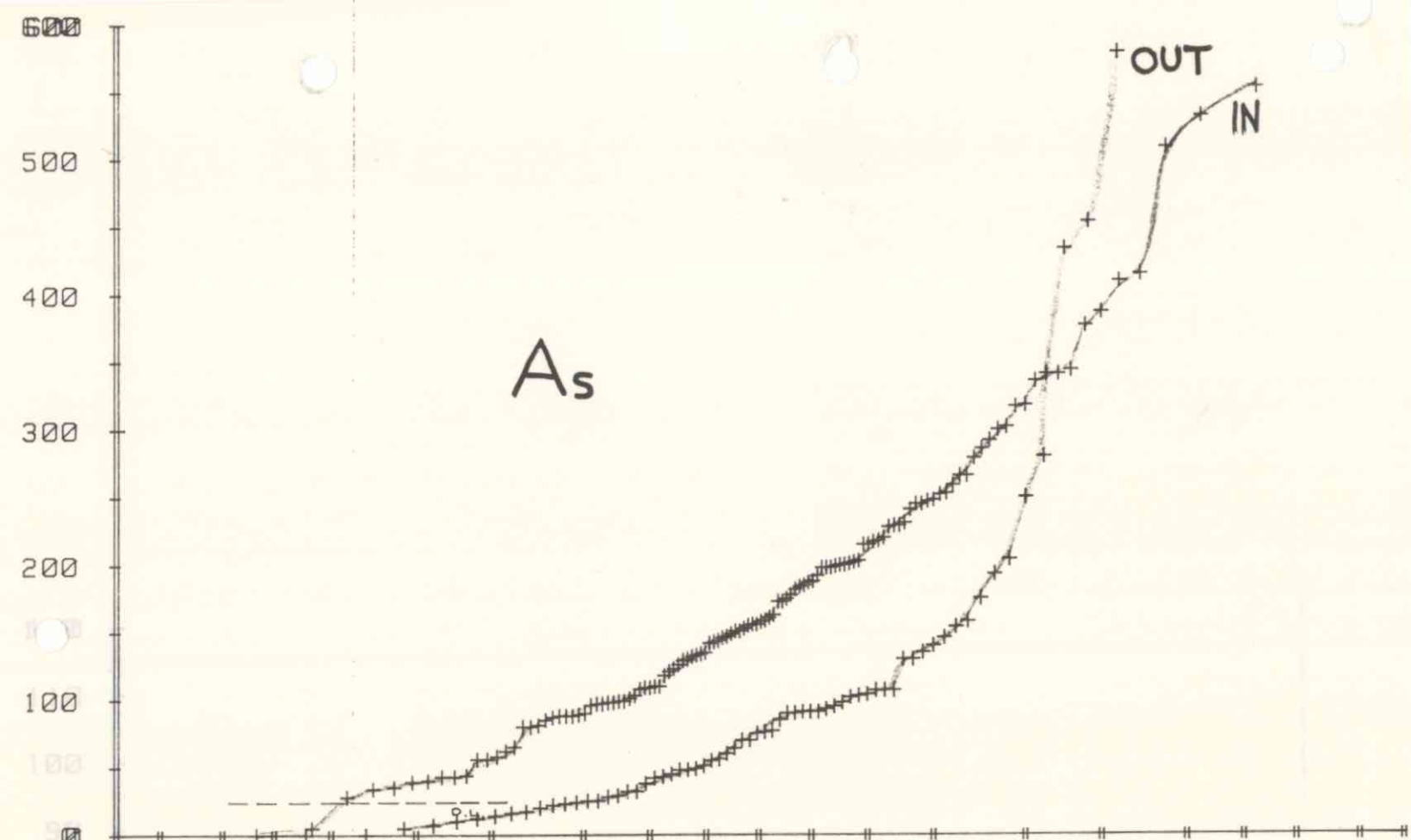
Western part of mine area around the ore body. Vertical scale exaggerated!

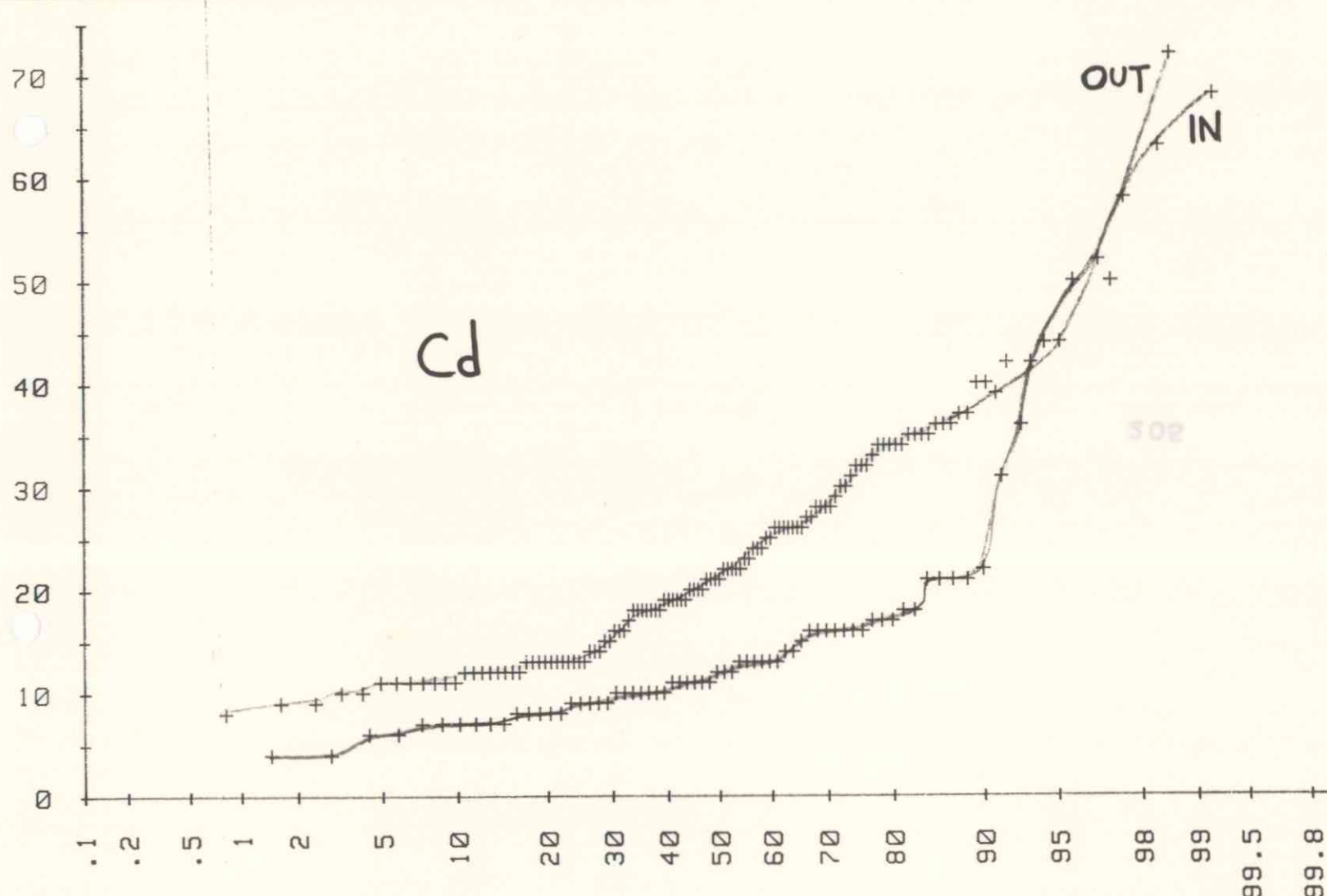
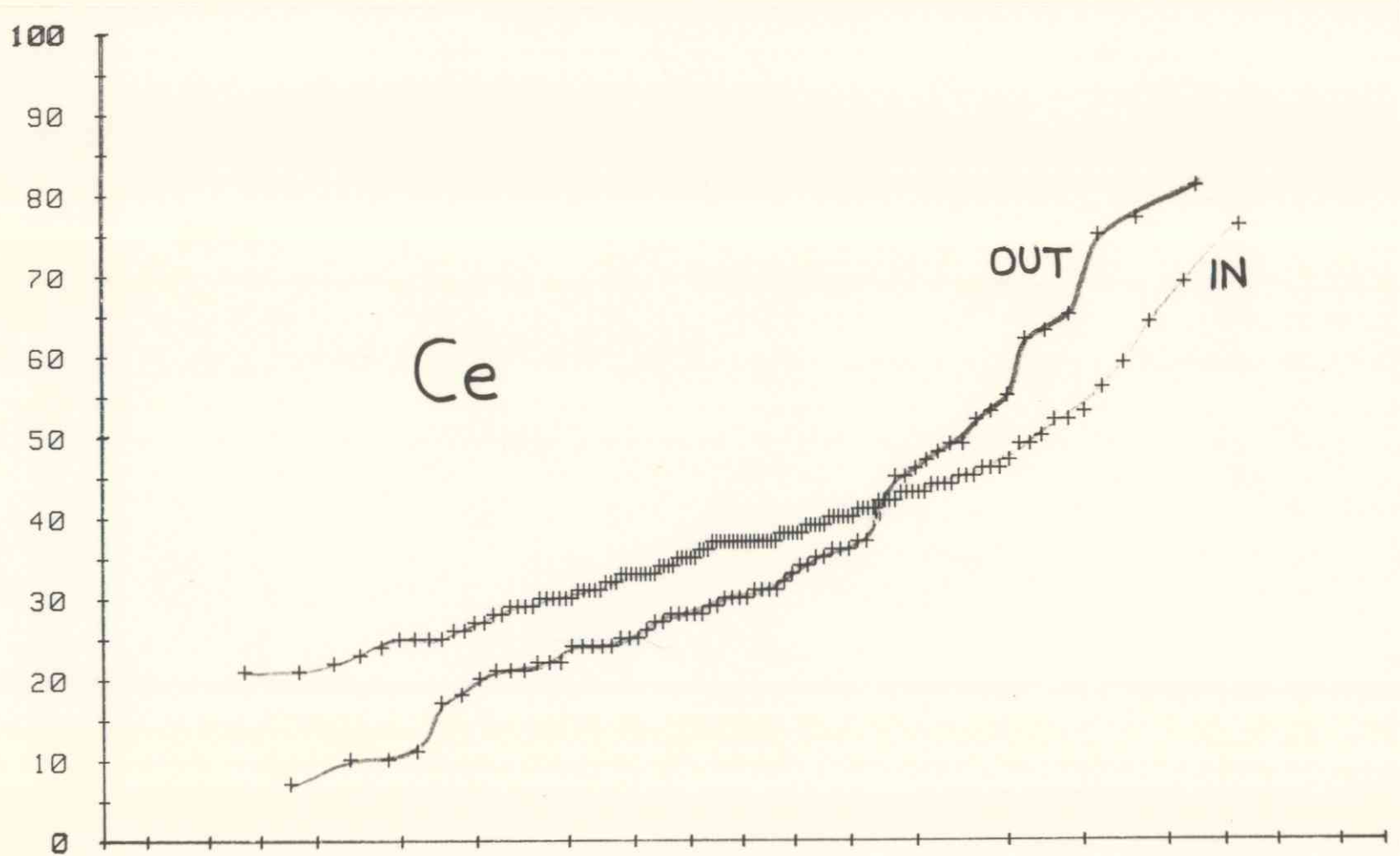
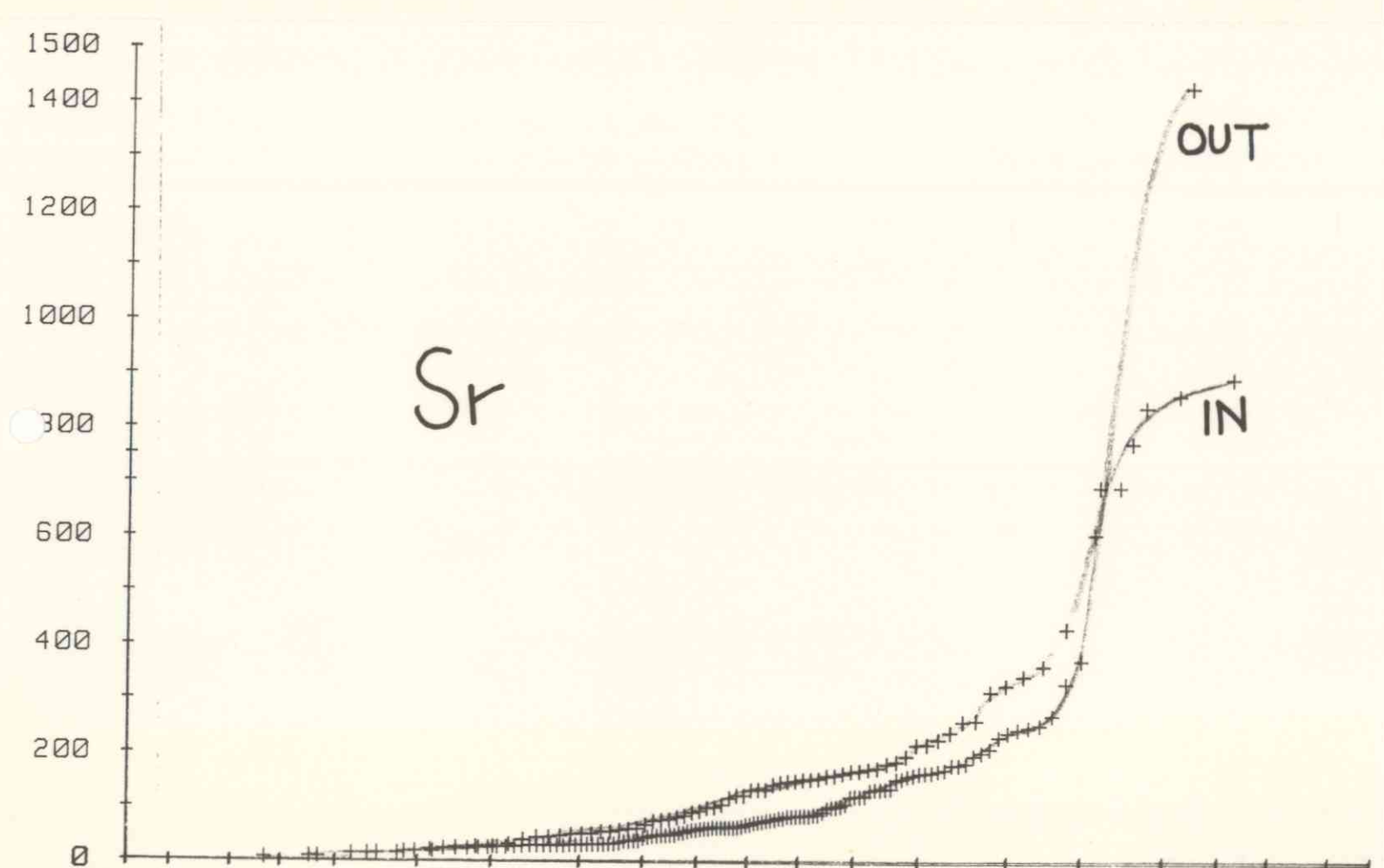
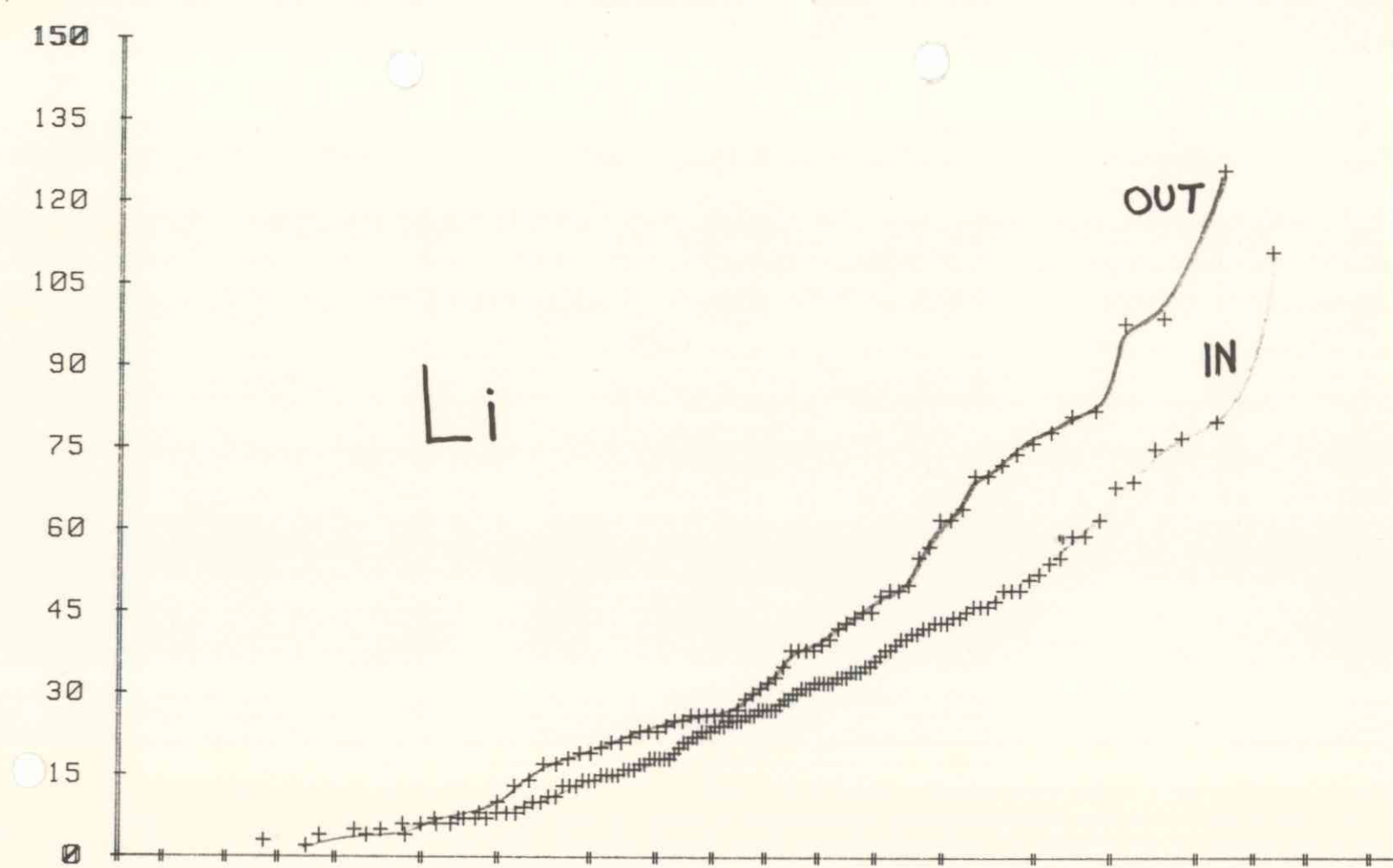
APPENDIX VI

Kirmogorov - Smirnov
Discriminant Diagrams.

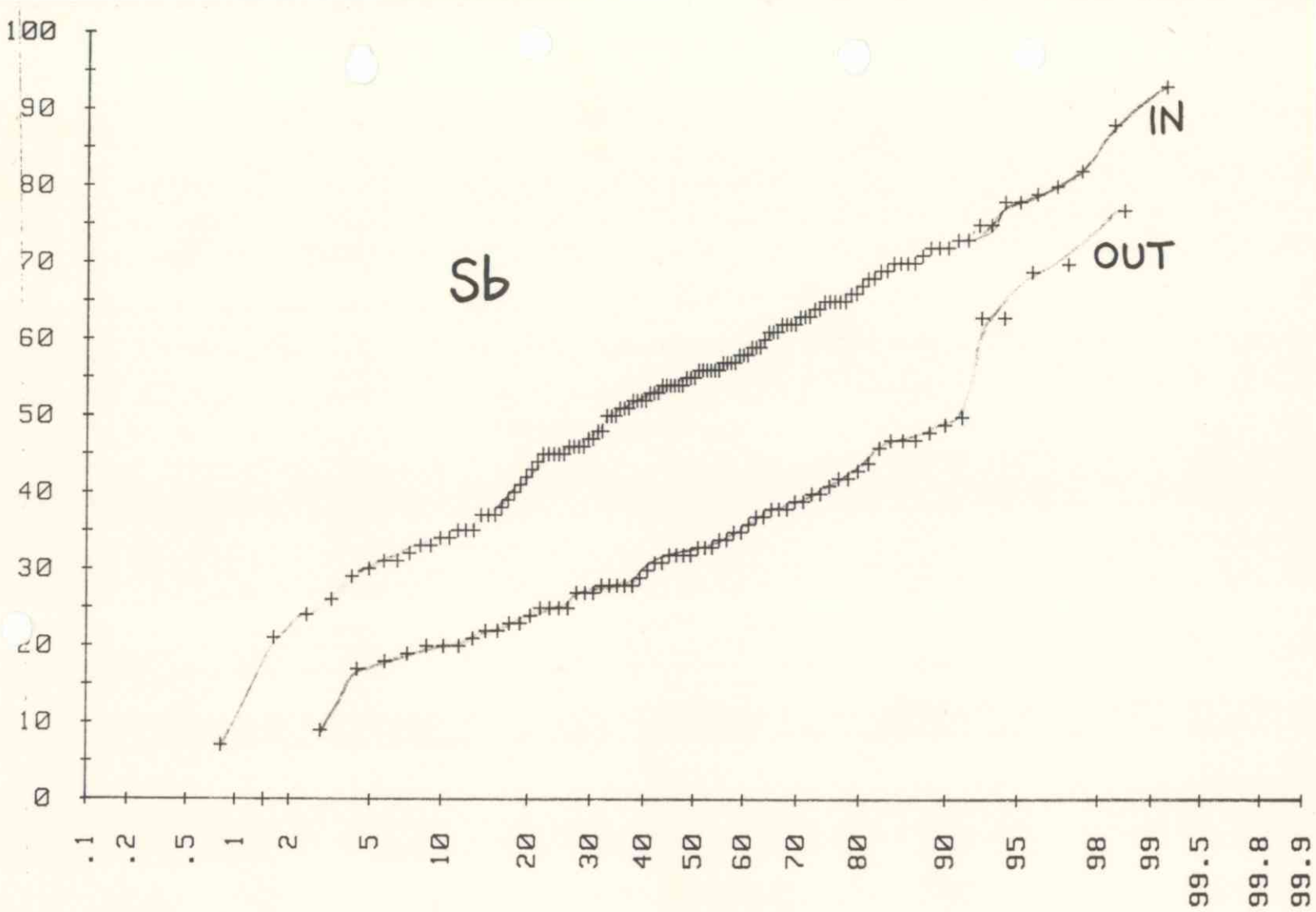
See pages 46-47 of text for explanations.



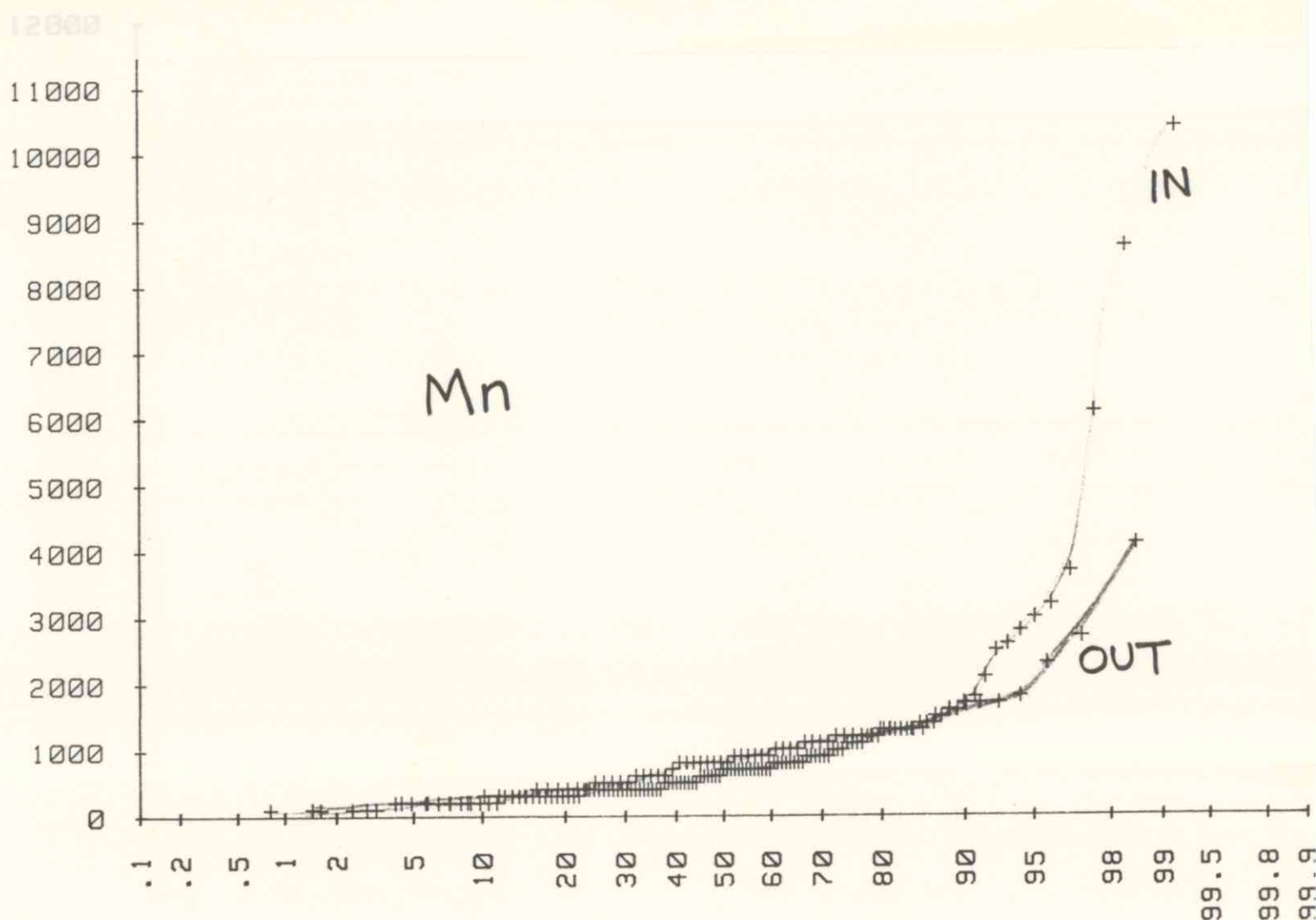




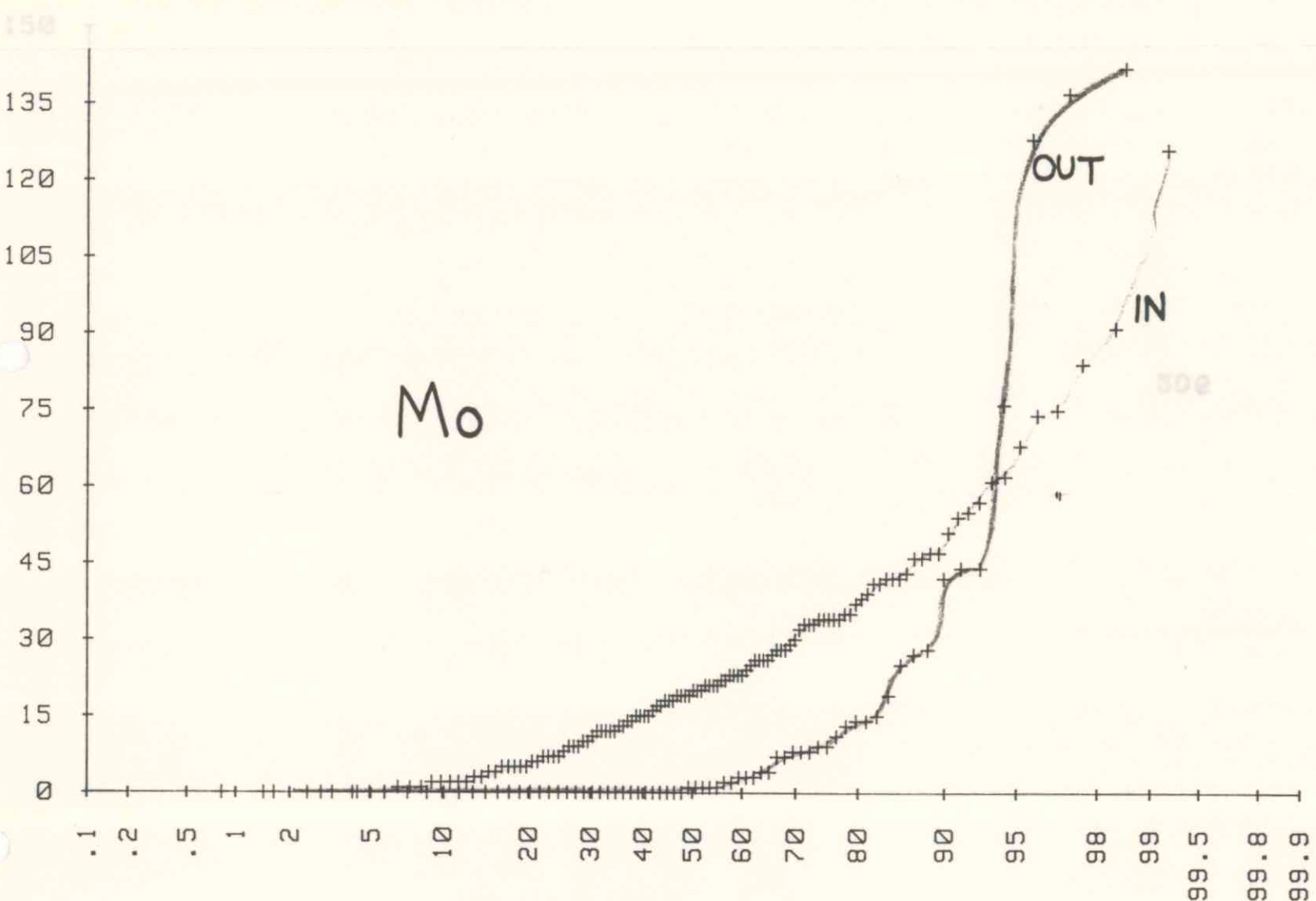
PERCENT UNDER
NORMAL PROBABILITY PLOT



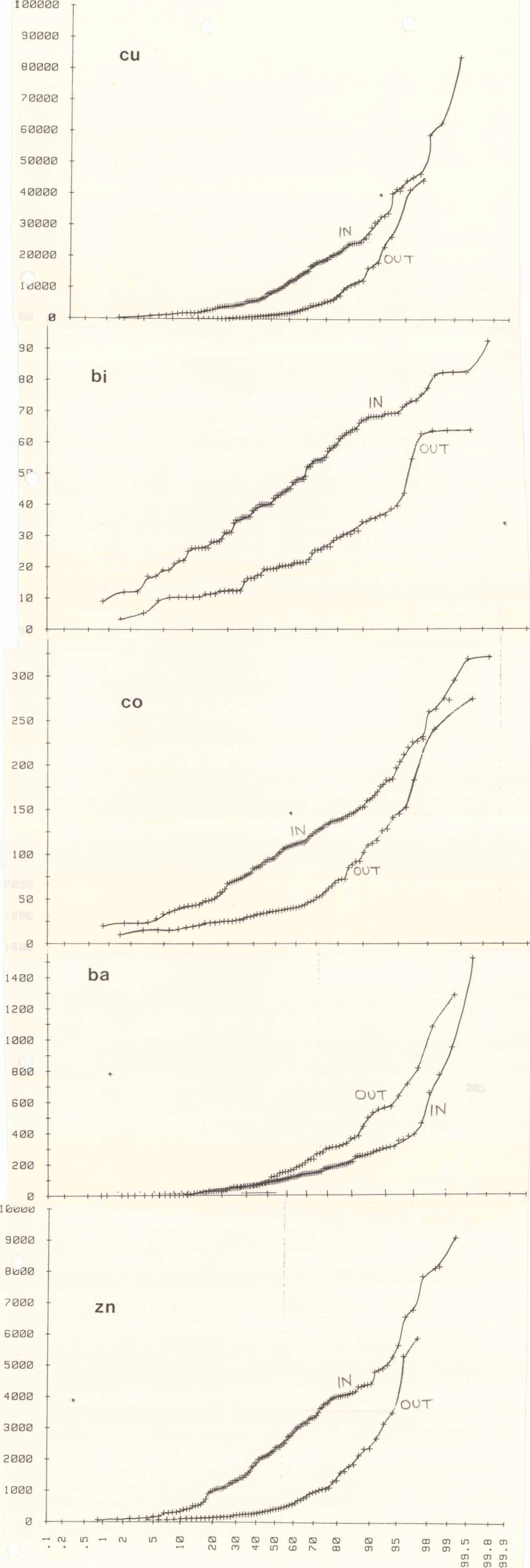
NORMAL PROBABILITY PLOT



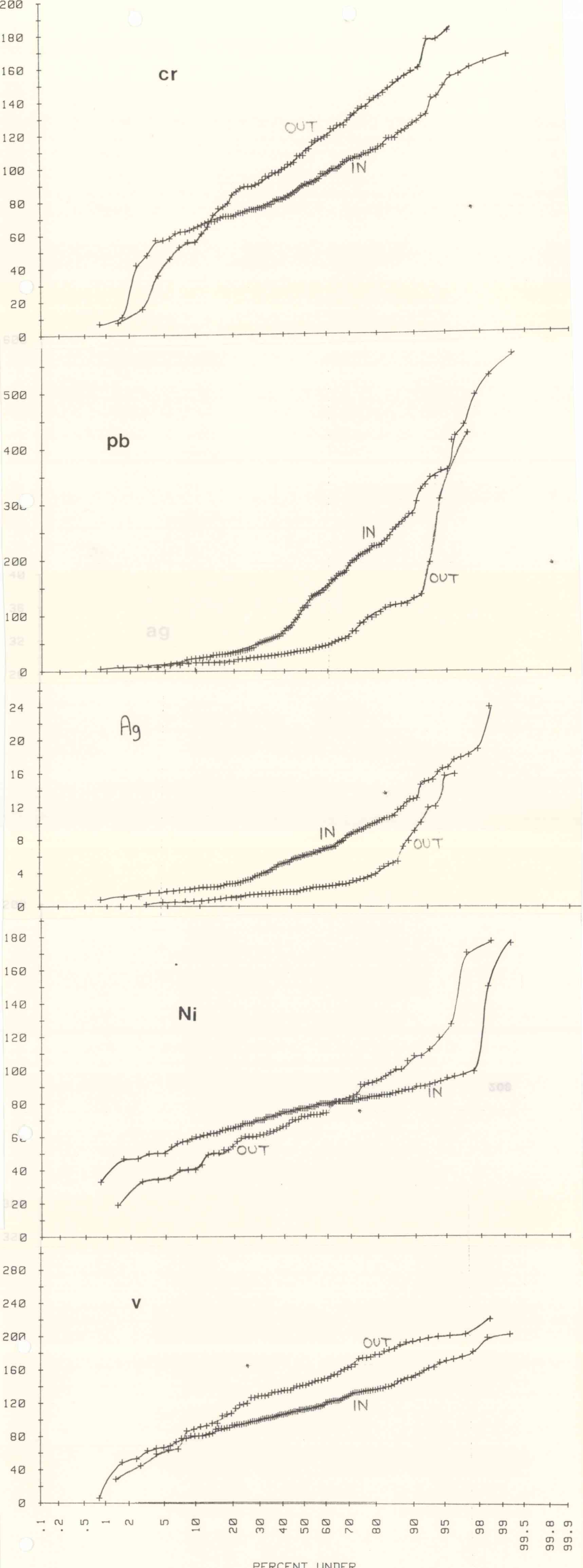
NORMAL PROBABILITY PLOT



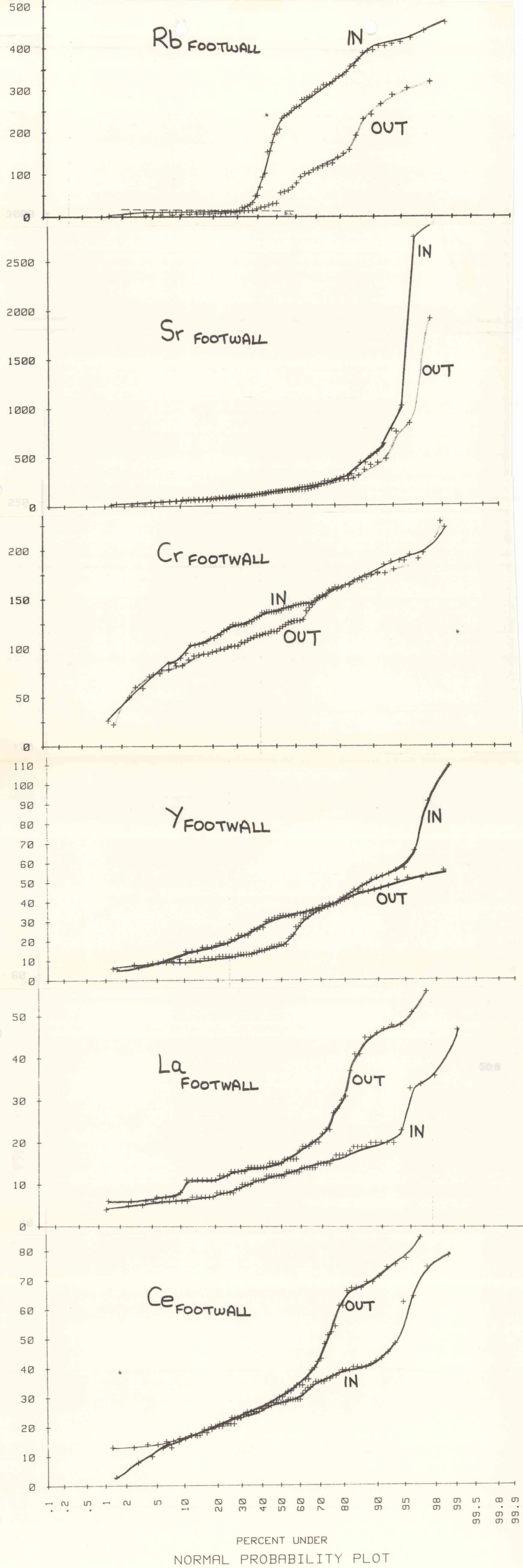
NORMAL PROBABILITY PLOT



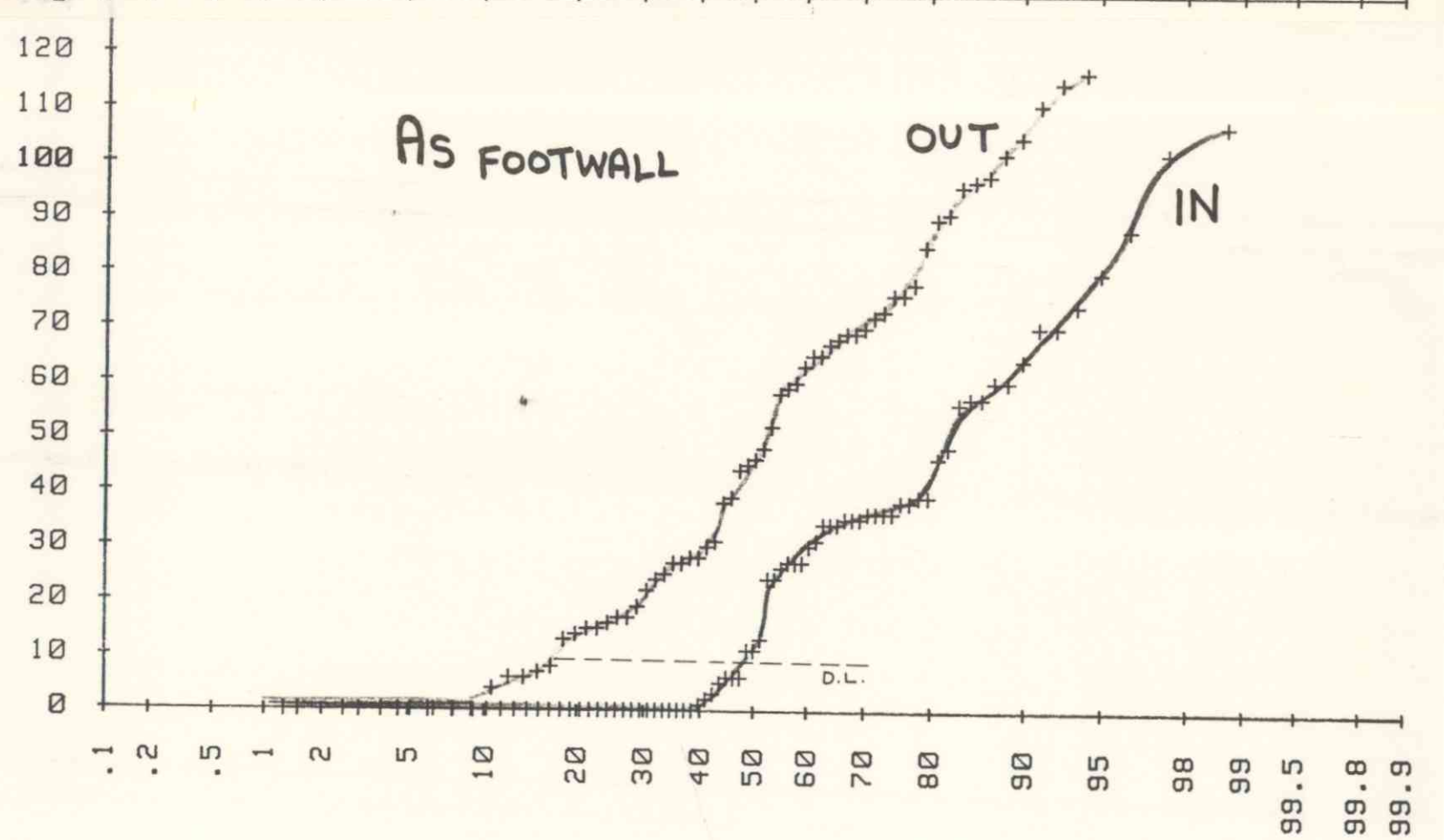
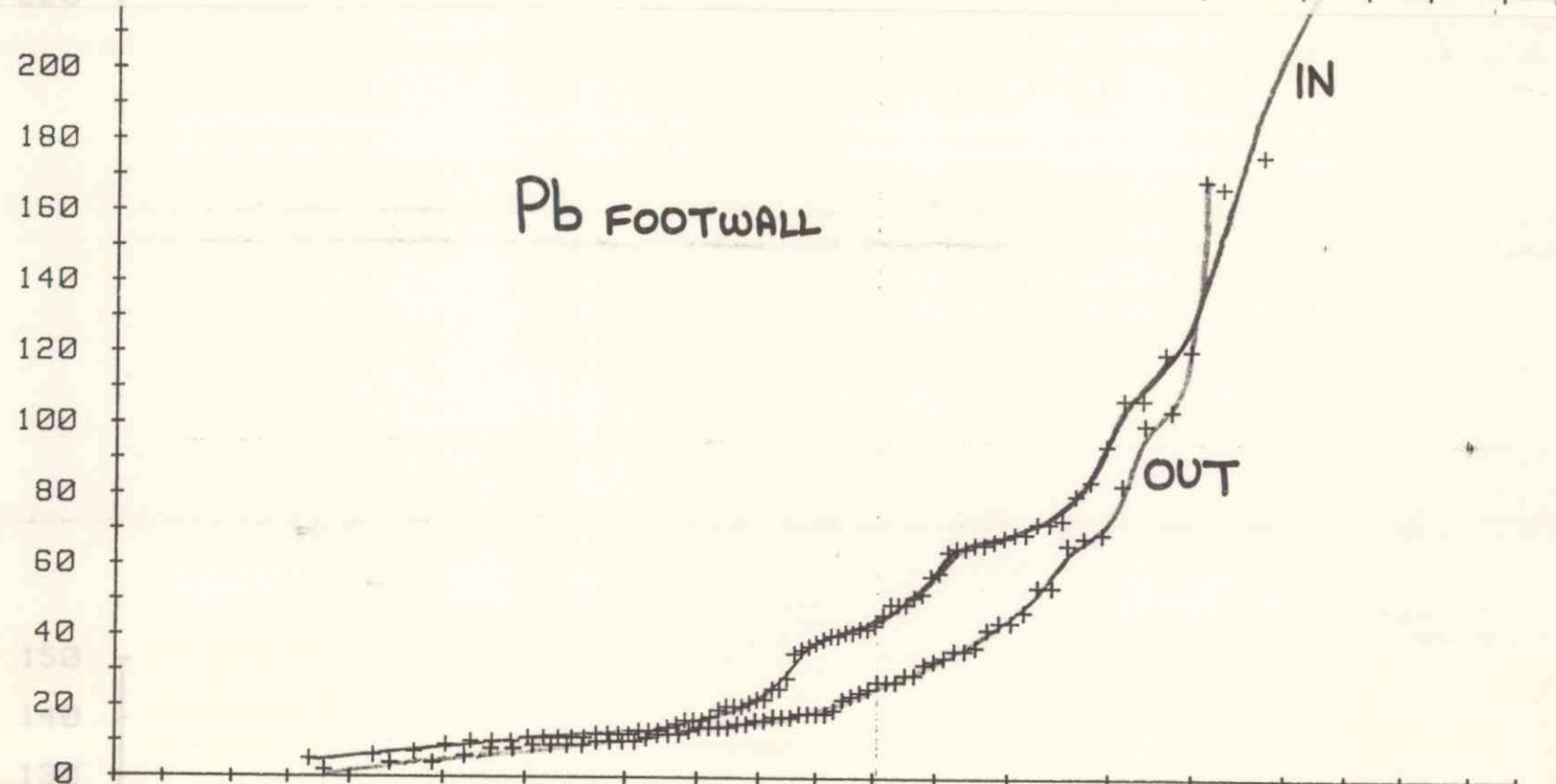
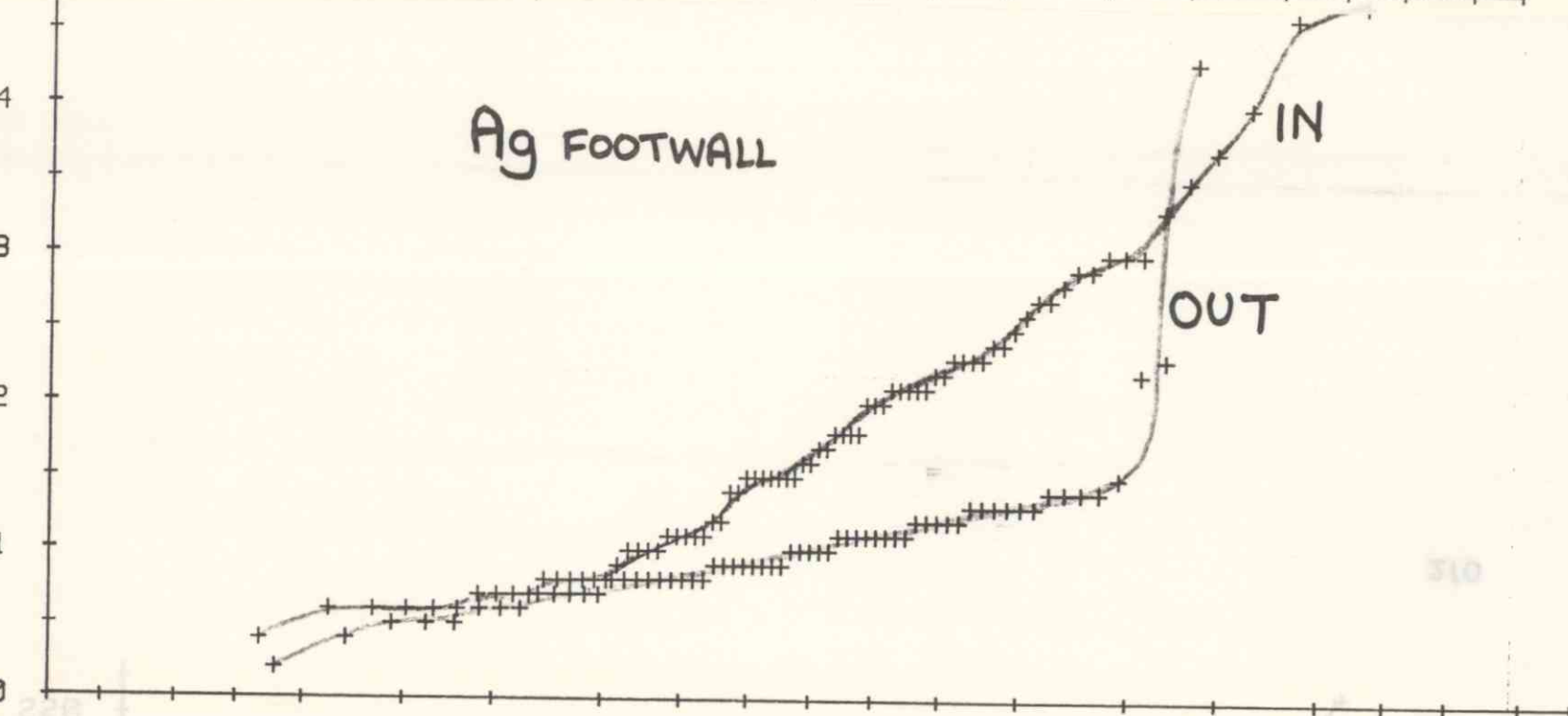
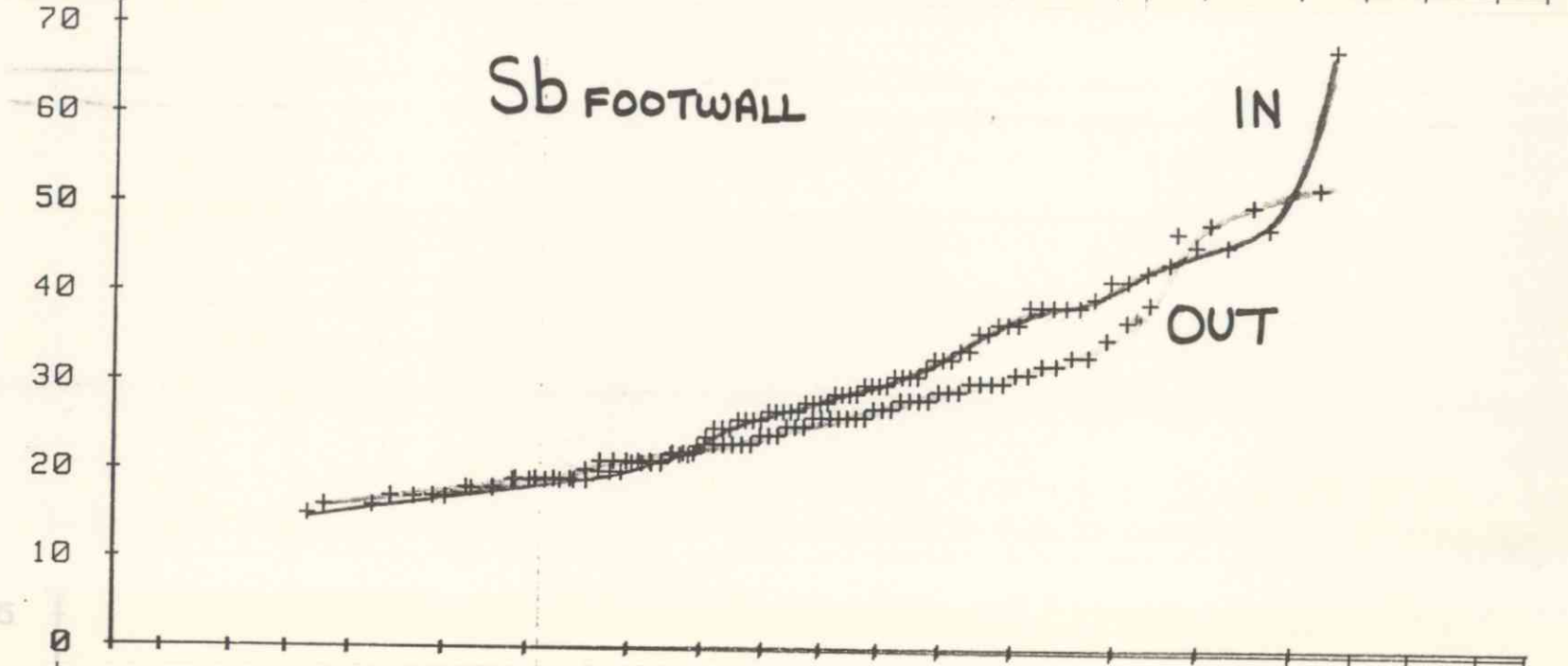
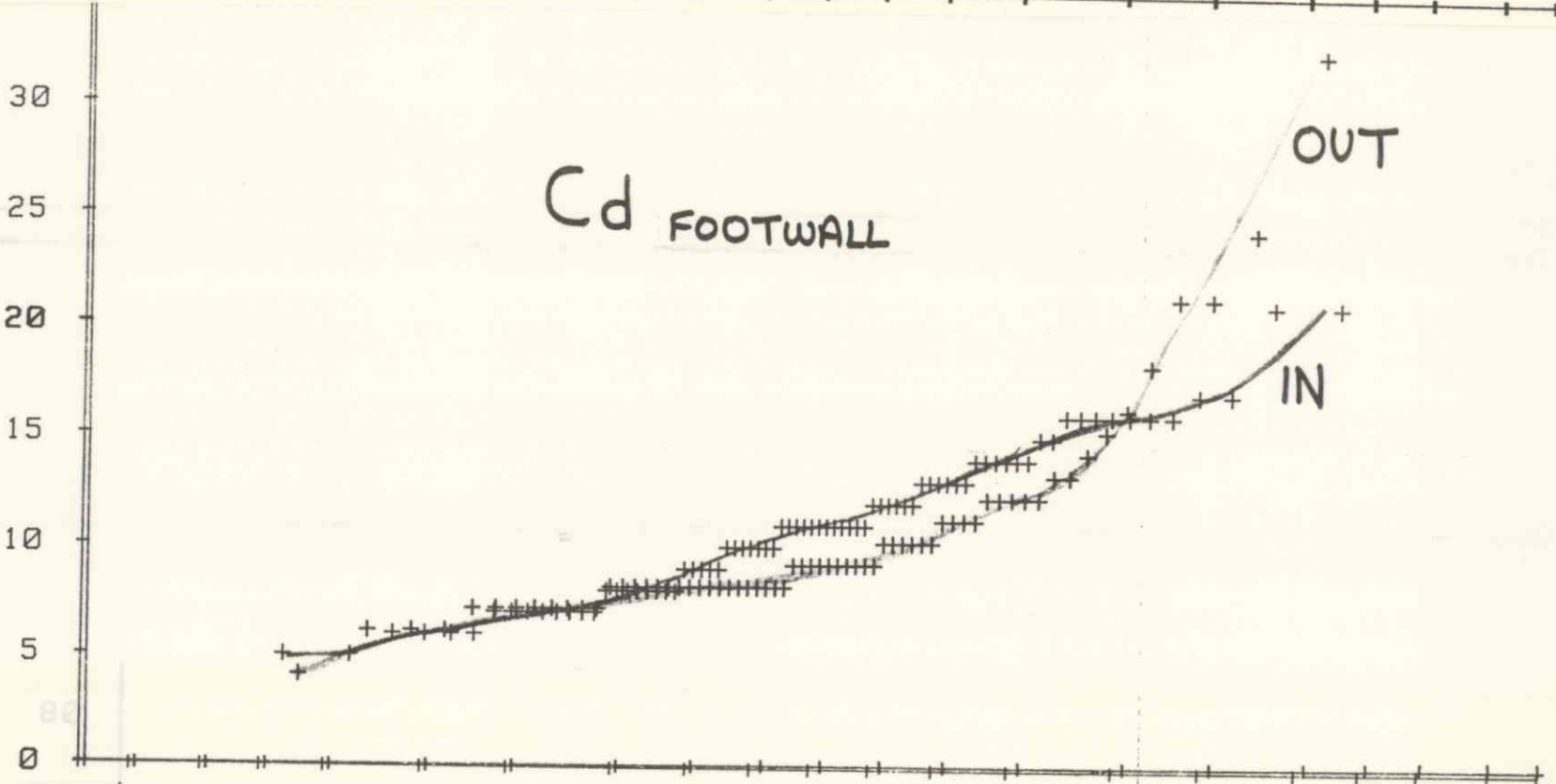
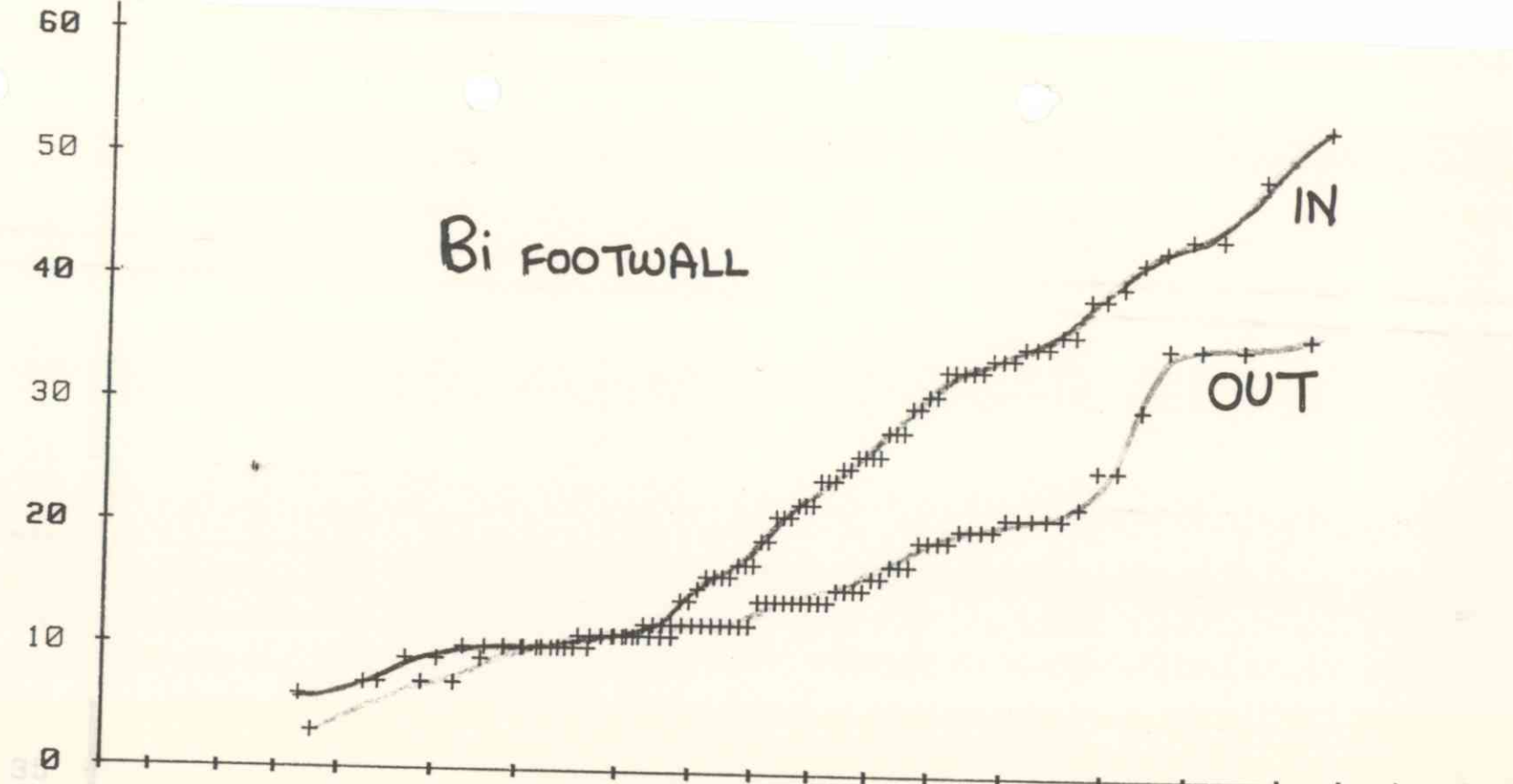
PERCENT UNDER
NORMAL PROBABILITY PLOT



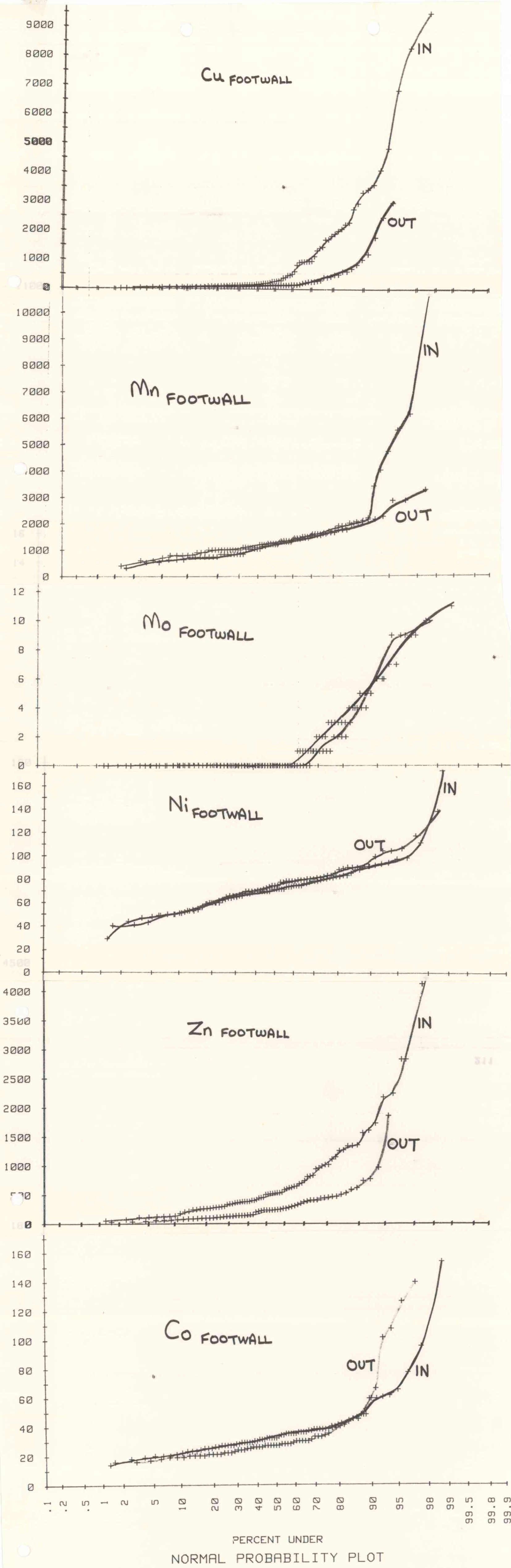
PERCENT UNDER
NORMAL PROBABILITY PLOT



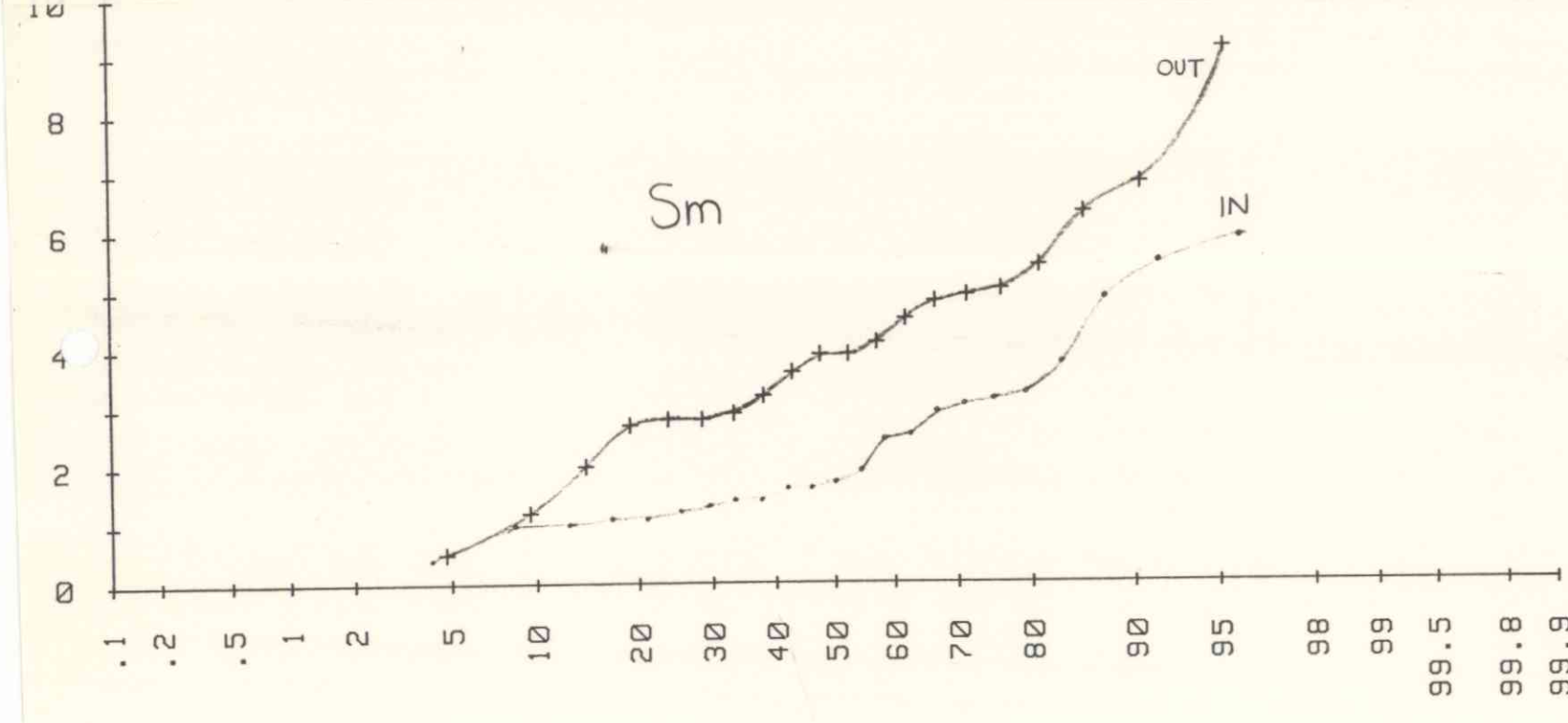
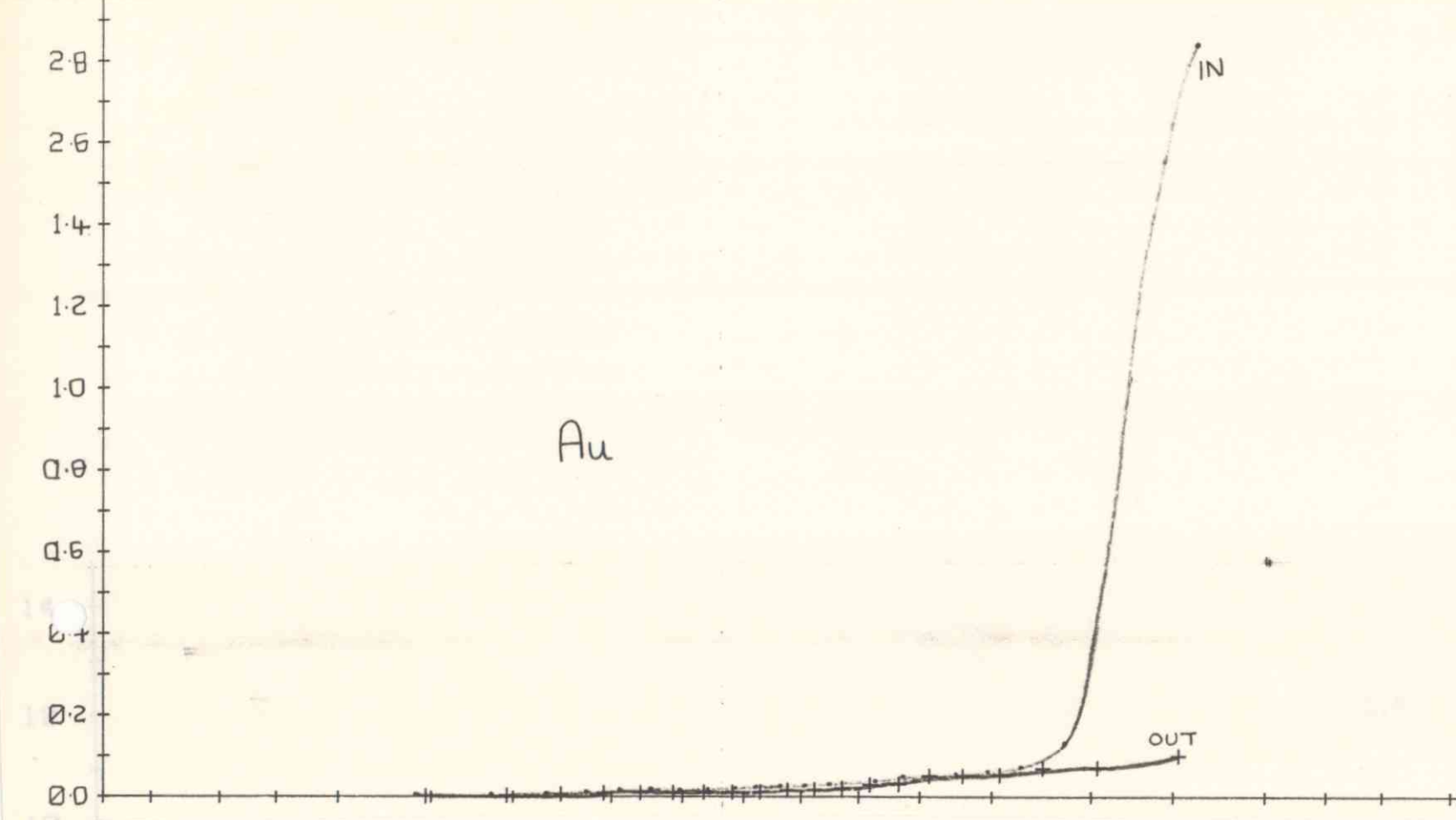
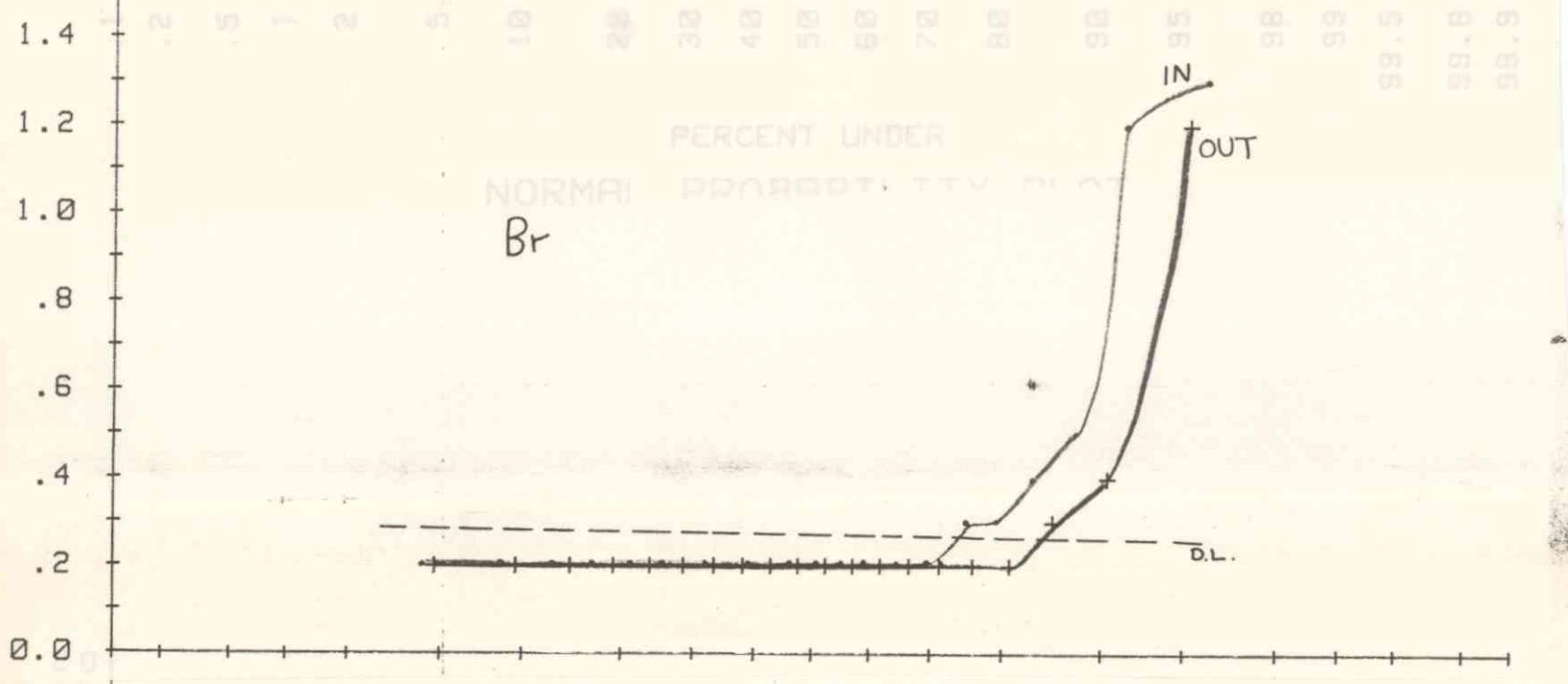
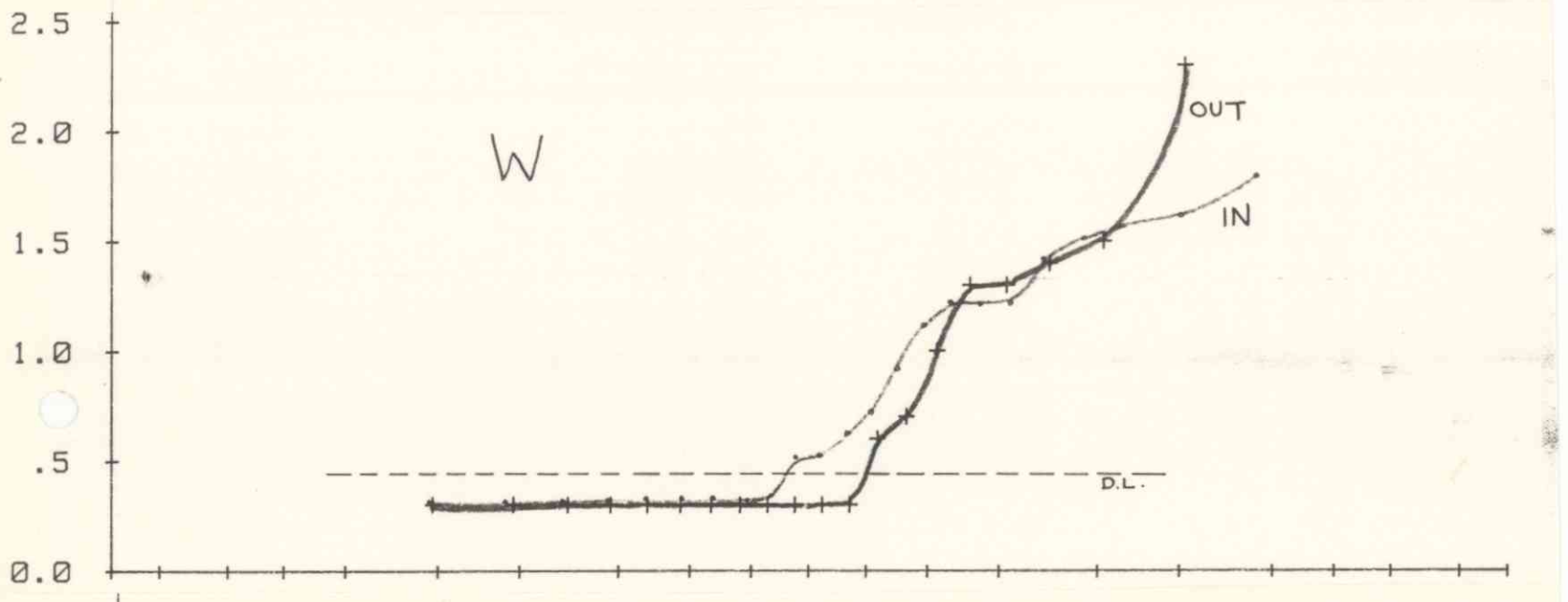
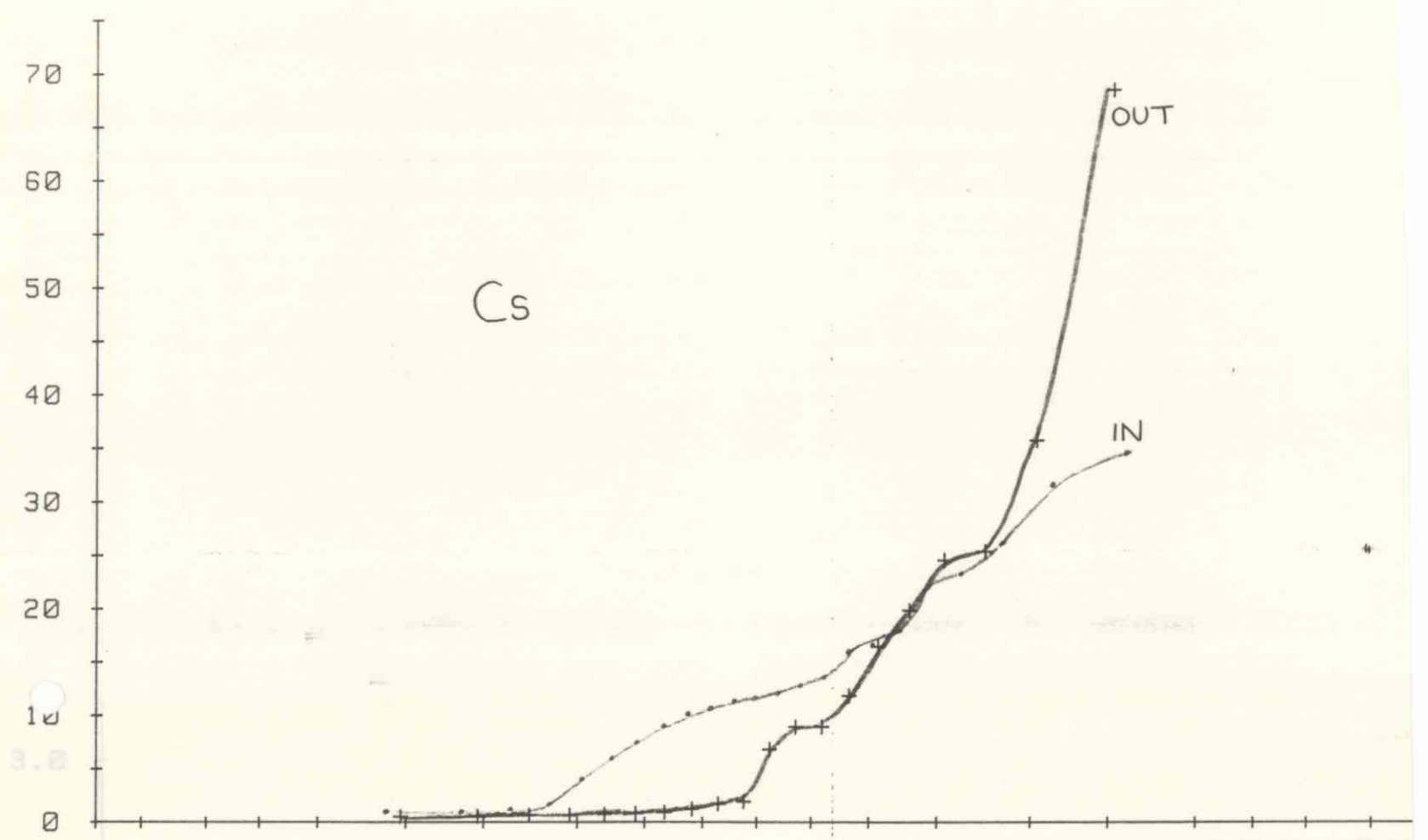
PERCENT UNDER
NORMAL PROBABILITY PLOT



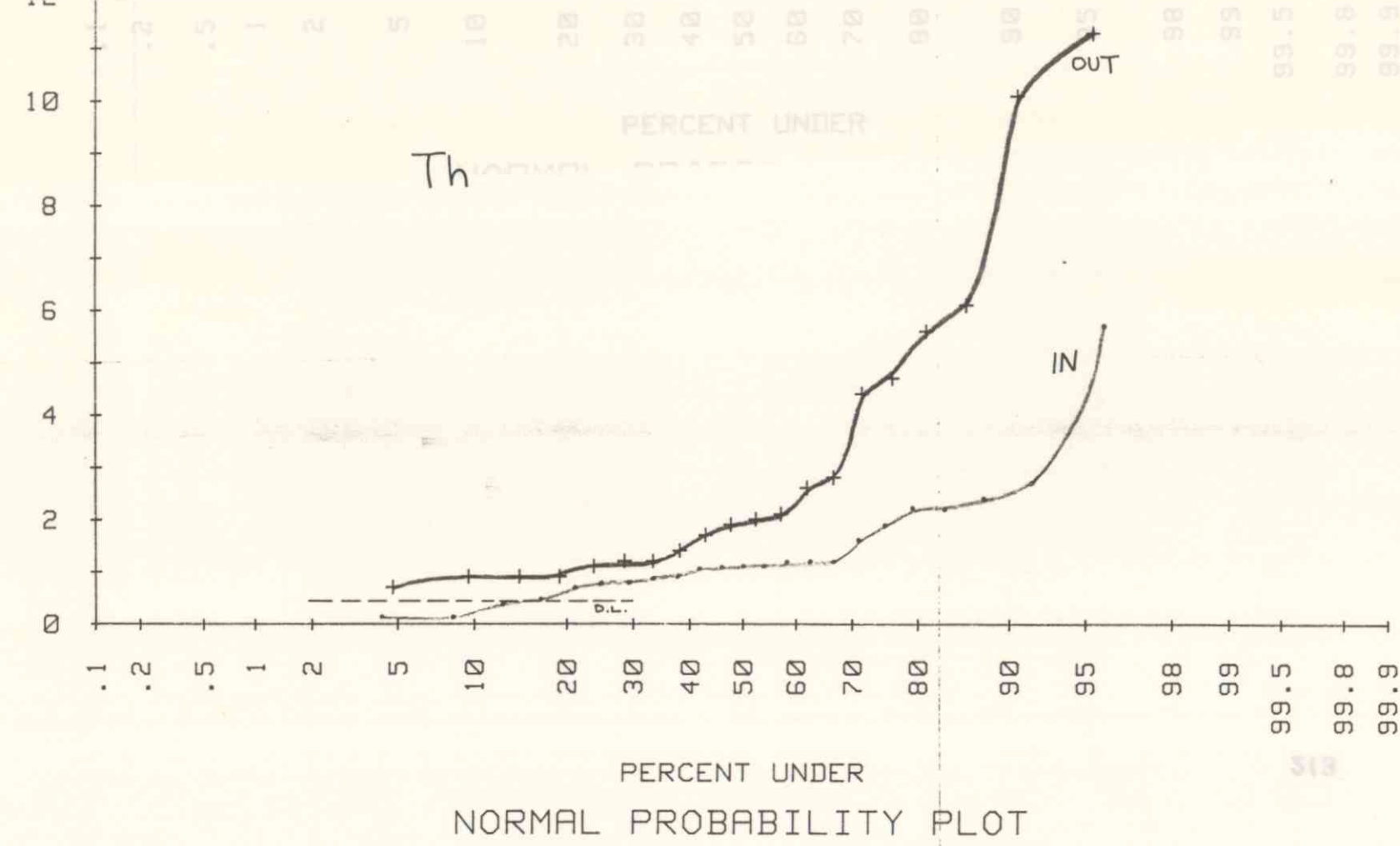
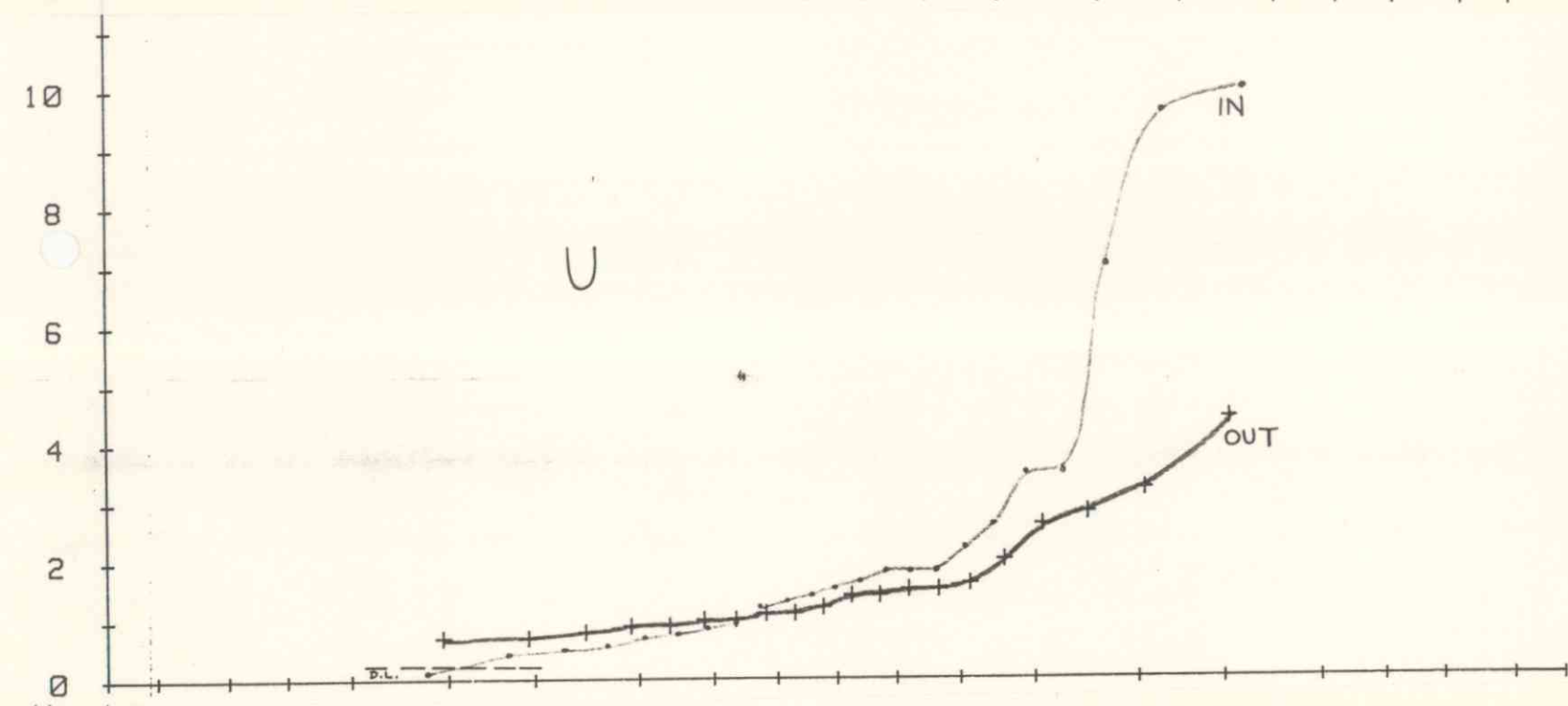
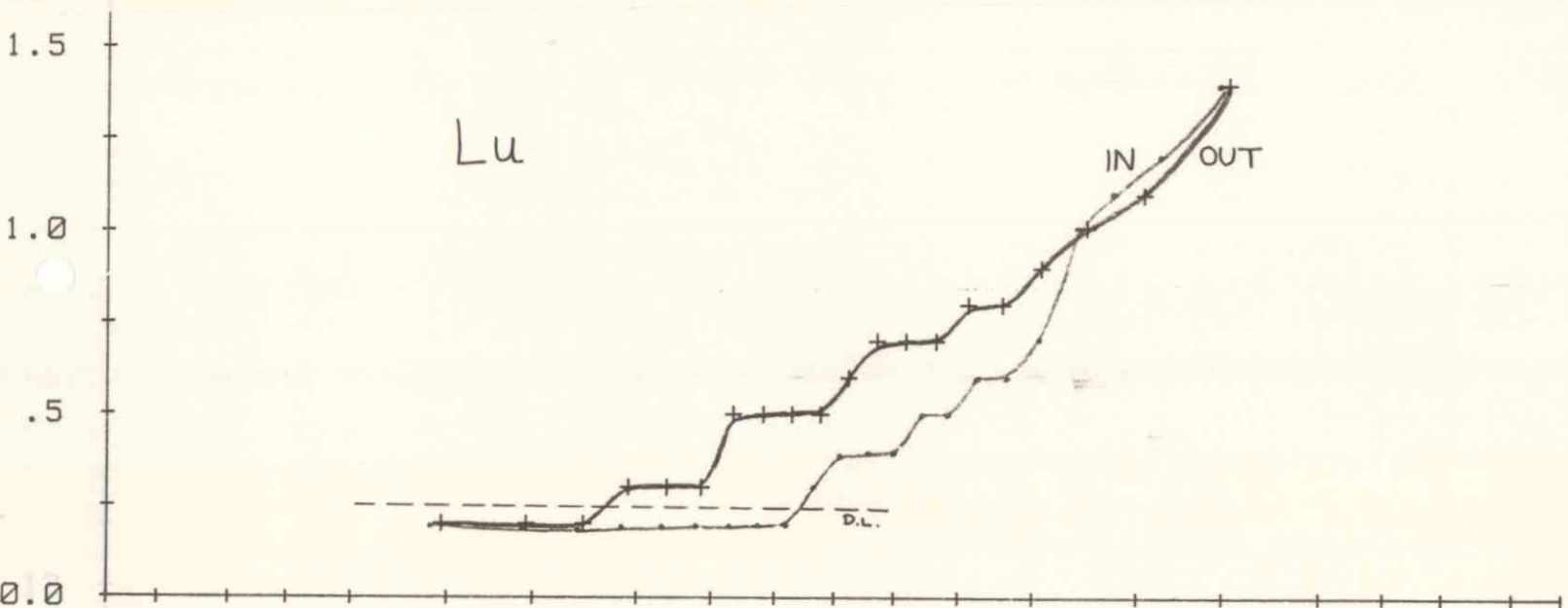
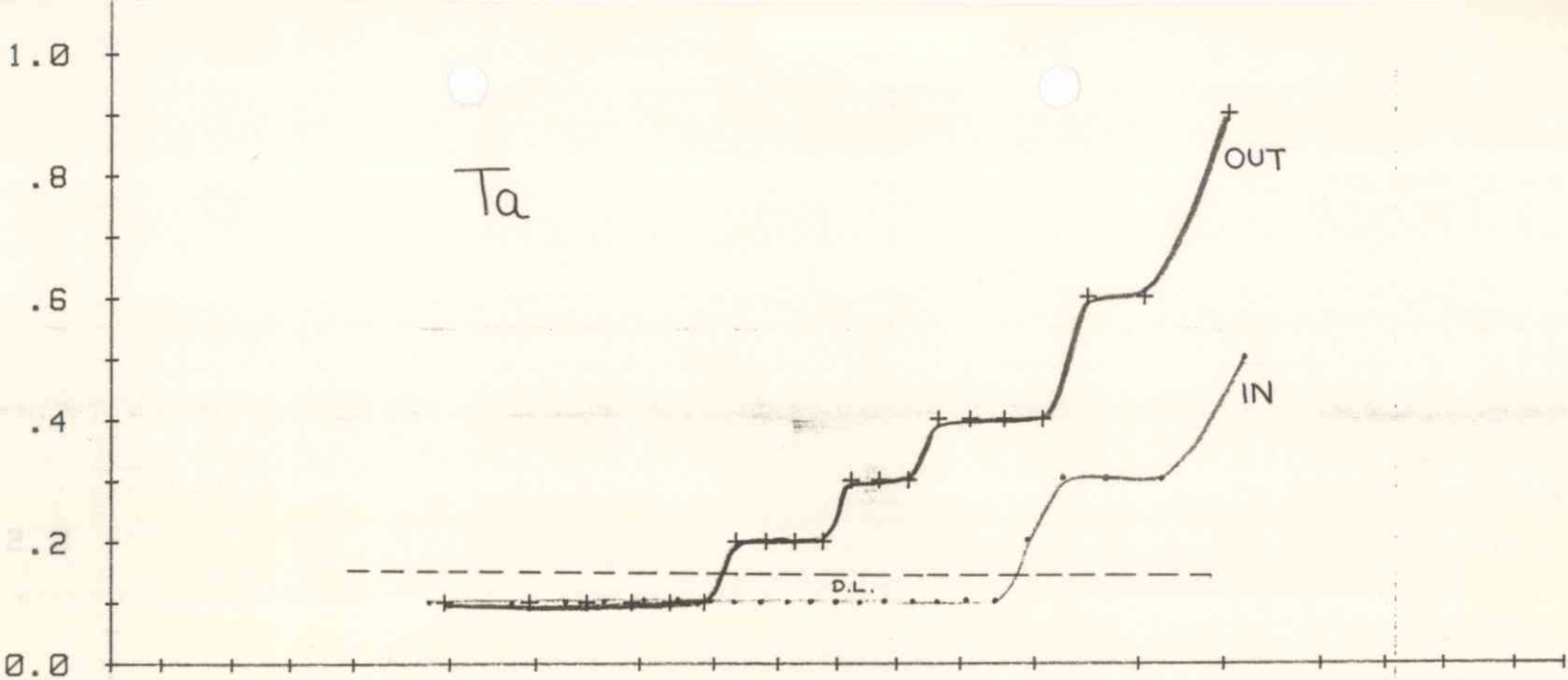
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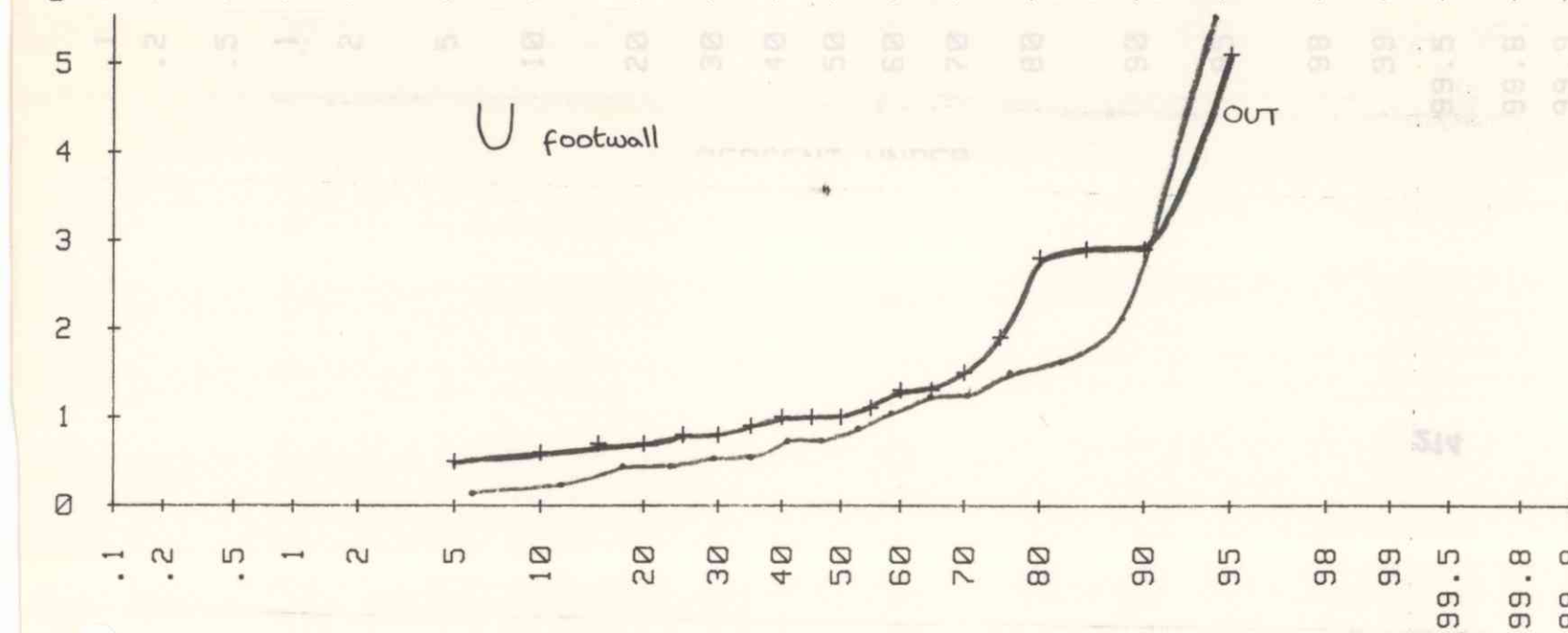
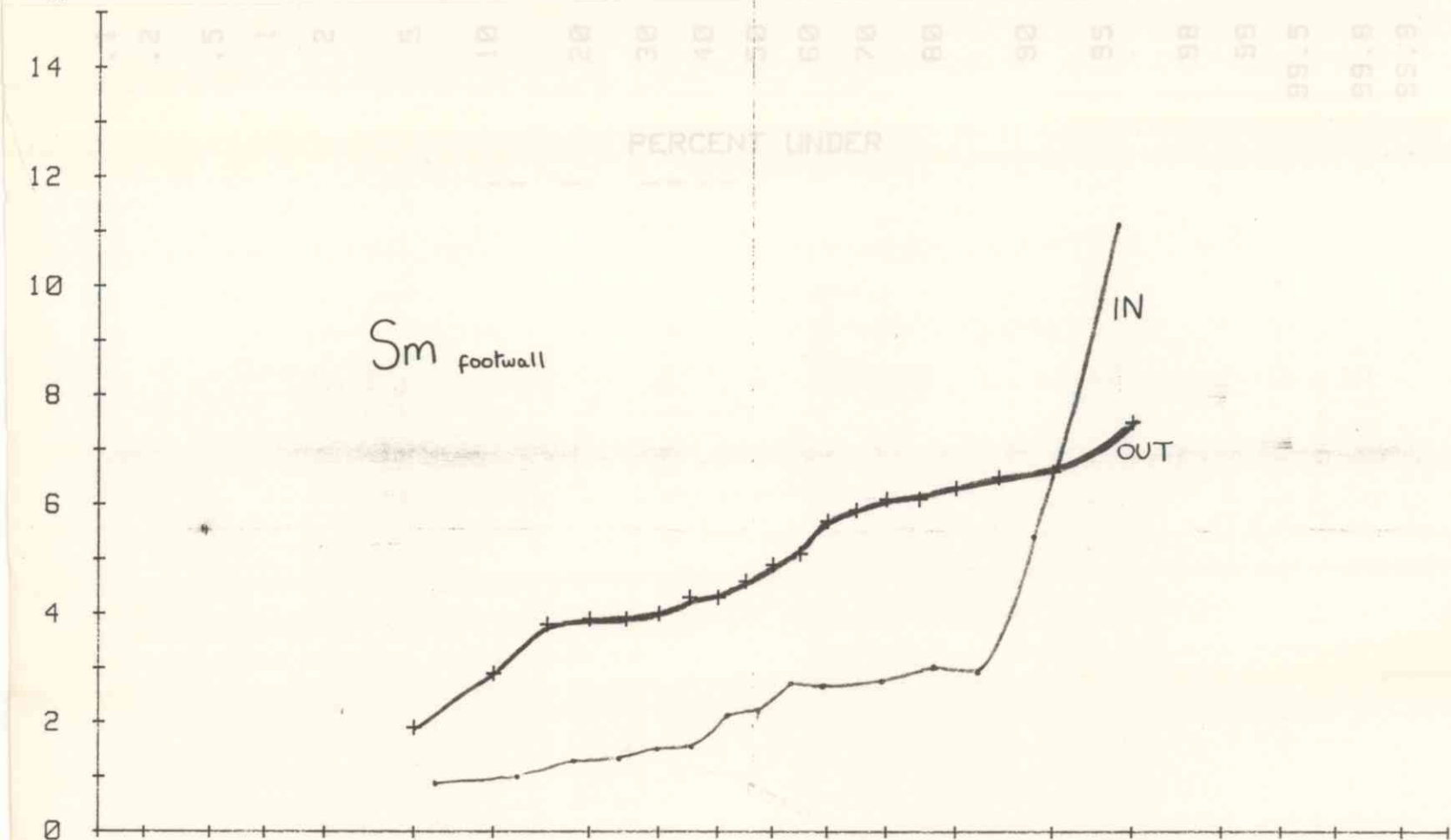
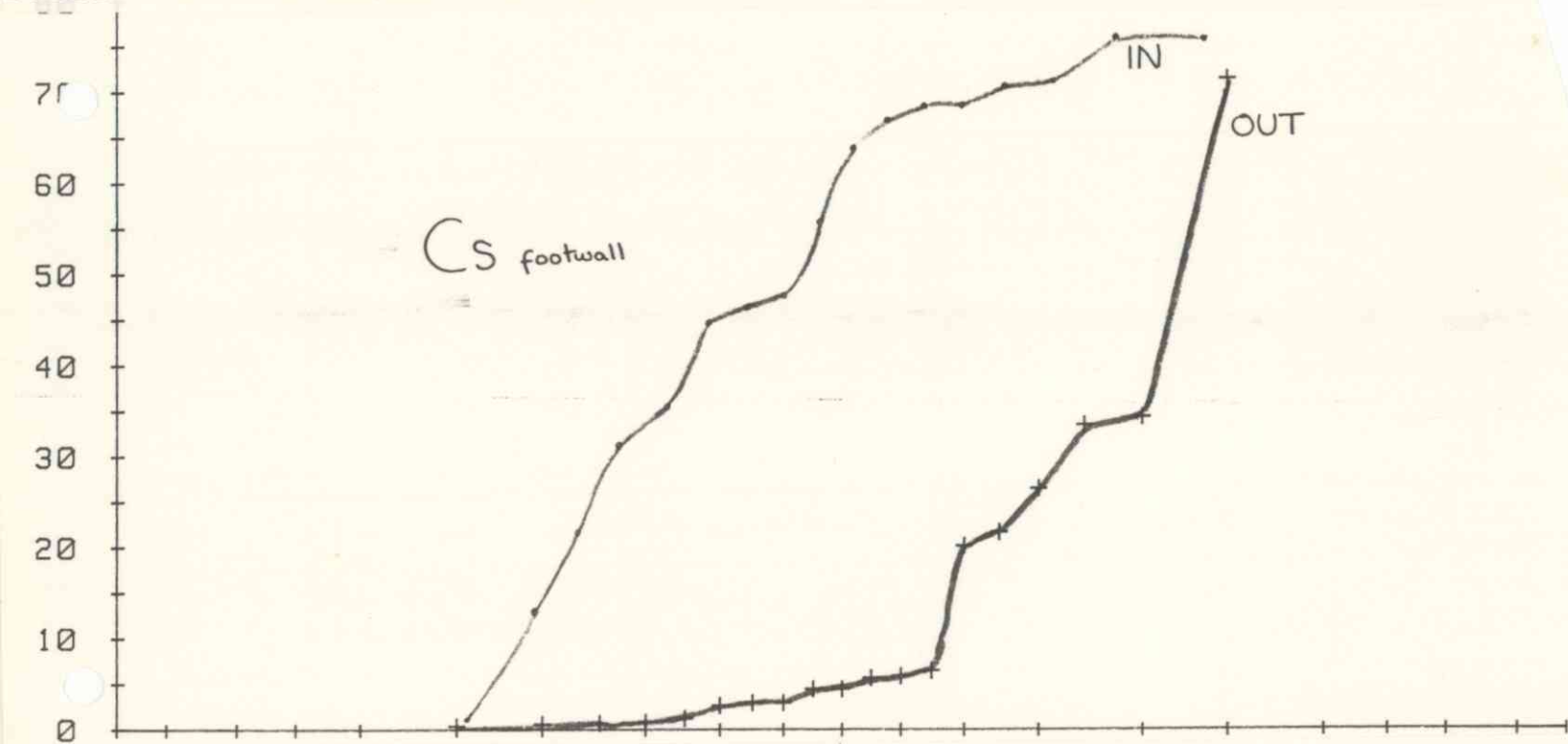
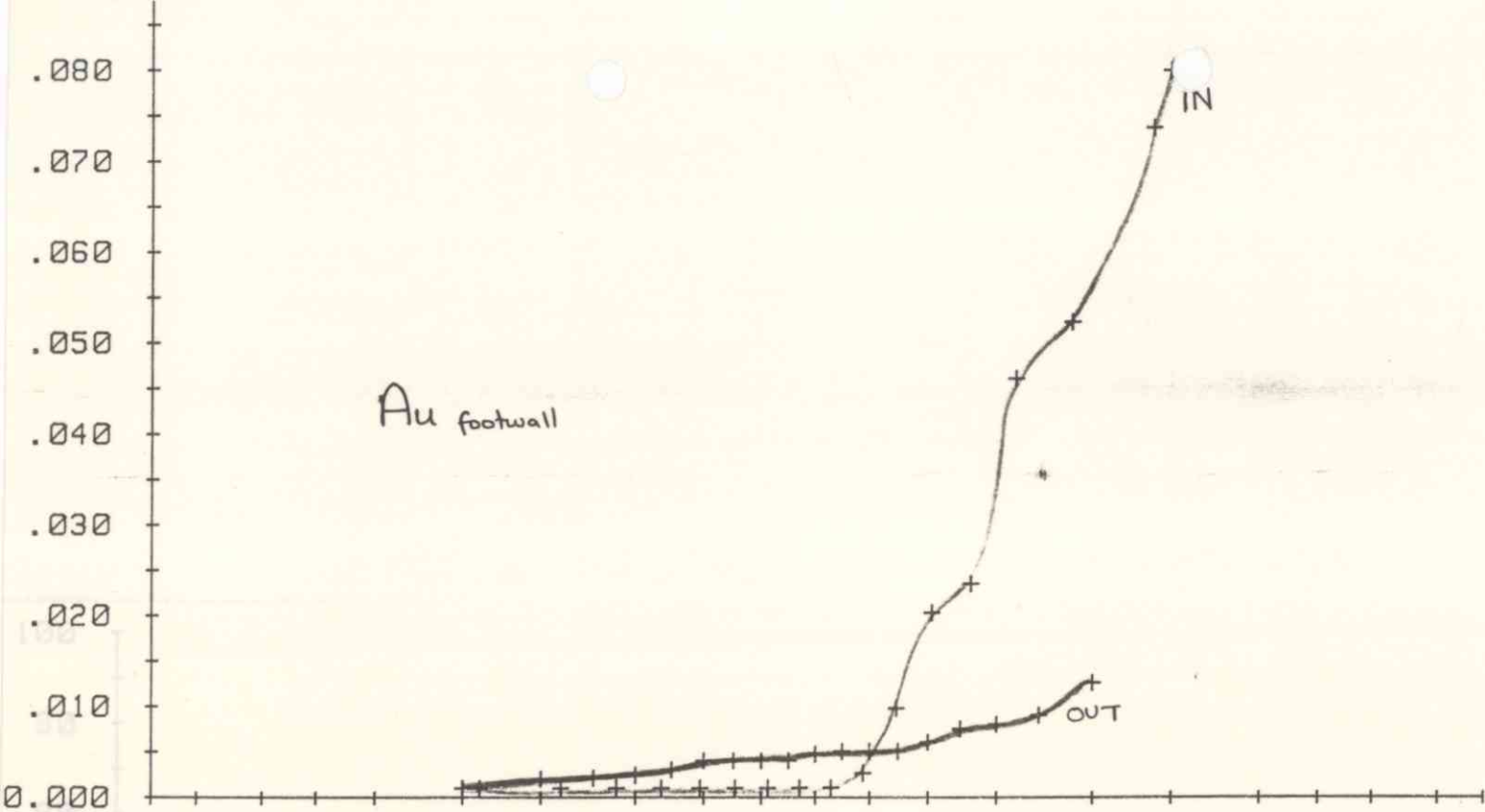


PERCENT UNDER
NORMAL PROBABILITY PLOT



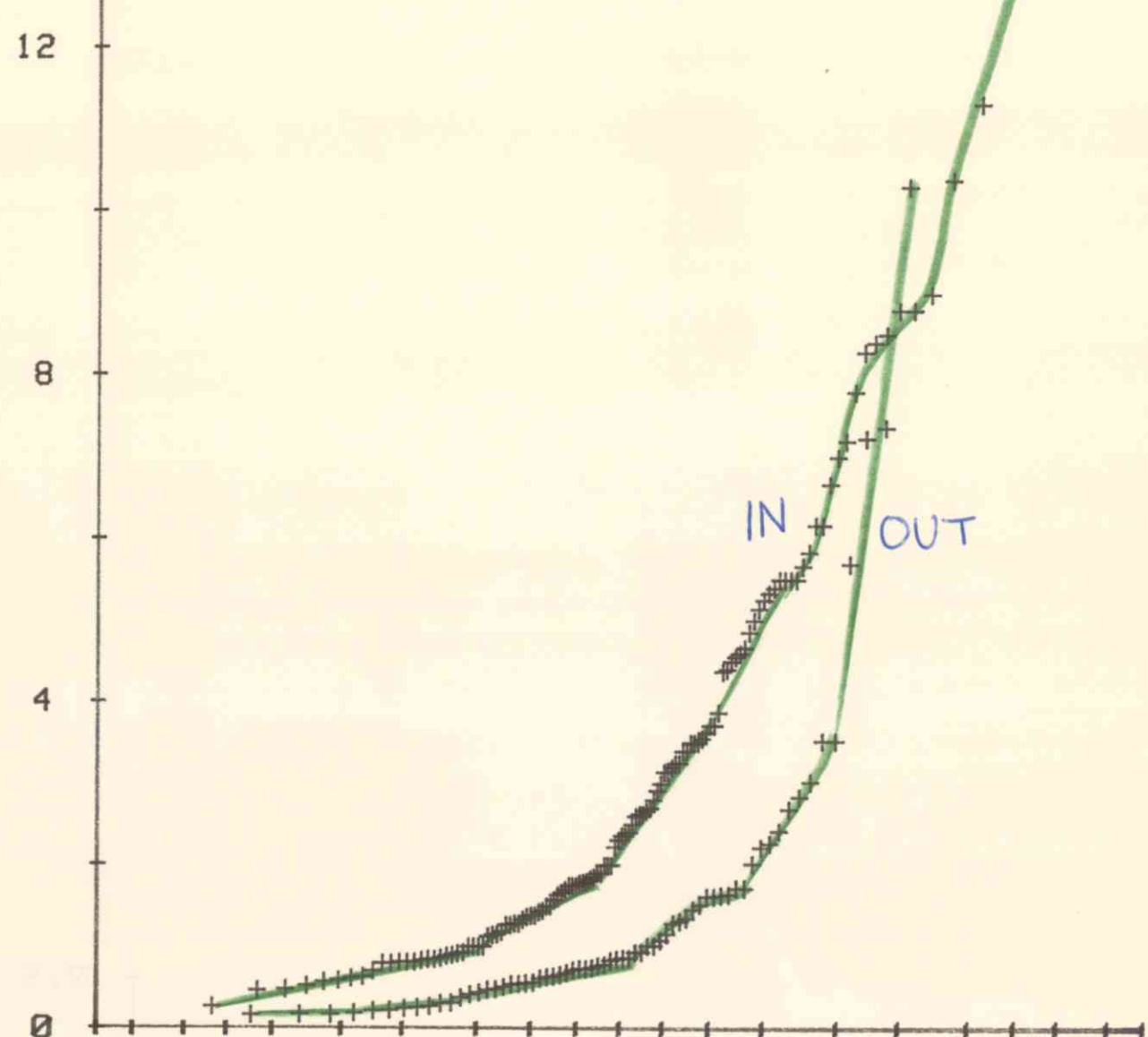
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NORMAL PROBABILITY PLOT



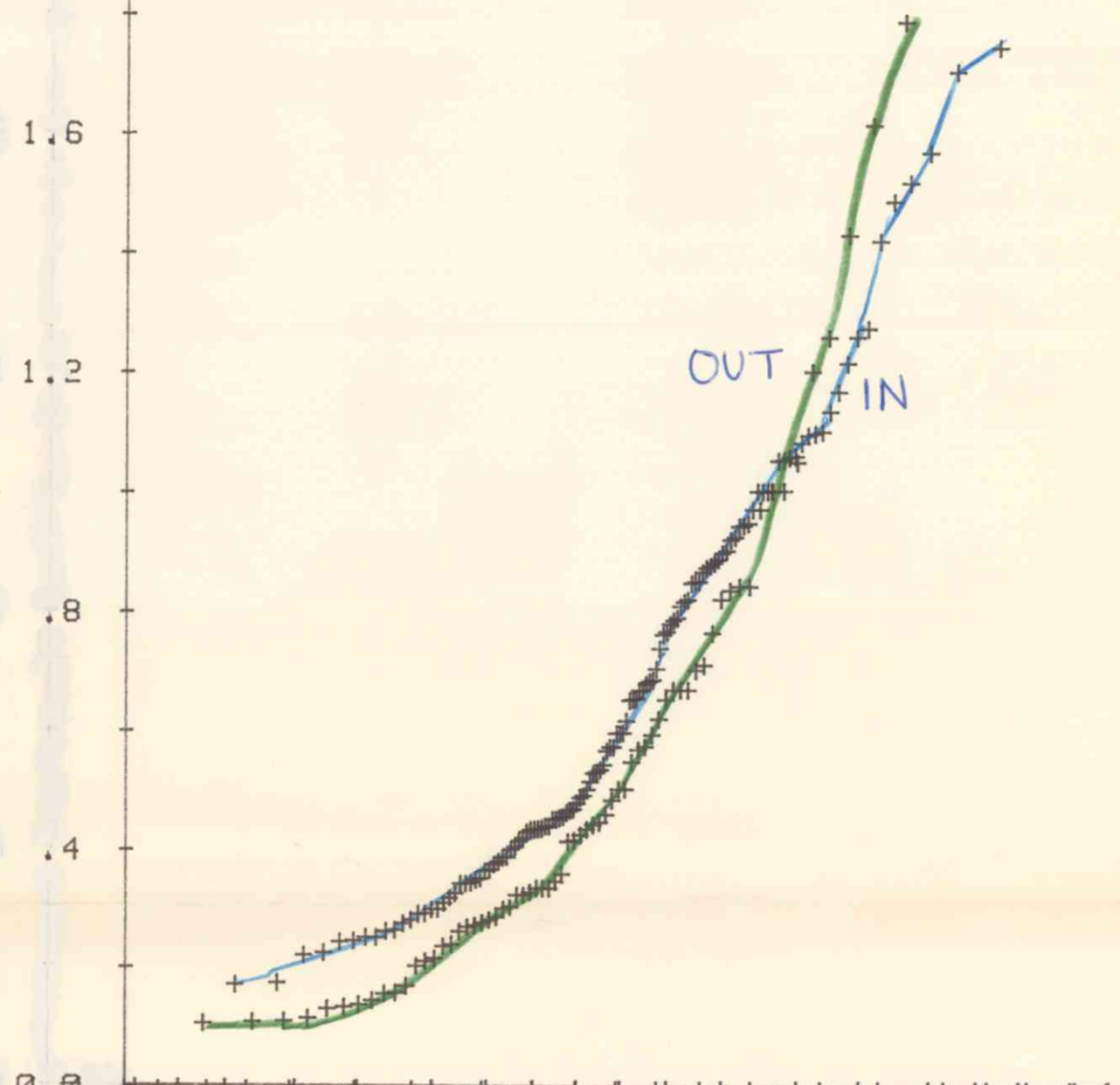


PERCENT UNDER
NORMAL PROBABILITY PLOT

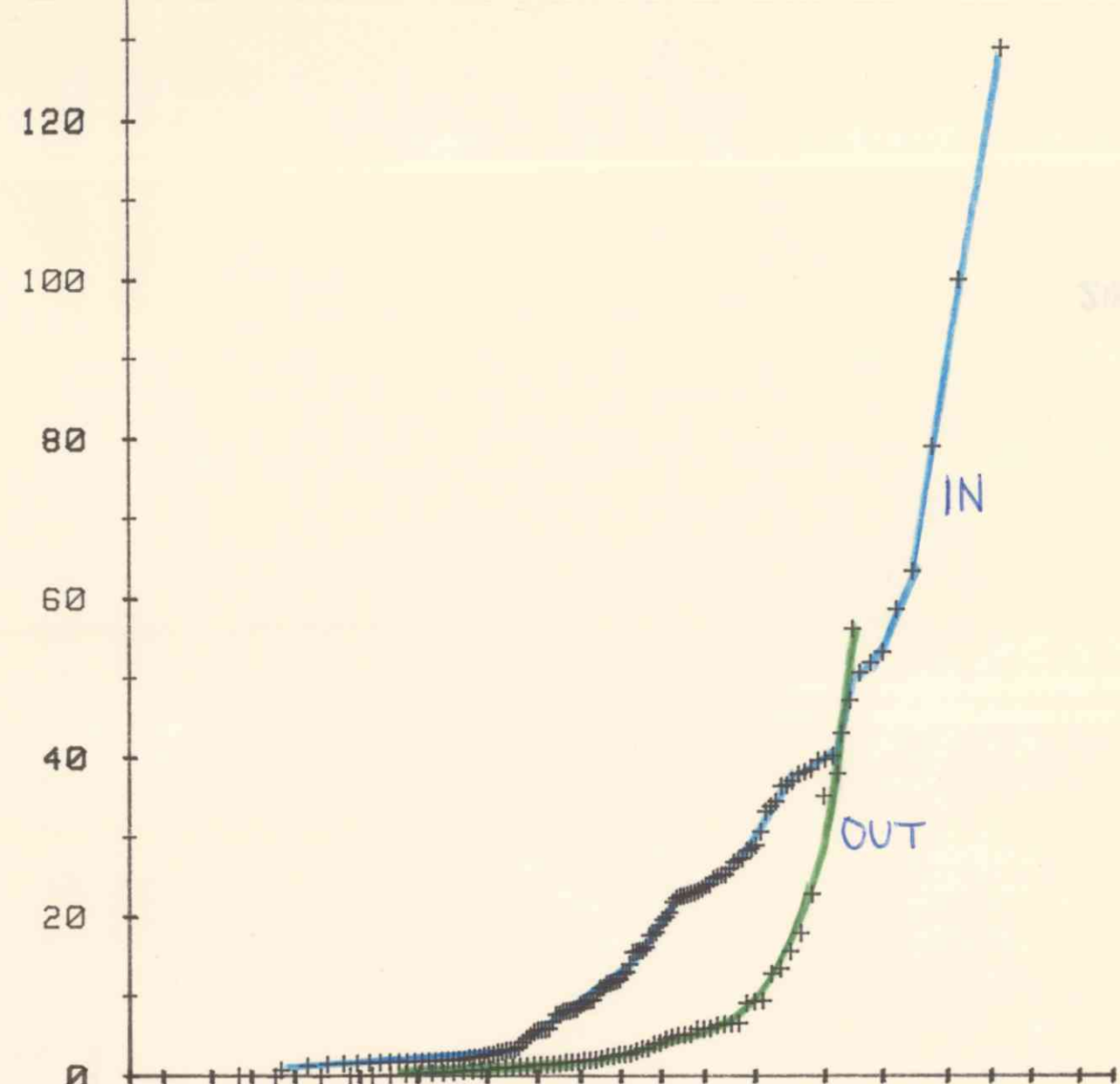
CD/LA



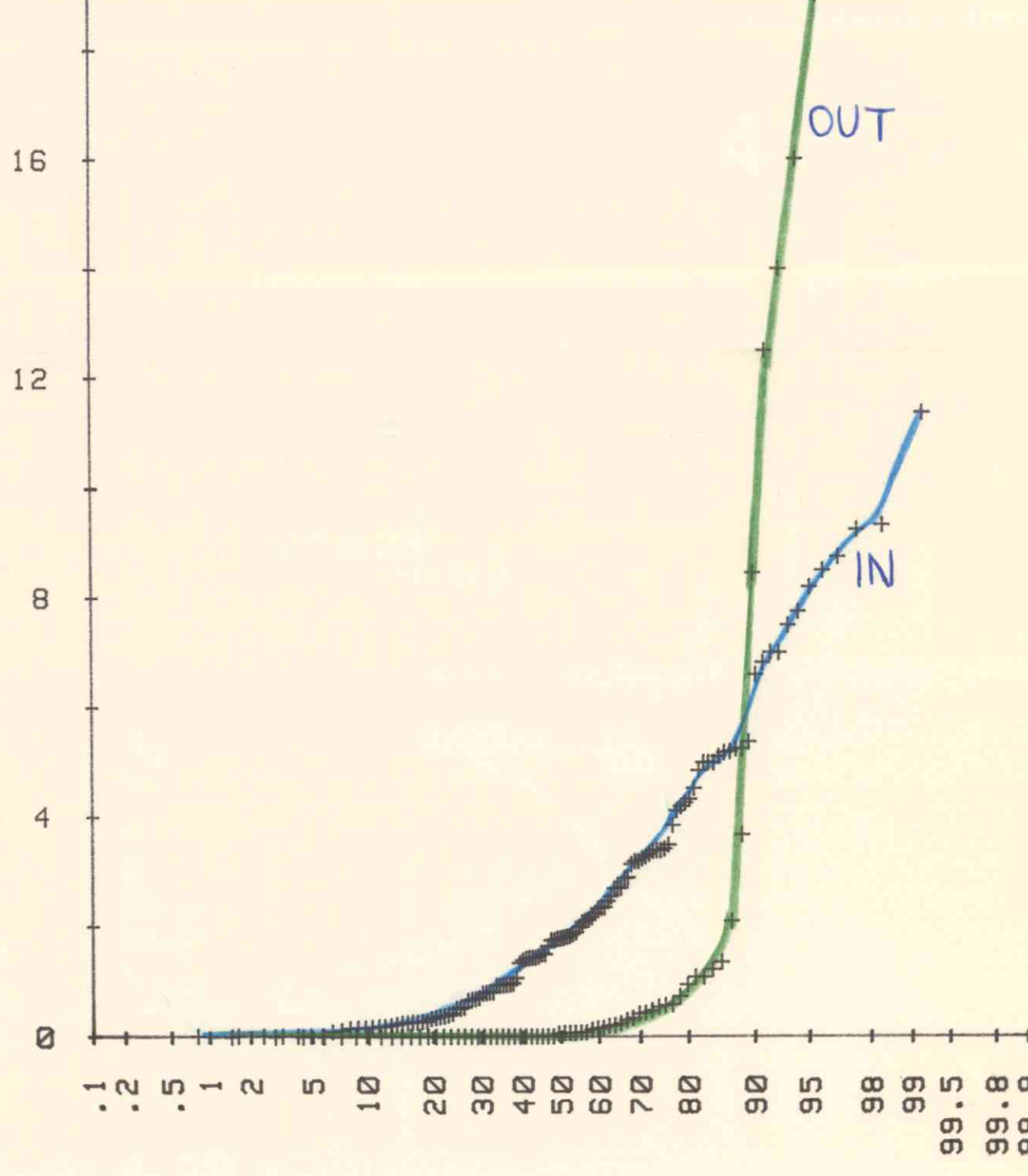
CD/CE



AS/Y



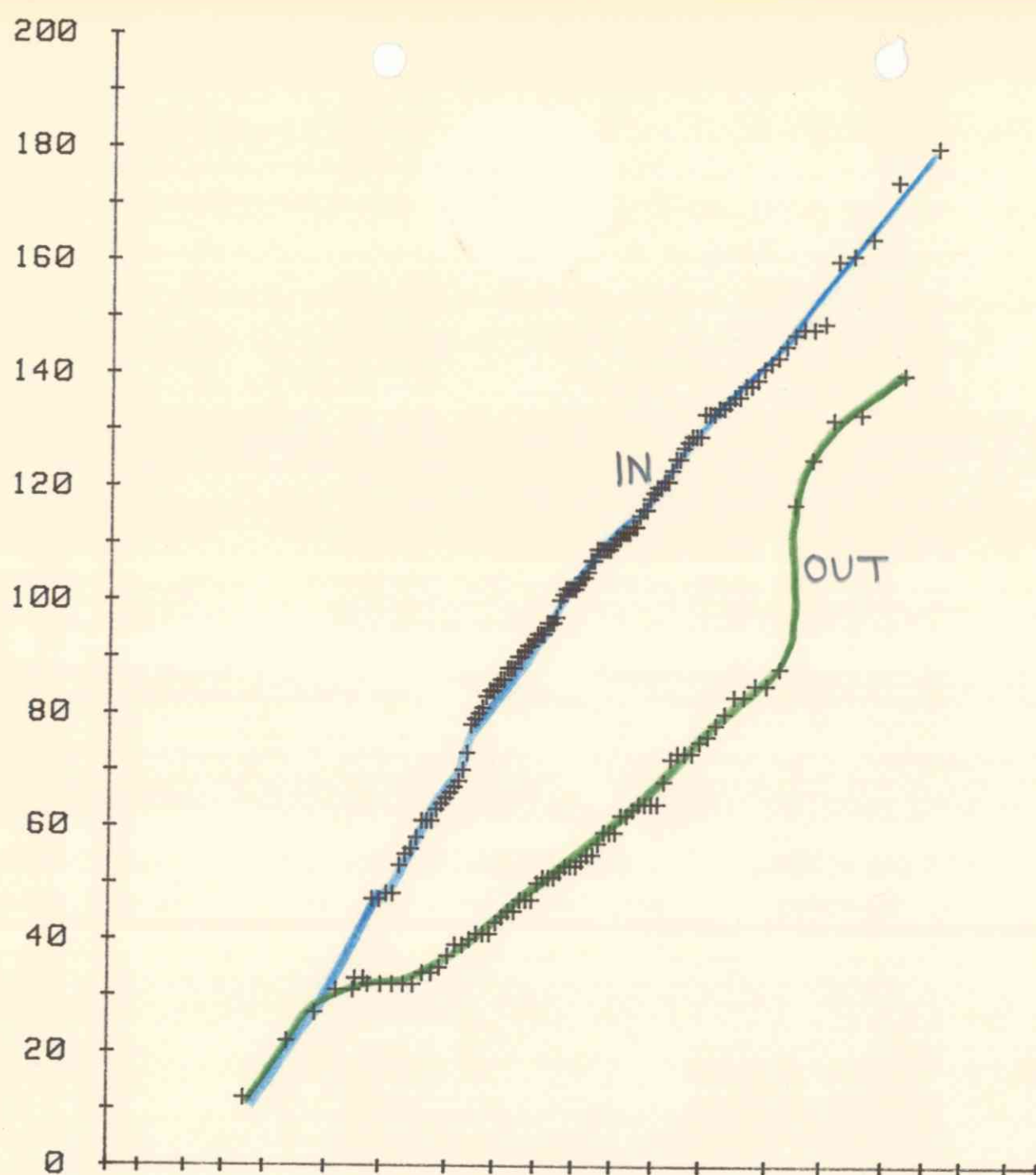
MO/SC



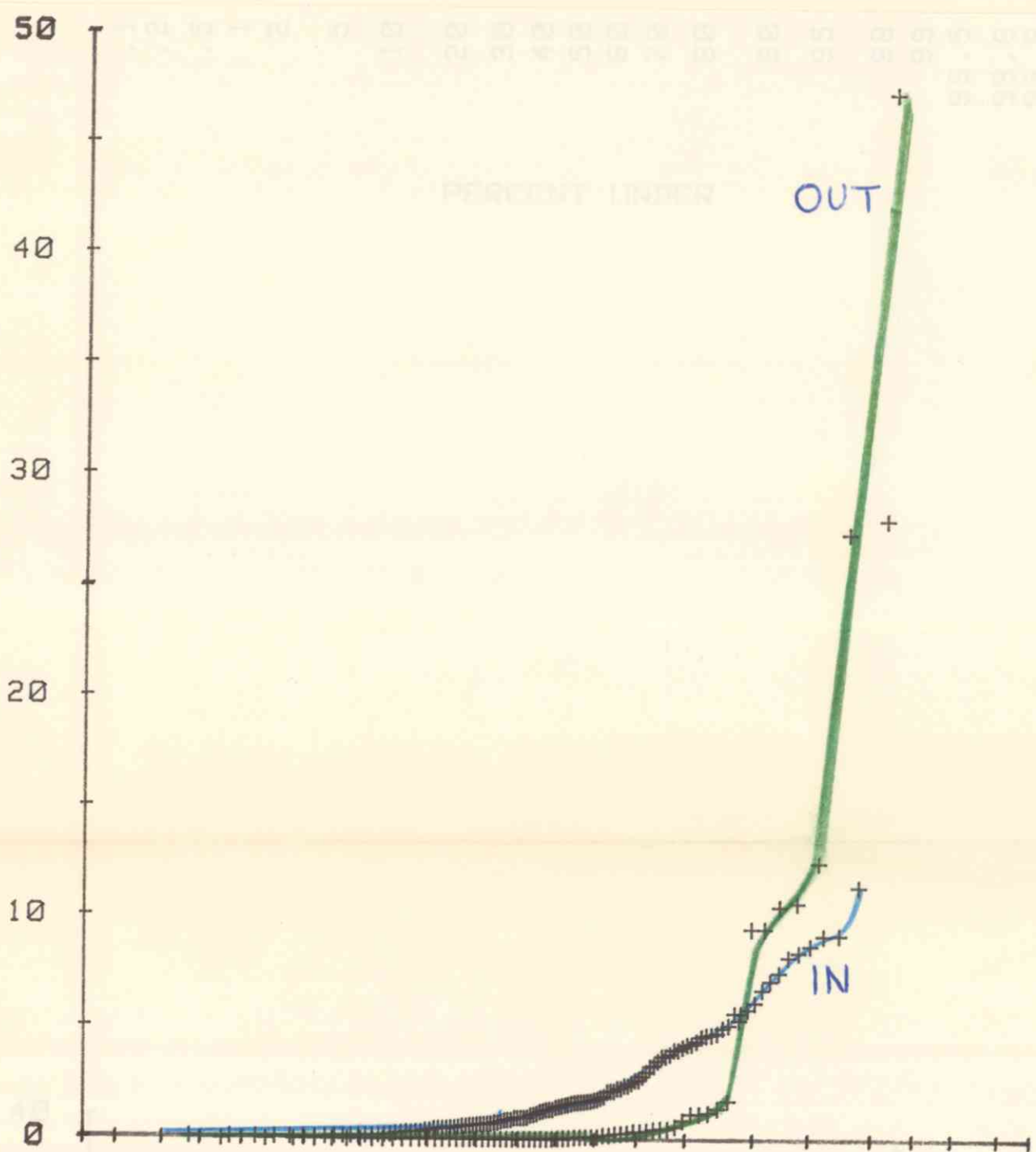
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NORMAL PROBABILITY PLOT

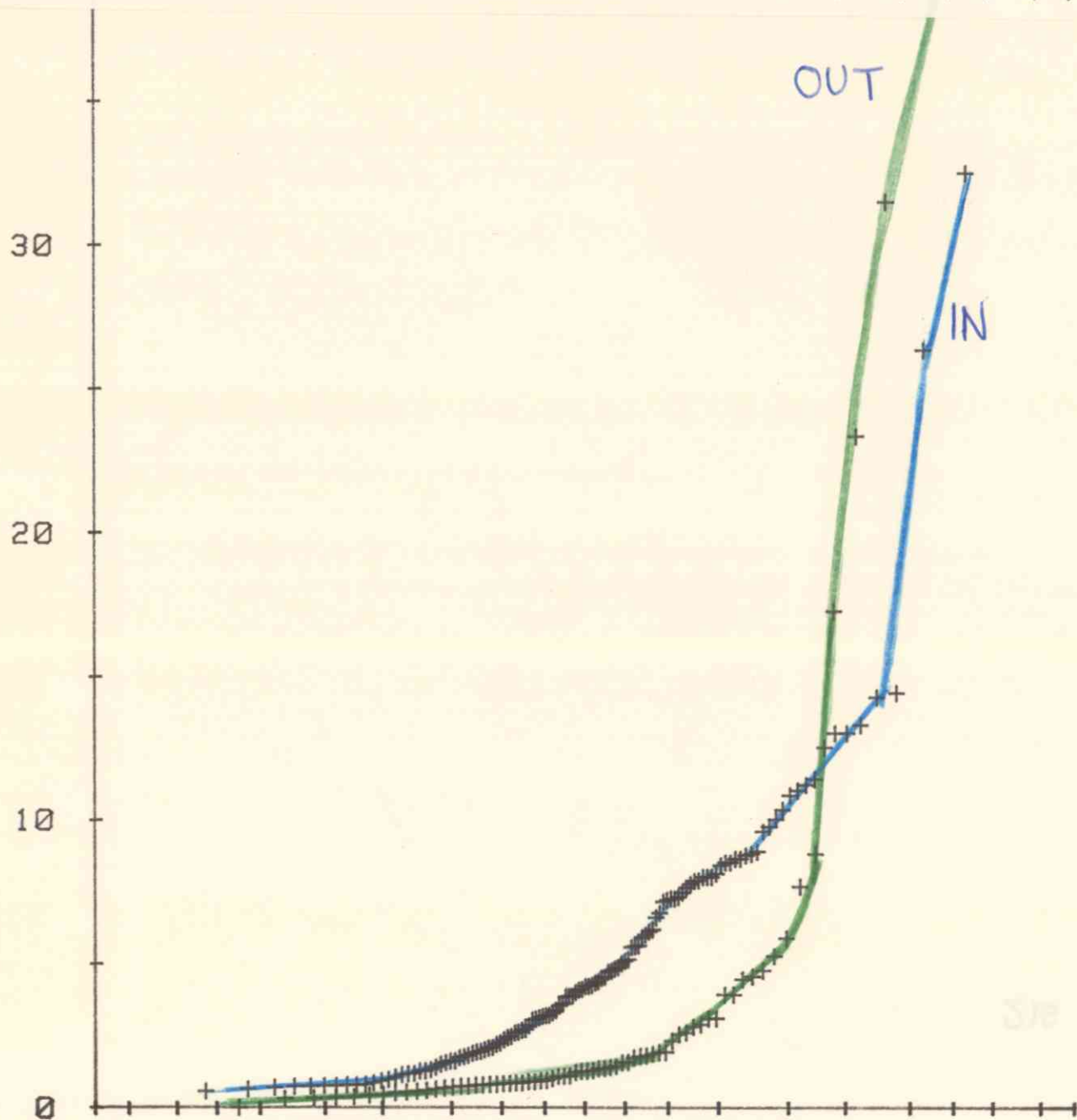
BB+BB



MO/Y



SB/Y



APPENDIX IX

PROFILES FROM
BOREHOLE 137A

Cu

225

