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PROJECT NAME:

COMSTAFF PTY. LTD.

TITLE:

REPORT ON THE ARTHUR RIVER ALLUVIALSEXPLORATION LICENCE 5/63, SECTION 1**OPEN FILE**

AREA NAME/S, STATE 1: 250,000 SHEET NO/S & COORDINATES: Tasmania

COMMODITY/IES:

Sn

TEXT PAGES NO:

4

PLAN NOS:

TAS/2/1897, 1078, 1081, 1990, 1986-1989 inclusive

TABLE NOS:

APPENDICES:

Photographs

AUTHOR/S:

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DATE:

25th February 1980

AUSTRALIAN ANGLO AMERICAN LIMITED

Incorporated in the State of Victoria

COMSTAFF PTY. LTD.REPORT ON THE ARTHUR RIVER ALLUVIALSEXPLORATION LICENCE 5/63, SECTION 1INTRODUCTION

Work carried out within the Arthur River area (EL 5/63, Section 1) during the second half of 1979 was designed primarily to investigate the possibility of there being alluvial Sn potential in the Arthur River Valley within the exploration licence area. Although it was accepted at the outset that volumes of alluvial material are probably relatively small (less than, say, 10 million cubic metres) it was thought that grades might be high. Results of the work reported below are mildly encouraging and an on-going programme is planned for 1980.

During the course of the work on the alluvials all new fundamental geological data observed were recorded and integrated with previous data thus increasing knowledge of the geology of the licence area and contributing further to the overall exploration programme.

1. WORK COMPLETED1.1 Geological Investigations

Four lines, positions indicated on Plan TAS-2-1897, were cut, surveyed, mapped and surface sampled. 42 samples were collected from about 20cm below surface at 40m intervals within the alluvial floodplain and neighbouring terraces and bars. After drying, these samples were homogenized, split, sieved to -20 mesh and sent to Analabs, requesting homogenization, pulverization and XRF analysis for Sn.

To facilitate estimation of the alluvial surface area parts of Arthur River and Deep Gully Creek, as well as the Wandle Road in the limits of the area concerned, were surveyed.

1.2 Map Preparation

Sections of the 4 traverses, showing topographic profile, mapping data and geochemical results were plotted on a 1:2 500 scale. On these sections are also indicated the sample sites of the surface samples.

For the necessary follow-up investigations a base plan 1:5 000 was prepared, showing the position of the so far worked traverses and the Wandle Road.

2. RESULTS

2.1 Access

2.1.1 Access to the Arthur River Area

Access to the area is possible on the Belmont Road, a gravelled all weather logging track, from Murchison Highway in the area of Belmont Plain. Within the Arthur River area the Wandle Road runs parallel N-S to the river in an average distance of 500m. Photos 1 and 2 in the appendix are showing parts of this work.

2.1.2 Access within the Arthur River Area

The straight S part of the area concerned is enclosed on both sides by hills of 25 to 30° slopes, covered with dense virgin bush which also covers the floodplain area.

The central and northern parts are more easily accessible, because of the fact that the area between the Wandle Road and the Arthur River floodplain is relatively open, due to bush fires and logging during the last years. This can be seen on photos 3 and 4, which also depict the slopes of 5 to 15° in the central parts and 15° to 20° in the N. Within the floodplain and especially on the W part of the area virgin bush and swamp vegetation, as illustrated in photos 5 to 9, are predominant.

3.

2.2 Geological DataPreliminary estimation of the alluvial body

Based on the data of the actual investigations a preliminary estimation of the surface might be given in the following minimum range : section calculations of the surface in the limits indicated on the profiles lead to a figure of 2.5 million m^2 which is supported by planimeter evaluations on a 1:50 000 map leading to a figure to 2.7 million m^2 . A minimum average depth, estimated from interpolation of data observed in outcrops on river banks, access tracks and in outcrop within the workings of Northern Developments, S of the area concerned, ranges between 2.5 and 2.9m. Thus an estimation of a volume of 6.25 to 7.83 million m^3 appears to be realistic at the present stage.

2.3 Geochemical DataSurface samples

The Sn values as plotted on the sections (TAS-2-1986-1989) represent in their highest anomalous values the actual river channel or the probably most recent channels and their closest vicinity. Thus as only the values of surface samples are involved in the present data the average Sn content is not likely to be an estimate for the whole alluvials, but is encouraging.

A series of three vertical samples in the area of Deep Gulley Creek alluvial fan show the following Sn distribution:

Depth (cm)	Sn ppm
0-50	270
50-100	260
100-150	120

[340 ppm
|||
1 lb/cu yd]

3. SUGGESTIONS ON FURTHER INVESTIGATIONS

For a more accurate estimation of the alluvial volume a follow-up programme is suggested with the following main aspects.

- 3.1 Survey and mapping of the Arthur River with special respect to alluvium outcrop on the banks, particularly noting signs of possible large trap sites for alluvial materials, which could not be determined during the recent investigations.

4.

- 3.2 Mapping on the W border of the alluvials, where an access track should be cut parallel to the Arthur River Valley.
- 3.3 Auger sampling in the alluvials is not recommended for further investigation because of the irregularly distributed big boulders observed during field investigations. More effective at this stage appears a selective trench sampling programme and more detailed mapping.
- 3.4 Especially on the W part of the Arthur River area trench sampling appears to be necessary, because the lack of outcrop did not allow the delineation of possible older terraces.
- 3.5 For a definite decision on the Arthur River area a determination of the average depth by means of drilling appears to be necessary after the above mentioned follow up programme assuming continuing encouragement.



G.F.A. Washausen

I.G.P. Wilding

25.2.80

Topographic map of the Magnet / Heazlewood area in South Australia, showing EL 1/68 and EL 5/63. The map includes contour lines, roads, creeks, and a legend. A specific area is highlighted and labeled "AREA CEDED TO METALS EXPLORATION P/L". The map is titled "PLAN TO ACCOMPANY MONTHLY REPORT FEBRUARY 1980" and is the property of COMSTAFF PROPRIETARY LIMITED.

LEGEND

- Access road surveying
- Grid lines cut
- Grid lines surveyed
- Grid lines sampled
- Stream sediment samples taken
- Geophysical survey
- Costeining
- Geological mapping
- Drilling
- Location of Arthur River traverses

5 cm

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EL 1/68 & EL 5/63 AREA 1
MAGNET / HEAZLEWOOD 719
PLAN TO ACCOMPANY MONTHLY REPORT
FEBRUARY 1980

DRAWN: GEODRAFT, COMPILED: D.J.M. 2/80, SCALE: 1:50000, TAS/2/1897

LEGEND

	Access road surveying
	Grid lines cut
	Grid lines surveyed
	Grid lines sampled
	Stream sediment samples taken
	Geophysical survey
	Costeaming
	Geological mapping
	Drilling
	Location of Arthur River traverses



EL 1/68 & EL 5/63 AREA 1 ⁸⁰⁻¹⁴¹⁵
MAGNET / HEAZLEWOOD 719
PLAN TO ACCOMPANY MONTHLY REPORT
FEBRUARY 1980

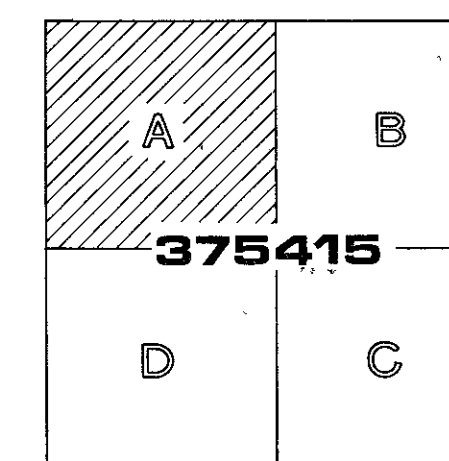
DRAWN GEODRAFT	COMPILED D.J.M. 2/80	SCALE 1 : 50000	TAS/2/1897
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LEGEND FOR GEOLOGICAL SERIES

ar	Argillite	pyr	Rhyolitic porphyry & minor acid intrusives
sh	Shale	pyd	Dacitic porphyry & minor acid intrusives
md,sl	Mudstone, slate	an	Andesite
ss	Siltstone	bs	Basalt
sd,qtz	Sandstone, quartzite, chert	g	Granite
cg	Conglomerate	do	Dolomite
gw	Greywacke	gb	Gabbro
gw,cg	Greywacke conglomerate	px	Pyroxenite
dl	Dolomite	sp	Serpentine
ls	Limestone	um	Undifferentiated ultramafics
ph	Phyllite	tu	Tuffs
sc	Schist	ag	Agglomerate
ge	Gneiss	gs	Gossan
ha,am	Hornfels, Amphibolite		

Geological boundary	Mineralisation
Unconformity	Asb Asbestos
Anticline showing direction of plunge	Az Azurite
Syncline showing direction of plunge	By Barytes
Plunge of minor anticline	Cc Chalcocite
Plunge of minor syncline	Ch Chalcopryite
Overturned anticline	Fl Fluorapatite
Overturned syncline	G Galena
Fault, showing hade	Mal Malachite
Shear zone	Mt Magnetite
Strike and dip of bedding	Py Pyrite
Strike of vertical bedding	Sp Sphalerite
Location of horizontal bedding	Sr Selenite
Overturned bedding	St Siderite
Generalised strike & dip undulating strata	
Strike and dip of jointing	Mineral
Strike of vertical jointing	Ag Silver
Location of horizontal jointing	As Arsenic
Strike and dip of foliation	Au Gold
Strike of vertical foliation	Ba Barium
Location of horizontal foliation	Cd Cadmium
Strike and dip of cleavage	Cu Copper
Strike of vertical cleavage	Hg Mercury
Location of horizontal cleavage	Mn Manganese
Mineral occurrence - minor	Mo Molybdenum
Major mineral occurrence with mine	Ni Nickel
Mine shaft - operating, disused	Os Osmiridium
Mine tunnel portal	Pb Lead
Croston, pit or trench	Sb Antimony
Trigonometrical station	Sn Tin
Road/track	W Tungsten
Railway - used/disused (or formation)	Zn Zinc
Peg location	
Drillhole location	
Building	
Dam or lake	
Drainage	
Topographic contour line	
Fence	
Sample point	
Quarry/dump	

SHEET INDEX



Handwritten note: "Magnet Creek" is upper Arthur River

SCALE 1:5000
100 0 100 200 300 400 METRES

Contour interval 25 Metres

Drawn by Kemp Drafting from material supplied by Australian Anglo American Limited

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375415-A

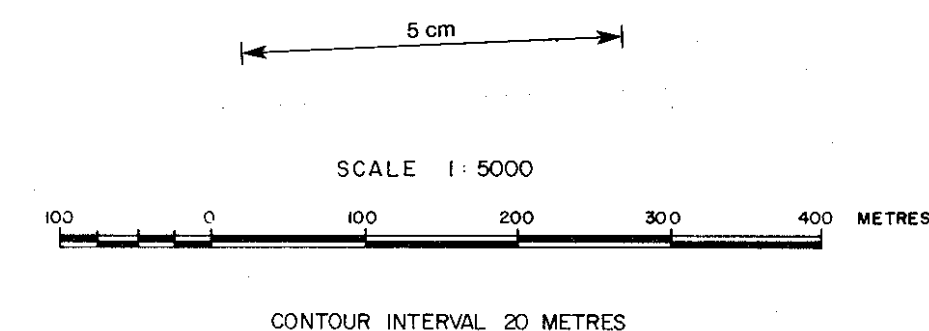
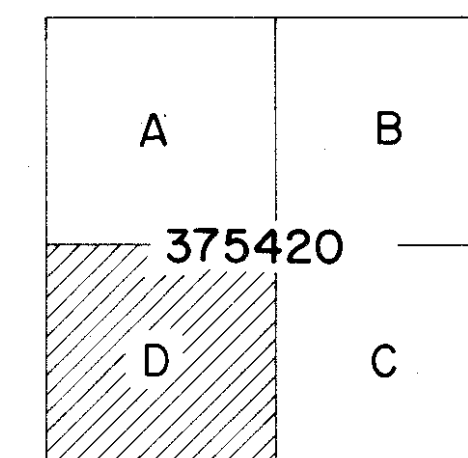
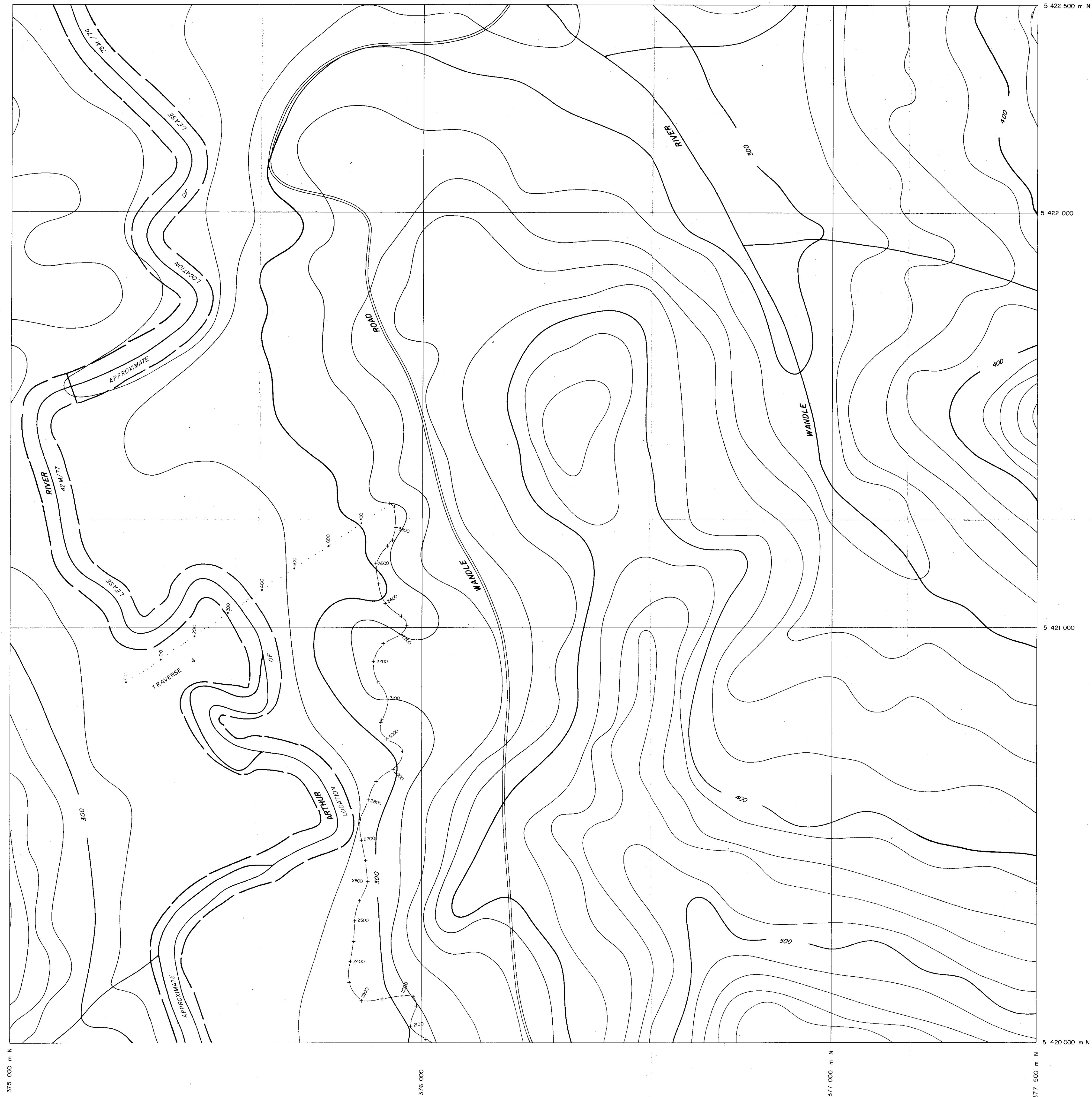
720

GEOLOGY

DRAWN	GEOGRAPH
DATE	NOVEMBER 1977
COMPILED	VARIOUS
SCALE	1:5000
TAS/2/1078	

80 1415

107009



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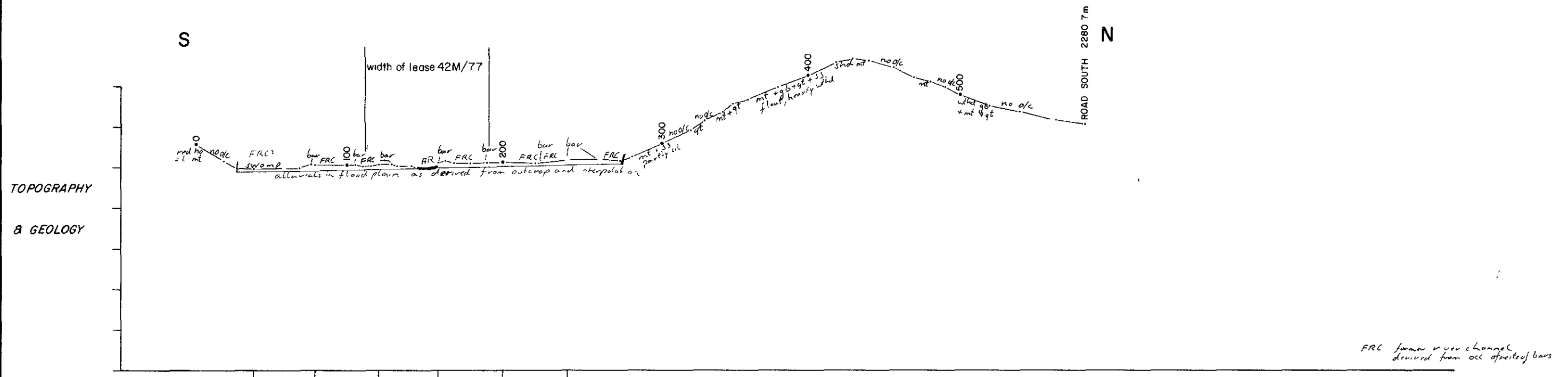
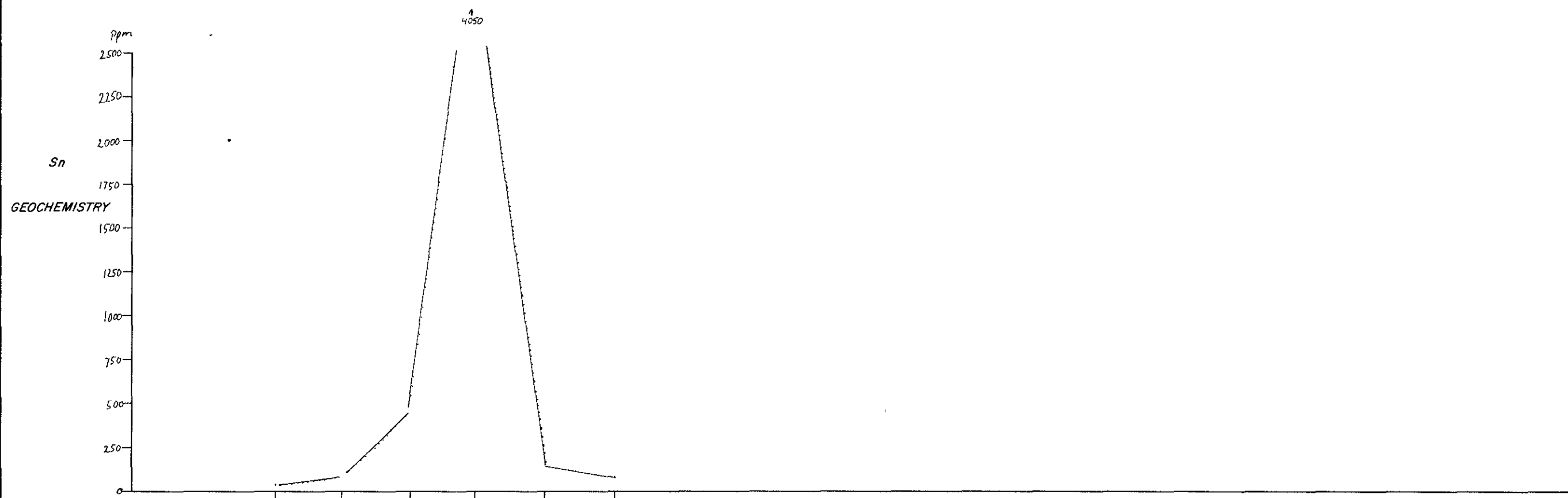
375420 - D 722

GEOLOGY

801415

COMPILED	GEOGRAFT
DRAWN	DATE
GEOGRAFT	11/79
AMENDED	21/2/80
SCALE	1:5000
PLAN NO.	TAS/2/1990

107010



FRL former river channel
derived from old offtree of bars

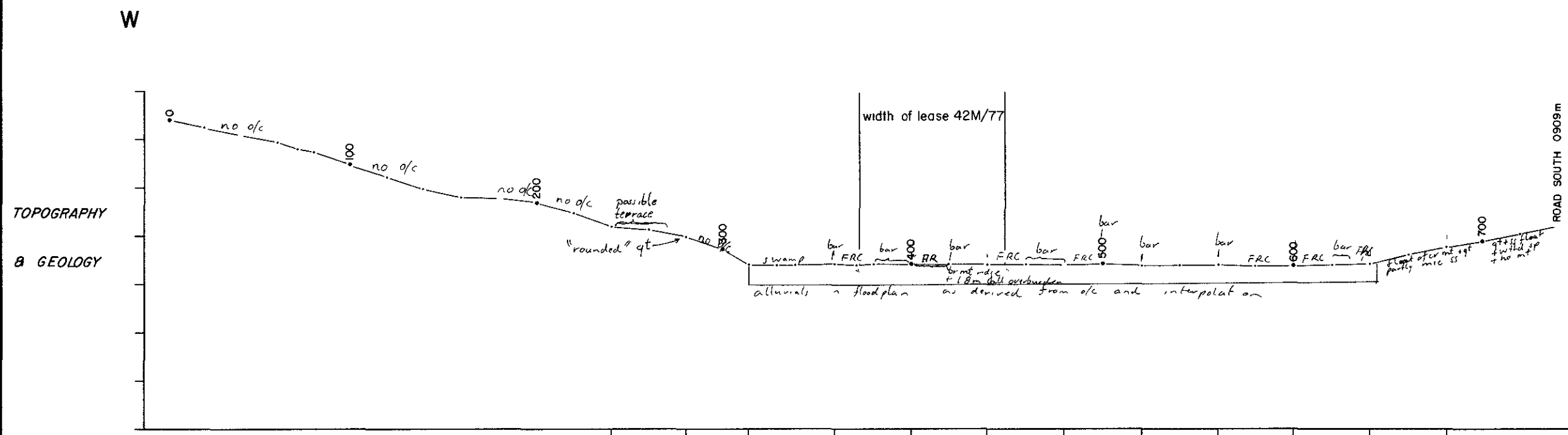
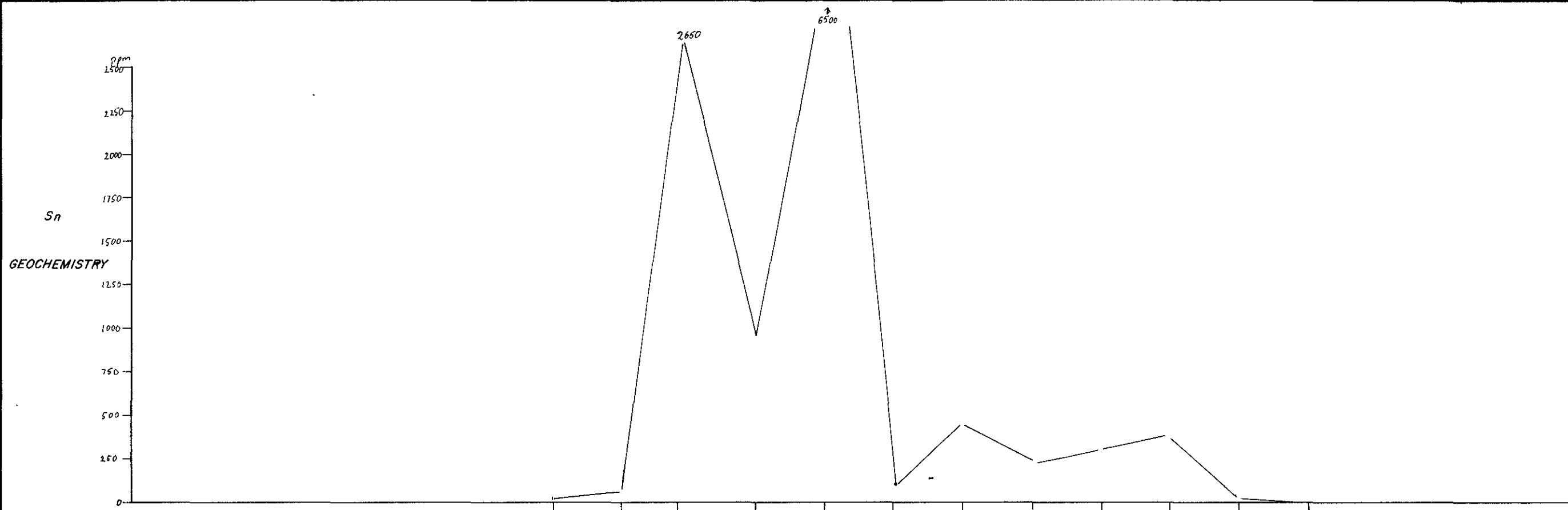
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ARTHUR RIVER PROJECT 723
TRAVERSE I
GEOLOGY & GEOCHEMISTRY SECTION

DRAWN GEODRAFT 11/79	COMPILED G.FAW	SCALE 2500	TAS/2/1986
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107011

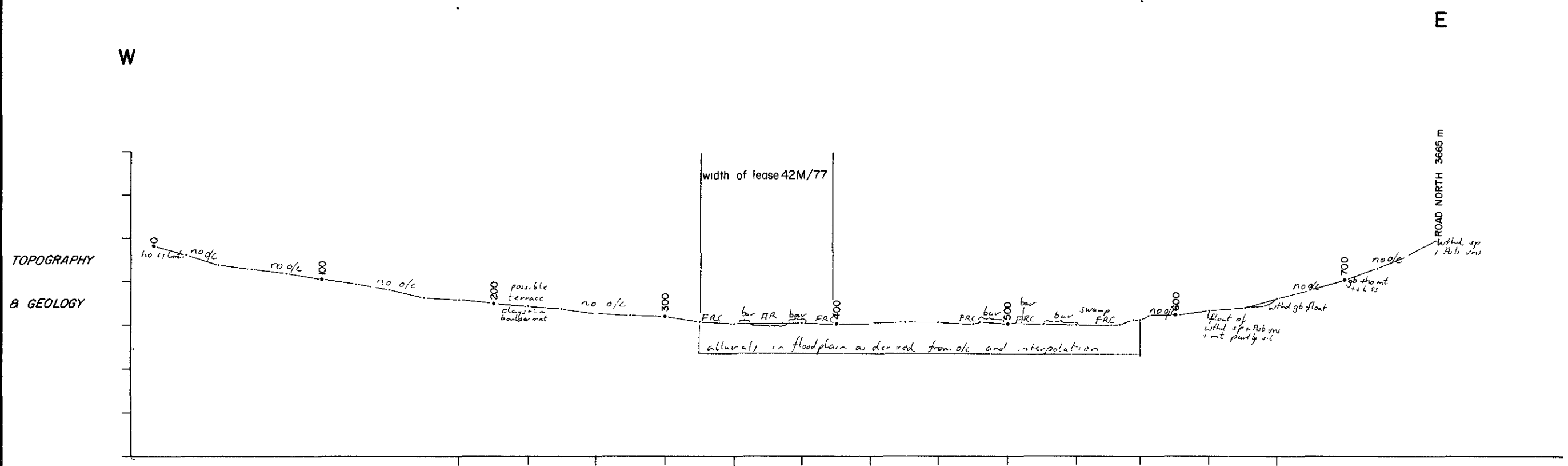
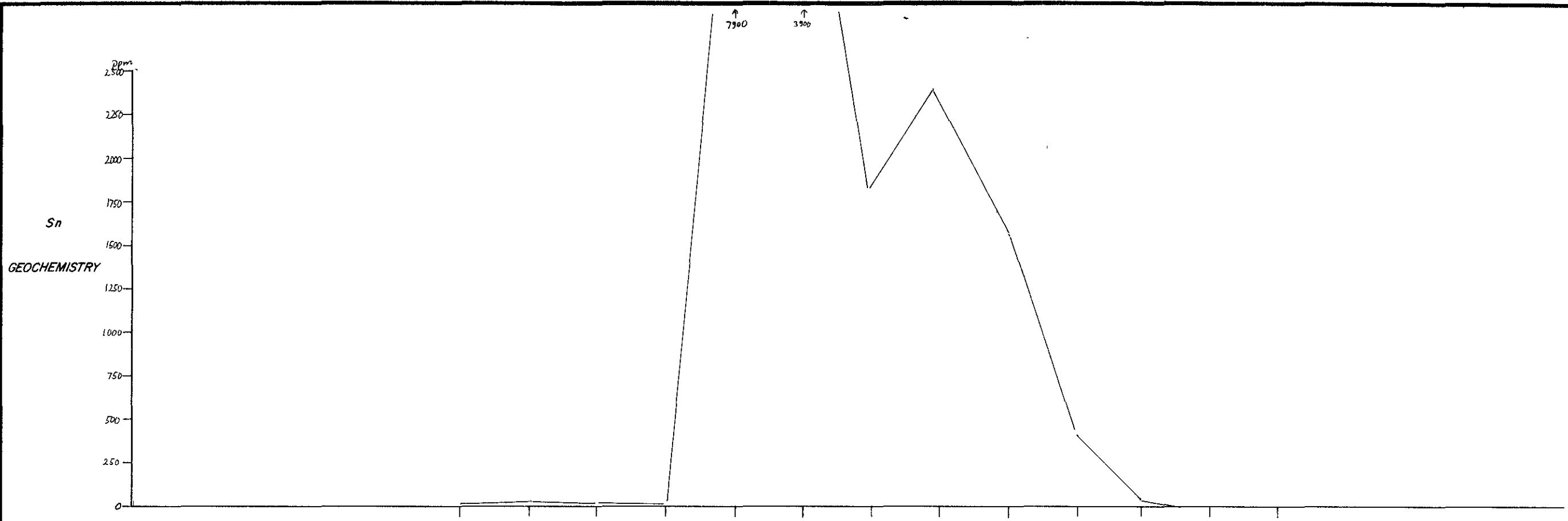


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ARTHUR RIVER PROJECT 724
TRAVERSE II
GEOLOGY & GEOCHEMISTRY SECTION

DRAWN GEODRAFT 11/79	COMPILED G.FAW	SCALE 1 2500	TAS/2/1987
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107012



5 cm

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ARTHUR RIVER PROJECT 725

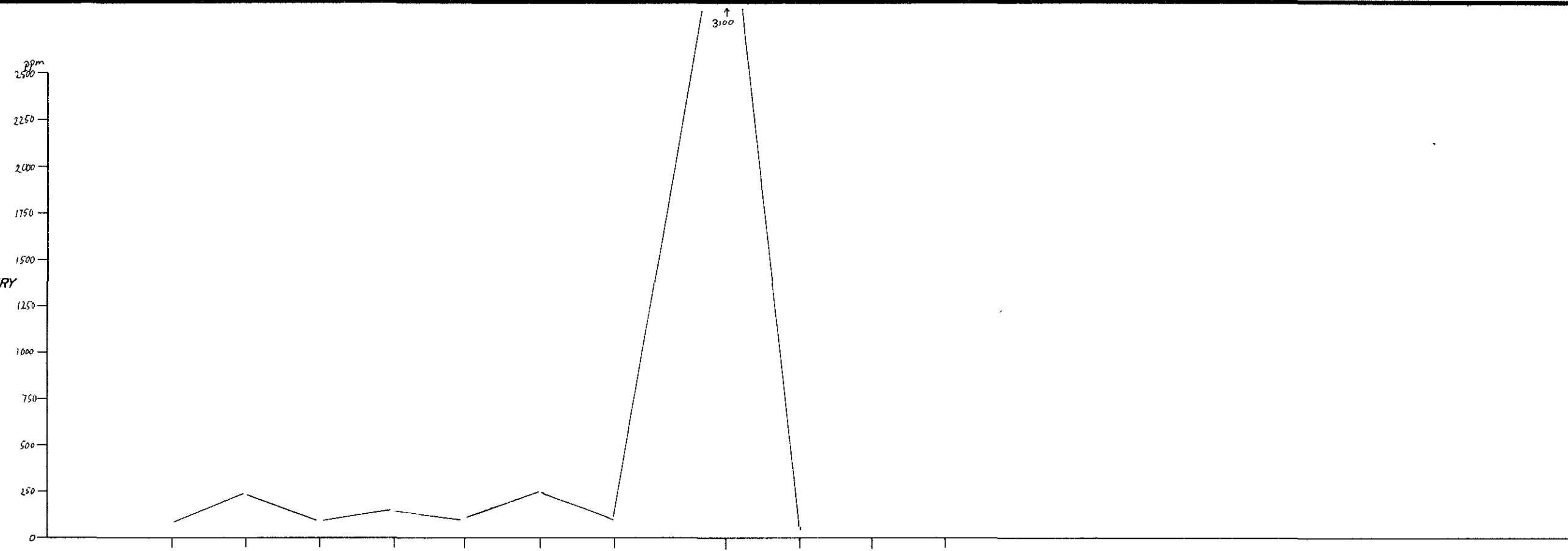
TRAVERSE III

GEOLOGY & GEOCHEMISTRY SECTION

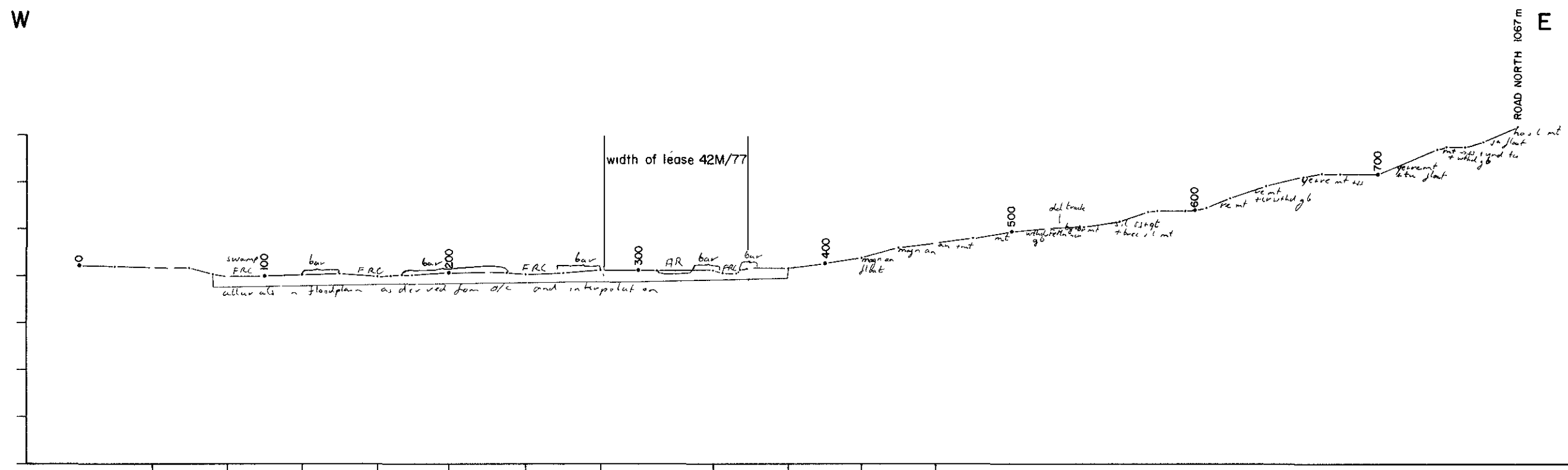
DRAWN GEODRAFT II/79	COMPILED GFAW	SCALE 1 2500	TAS/2/1988
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107013

GEOCHEMISTRY



TOPOGRAPHY
& GEOLOGY



5 cm

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ARTHUR RIVER PROJECT			
TRAVERSE IV			
GEOLOGY & GEOCHEMISTRY SECTION			
DRAWN GEODRAFT 11/79	COMPILED GFAW	SCALE 1 2500	TAS/2/1989

726











