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PROJECT NAME: COMSTAFF PTY. LTD.

TITLE: REPORT ON WORK COMPLETED ON EAA  
GRID EXTENSIONS  
(E.L.5/63, PART 4)

**MICROFILMED**

**OPEN FILE**

AREA NAME/S, STATE 1: 250,000 SHEET NO/S & COORDINATES: Burnie Sheet S 55/3  
Grid Coordinate 000N, 1000E  
Metric Coordinate S 385 720N 378 340E

COMMODITY/IES: Copper, Lead, Zinc.

TEXT PAGES NO:

PLAN NOS:

TABLE NOS:

APPENDICES:

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AUSTRALIAN ANGLO AMERICAN LIMITED

Incorporated in the State of Victoria

REPORT ON WORK COMPLETED ON EAA GRID EXTENSIONSCONTENTS

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## 1. SUMMARY

The area north of the Chester-Pinnacles road to the northern boundary of the tenement, was gridded at 200m line intervals, and all grid lines, tie lines, and major creeks were geologically mapped. Surface soil samples were taken at 20m spacing on all lines, and analysed for Cu, Ni, Pb, Zn and Ba. Ground magnetometer surveys were carried out on all grid lines at 20m spacing, but no responsive zones were evident.

No base metal mineralization was discovered during the mapping programme, and the geochemical sampling did not indicate any discrete anomalous zones.

The geology of the gridded area is rather complex, with two sequences separated by a major NW-SE trending fault. The western sequence consists of rhyolitic porphyries, agglomerates, lapilli tuffs and crystal tuffs. The eastern, or sedimentary sequence, consists of alternating black and grey shales, grey siltstones, argillites and greywackes, with some intercalated acid to intermediate tuffs. The acid volcanic sequence has an overall dip to the east, and the sedimentary sequence has a synclinal aspect, with a plunge to the NNE.

## 2. INTRODUCTION

### 2.1 General

This report details the work carried out and the results achieved in the northern portion of EL 5/63, Part 4. The programme was designed to follow-up previous exploration in the Pinnacles and East Chester grid area (EAA and EAB respectively).

### 2.2 Location and Access

The EAA grid extensions are bounded by the main Chester-Pinnacles road to the south, the Silver Falls Road to the west, and the northern and eastern boundaries of EL 5/63, Part 4 (Plan No's TAS/2/1408, 1708).

Access is via the Murchison Highway, to a point about 10 km north of Tullah, thence via the Chester-Pinnacles road, westwards for about 6 km. The area is accessible all year round by four wheel drive vehicle.

### 2.3 Infrastructure

This has been suitably described in previous reports on the area (Hall 1978, Krummei 1977).

### 2.4 Objectives

To discover economic deposits of base metal sulphides in a volcanogenic environment, utilising normal exploration techniques of geological mapping, geochemical sampling and geophysical testing.

An ancillary objective was to fit the detailed geology of the area into a regional framework, in order to better delineate favourable target areas for future exploration.

### 2.5 Previous Work

Detailed exploration has been done in the Pinnacles area, grid EAA (Krummei, 1977), the East Chester area, Grid EAB, and the Chester area, Grid EAD, (Hall 1978, Perkin, 1977).

A geochemical study was carried out by an undergraduate in 1978, on part of the area covered by this report, and presented as a thesis, (Beamish 1978).

Reconnaissance stream sediment geochemistry was carried out on the major creeks and tributaries during the regional programmes in 1969, 1970.

## 3. WORK COMPLETED

### 3.1 Grid Cutting and Surveying

A total of 22,814m of grid lines and tie lines were cut on the grid extensions, utilising the EAA grid base line as the grid origin, in the south west corner. From line 00N northwards the Silver Falls Road was used as the western origin of each grid line.

All grid lines, tie lines and tracks in the area were surveyed by tape and compass. The results were manually plotted, after necessary slope corrections, onto the standard 1 : 5000 scale base sheets (375385, C & D, 380385, D).

3.2 Geological Mapping

All grid lines were mapped, and the eastern and central tie-lines. The Silver Falls Road and Costean Road 1 to the west, were mapped. Three major creeks in the gridded area, Moriarty, Seagoon and Eccles Creeks, were geologically mapped, using a Topofil measuring device for positioning. Beamish's Track and costean were also mapped during the grid mapping programme.

The following figures indicate the mapping completed:

Grid mapping	:	22800m
Creek mapping	:	4700m
Road mapping	:	6000m
		<hr/>
Total		33500m

These figures do not include check mapping of previous work at the periphery of the grid extensions.

3.3 Geochemical Surveys

Surface soil sampling was considered to be a suitable method for testing the area for underlying base metal mineralization. A total of 1024 samples were collected from all grid lines, at 20m spacing, dried, sieved to -80 mesh, and despatched to Analabs (W.A.) Pty. Ltd. in Perth, for AAS analysis for Cu, Ni, Pb, Zn and Ba.

A suite of 25 representative rock chip samples were analysed for Cu, Pb, Zn, Ag, Ba, Mn and Fe, in order to test the background metal values of the rocks in the area.

3.4 Geophysical Surveys

A proton precession ground magnetometer survey was carried out on all grid lines and tie lines, and on the Silver Falls Road, and the Main Chester Road. All the results have been corrected for diurnal variation and plotted as profiles on composite sections at 1 : 5000 scale.

4. GEOLOGY

4.1 General

Exploration previously carried out in the Pinnacles and East Chester areas indicated an intravolcanic basin, trending approximately northeast, and originating just to the southwest of Burns Peak. It has been termed the Burns Peak Syncline, (Hall, 1978). Costeaning in the EAB

grid in 1978, exposed a northwest dipping and facing sequence of black pyritic shales, overlying a thick andesitic unit, and at the base of an essentially acid volcanic sequence. Another shale/siltstone unit is present within the acid volcanics, also west dipping. North of Burns Peak, a weakly mineralized, silicified lapilli tuff was exposed in costeans, and is interpreted to be on the west limb of the syncline.

Previous work has indicated the presence of sediments in creeks north of the road. The EAA grid extensions were designed to cover this interpreted plunge extension of the sediments and mineralization present in grid EAB.

#### 4.2 Lithology and Stratigraphy

The geology of the area can be subdivided into two distinct parts:

- (a) an acid volcanic sequence to the west.
- (b) a sedimentary sequence to the east.

The two sequences are separated by an interpreted fault, trending NNW-SSE, which correlates with the strike extension of a fault in the EAB grid area (East Chester Fault).

##### 4.2.1 Western Acid Volcanic Sequence

This sequence is interpreted to have an overall steep dip to the east, based on flow banding, probable bedding in tuffs and interpreted internal structures.

It consists of alternating tuffaceous rocks, fine pyroclastics, agglomerate, flow banded rhyolites, massive silicified rhyolite, and a distinctive quartz felspar porphyry containing angular to sub rounded rhyolite and tuff fragments up to 15cm across.

The tuffs and pyroclastics are visible in the Costean Road 1 to the west of Silver Falls Road, and on the Silver Falls Road itself. The agglomerate, crystal tuffs and quartz felspar porphyry are well exposed on Beamish's Track, where the porphyry occurs as tall pillars.

## 5.

The massive silicified rhyolite is exposed in Eccles Creek, and is almost cherty in aspect with a conchoidal fracture. This rhyolite can probably be correlated with the rhyolite exposed on the Silver Falls Road, north of 2250m.

The sequence can be summarised as commencing with an explosive phase of volcanicity depositing the pyroclastic units, followed by an intrusive/extrusive lava phase, introducing the quartz felspar porphyry and the rhyolite.

#### 4.2.2 Eastern Sedimentary Sequence

This sequence is separated from the volcanic sequence by a major fault that can be traced through the EAB grid (TAS/2/1698) and is here named the East Chester Fault.

The sequence has a synclinal structure, with the axis trending northeast, and apparently plunging in that direction.

The eastern limb of the syncline is well exposed in Moriarty Creek, Seagoon Creek, and on the Main Chester Road.

The sequence as exposed on the road, from east to west (i.e. from older to younger) is: quartz felspar crystal tuffs, layered and graded in parts; thin bedded, partly silicified shale; quartz felspar crystal tuffs; well bedded (laminated?) shale with minor tuffaceous intercalations, showing graded bedding and load cast features, giving west facing; tuffs; recent glacial overburden.

The Seagoon Creek section begins with the upper of the shale units, which here consists of interbedded shale, siltstone, sandstone, argillaceous shale, and minor tuffaceous horizons. All the units dip and face northwest at  $50^{\circ}$ - $70^{\circ}$ , giving a true width of about 100m. The sediments are overlain by crystal tuffs, which appear to have a westerly dip. Exposure is limited on this section but from 1500m to 1600m on the creek, the tuffs appear to dip eastnortheast, indicating the west limb of the syncline.

The tuffs are then underlain to the west and northwest by a variable sequence of shales, siltstones, sandstones, volcanic wackes, thin tuff units, and minor acid volcanics. Correlation of these sedimentary units is complicated by significant folding of the sequence.

In the costean at the north end of Beamish's Track a contact is exposed between underlying tuffs, grading eastwards into tuffaceous sediments, laminated siltstone and black well bedded shales; all with an east dip and facing. Cleavage/bedding angles indicate the west limb of a syncline.

Moriarty Creek provides good exposure of the east limb of the syncline. The sequence commences with the second shale unit exposed on the road, which is made up of well bedded sandstone, quartzite, greywacke, siltstone and shale, all dipping and facing northwest at  $45^{\circ}$  to  $65^{\circ}$ . The sediments are overlain by tuffs and coarsely crystalline acid volcanics (porphyritic sodic rhyolite?). A thin mudstone unit has a  $50^{\circ}$  NW dip, and a cleavage of  $75^{\circ}$  northwest.

The next sedimentary unit consists of finely bedded, laminated, grey to black siltstones and shales, with very thin tuffaceous and cherty units. The strike and dip of these sediments is at variance with the units above and below having a north-south strike, and westerly dip of  $20^{\circ}$  to  $60^{\circ}$ . This possibly indicates a disconformable contact with the underlying unit.

Above this unit is a greywacke sequence, with some quartzite, micaceous greywacke, and gravel sized conglomerate. The beds dip overall northwest at about  $40^{\circ}$ .

There has obviously been a significant change in provenance and depositional environment. The pyroclastic-acid volcanic stage has given way rapidly to a subaqueous sedimentary phase. Obviously some explosive phases of volcanism were still taking place, as evidenced by the tuffaceous units in the sedimentary sequence. This would imply a favourable environment for sulphide deposition, but all the sediments in the sequence are barren of base metal sulphides with only some pyrite occurring with the black shale units.

#### 4.3 Structure

The main structural element in the area is the north east trending and plunging Burns Peak Syncline, which has been confirmed during the mapping programme.

Block faulting and cross faulting have complicated the structure somewhat. The major fault through the area is the East Chester Fault, which was first recognised in the East Chester grid area, and can be extended through the EAA grid extensions. However the fault has not been recognised on the Silver Falls Road at the interpreted position, although it should occur at an ill-defined contact between crystal tuffs to the south and massive rhyolite to the north. There is no indication that the fault has affected the sediments of the Que Syncline to the west and northwest.

An east-west fault is interpreted as originating at the East Chester Fault at approximately 200N, 1800E, and continuing westward through approximately Silver Falls Road 1060m survey point - which is a distinct topographic low. The movement in this fault appears to have been south block down.

The movement on the East Chester Fault is interpreted to have been east block north.

#### 4.4 Regional Correlation

Burns Peak Syncline is a real feature, confirmed by recent mapping, which if it continued directly on strike to the northeast, would extend into the Bulgobac area of EL 5/63, Part 2. However, mapping in the Bulgobac area shows a thick sedimentary sequence with consistent northwest dips a facings. These sediments consist of well bedded, often laminated, siltstones and shales, with minor taffaceous interbeds. Some black, cleaved shales are pyritic. This sequence continues through to the sediments of the Que Syncline, with no evidence of a synclinal axis correlating with the Burns Peak Syncline.

This would imply either:

- (a) the Burns Peak Syncline, and complementary anticline have plunged out, and only the east limb of a pre-Que Syncline structure is present, or
- (b) a major fault structure, of necessity trending WNW-ESE, has created a north block west movement prior to the deposition of the Que Syncline sediments.

5. GEOCHEMICAL SURVEYS5.1 General

In view of the moderate topography of the grid area, and the poor development of soil, it was decided that surface soil sampling would provide an adequate test for sub surface mineralization.

A representative suite of rock samples were also collected and analysed to test the background levels of the rocks, and for any anomalous values.

5.2 Soil Geochemistry

All soil samples were analysed for Cu, Pb, Zn, Ni and Ba.

Manually calculated and plotted histograms were prepared from the raw data, using class intervals for each element selected by a visual scan of the result sheets.

Breakpoints were calculated from the populations obtained, and are as follows:

Cu :	<10,	11-20,	>20
Ni :	<10,	11-40,	41-70, >70
Pb :	<20,	21-50,	51-100, >100
Zn :	<20,	21-40,	41-70, >70
Ba :	<60,	61-120,	121-180, >180

The individual geochemical plans were contoured utilising these break points. Allowance should be made for the relatively wide line separation of 200m, which tends to make the contouring rather imprecise, and subject to various interpretations. (Plan No's. TAS/2/1785 to TAS/2/1789).

Comparing the geochemical plans to the topography and geology, indicate that many of the higher values are associated with creeks, gullies or swampy ground.

e.g. 1200N : 2620E, 1820E, 1660E, 1220E  
 1000N : 3200E, 2980E, 2680E, 2580E, 2080E, 1440E-1520E  
 800N : 3220E, 2920E, 2560E, 2120E-2160E, 1740E, 1700E,  
 1580E, 1460-1480E, 1260E,  
 R800N : 3220E, 2980E, 2520E  
 600N : 2460E, 1680E-1840E  
 400N : 3300E, 1800E  
 200N : 2300E, 2200-2220E, 1920E, 1900E, 1320E.

The results have also been plotted as profiles on composite sections of each line. (Plan No's TAS/2/1872 to TAS/2/1883).

### 5.2.1 Copper Geochemistry

No anomalous copper values are present over the acid volcanic rocks underlying the grid.

A few low order anomalies are present over the sediments east of the fault, particularly on line 800N, usually confined to areas of steep topography and very shallow soil development.

The results did not warrant any follow-up testing by auger sampling.

### 5.2.2 Lead Geochemistry

A broad zone of low order anomalous values occur to the east of the East Chester Fault in the northwest part of the grid (Plan No. TAS/2/1786). The higher values are present over the rhyolite and tuffs underlying the sediments, with a maximum value of 180ppm at 1000N, 1380E.

Weak values occur in the acid volcanics west of the fault from 200N to 800N, particularly associated with areas of outcrop, viz. 400N, 1440E-1640E.

The south east part of the grid has very low values associated with areas of glacial overburden and swamp.

The eastern end of lines 800N and 1000N give weak to low order values, with a maximum of 235 ppm at 1000N, 2620E, which occurs over outcropping black shales. These values are partly coincident with weak copper values.

### 5.2.3 Zinc Geochemistry

Only occasional above background values occur over the acid volcanics west of the fault.

A small zone of low order values on line 1000N straddles the volcanics-sediments contact.

A more extensive zone occurs over the sediments to the east of the contact, which can be traced from 200N, 1900E, to 1200N, 1740E-2020E. However, the highest values are associated with creeks.

A broad zone of low order values is present in the northeast part of the grid, associated with the sediments. Again, line 1000N, 2600E-2860E, is the most consistently high zone, related to a steep slope with outcropping sediments.

The values are broadly coincident with the lead values, except for the acid volcanics in the northwest of the grid underlying the sediments.

5.2.4 Barium Geochemistry

This element shows a similar overall pattern to that displayed by lead and zinc, with no anomalous values related to the acid volcanics west of the fault (Plan No. TAS/2/1789). Only on lines 800S and 600S, below their junctions with the main Chester road, is there any response.

A weakly anomalous zone occurs at the acid volcanic-sediment contact in the northwest part of the grid.

A zone of low order values is related to the sediments through the centre of the grid, from 200S, 2060E-2140E, to 600N, 1820E-1900E.

In the northeast part of the grid, low order values are related to sediments, and correlate with the lead and zinc patterns in this area.

The zone of values on line 1200N, from 1680E to 2200E, is inexplicable, although some zinc values in particular are present in the centre of this zone.

5.2.5 Nickel Geochemistry

The nickel values give a very distinct pattern (Plan No. TAS/2/1788), which can be related to the sediments in the Burns Peak Syncline. No anomalous values at all are present over any of the acid volcanic or tuffaceous rocks.

No discrete anomalous zones occur over the sediments, and the results cannot be utilised for detailed interpretation.

### 5.3 Rock Geochemistry

A suite of rocks, mainly from the sediments east of the fault, were sampled and analysed.

The maximum Cu value is 110 ppm from a pyritic black siltstone on Eccles Creek, just to the east of the East Chester Fault. All other values in the sediments varied from 5 ppm in a greywacke to 80 ppm in a black siltstone.

Two lead values of 265 ppm and 310 ppm are present in argillaceous siltstone and black pyritic siltstone on Seagoon Creek. Other values in the sediment sequence vary from 5 ppm in greywacke and sandstone, to 110 ppm in a black pyritic siltstone.

Zinc gives the highest values in several samples, the maximum being 640 ppm in a volcanomict sandstone containing small clasts of altered black shale. 240 ppm Zn is present in an argillised greywacke in Moriarty Creek. Other values vary from 40 ppm to 185 ppm.

It is obvious that none of the sedimentary rocks sampled have above background values in the base metal elements.

Two samples of silicified rhyolite from the acid volcanic sequence west of the fault each contained 5 ppm Cu and Pb, and 25 ppm and 45 ppm Zn.

## 6. GEOPHYSICAL SURVEYS

### 6.1 Ground Magnetometer Survey

No anomalous values, or actively responsive zones are present anywhere on the grid. There is no distinction in response from the acid volcanics and the sediments.

The results are presented as stacked profiles on Plan No. TAS/2/1922.

## 7. CONCLUSIONS

No evidence of base metal sulphides has been found in the grid area and its environs.

The sediments, which were considered to be highly prospective for the deposition of Rosebery type deposits, have proved to be essentially barren of base metal elements.

There appears to have been a significant change in environment from the essentially explosive pyroclastic volcanism of the Rosebery-Chester-Pinnacles areas (Primrose Pyroclastics), to a sedimentary environment, as evidenced by the northward extensions of the Burns Peak Syncline, and the sediments at Bulgobac.

It is concluded that sufficient work has been completed in the grid area to show the lack of prospectivity of the succession to host volcanogenic base metal sulphides.

8. RECOMMENDATIONS

No further detailed exploration is warranted in this area.

However, any further mapping carried out in the vicinity would be of assistance in improving the regional geological interpretation.

9. REFERENCES

Hall, D.B. 1978 : Report on Exploration in EL 5/63, Part 4, in Tasmania, Australia.

Krummei, G.K. 1977 : Progress Report on the Pinnacles Area, Preussag Report TAS/9.

Parkin, D.J., 1977 : Interim Report on the Chester Area, Preussag Report TAS/6.

Beamish, B.B., 1978 : Geochemical Dispersion Patterns in the Pinnacles-Boco Area, Western Tasmania; B.Sc. Thesis to Geology Department, University of Tasmania.

D.B. Hall

Written by  
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SENIOR GEOLOGIST

4.7.79  
DBH:pmck

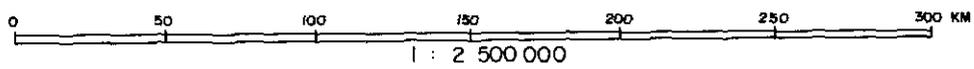
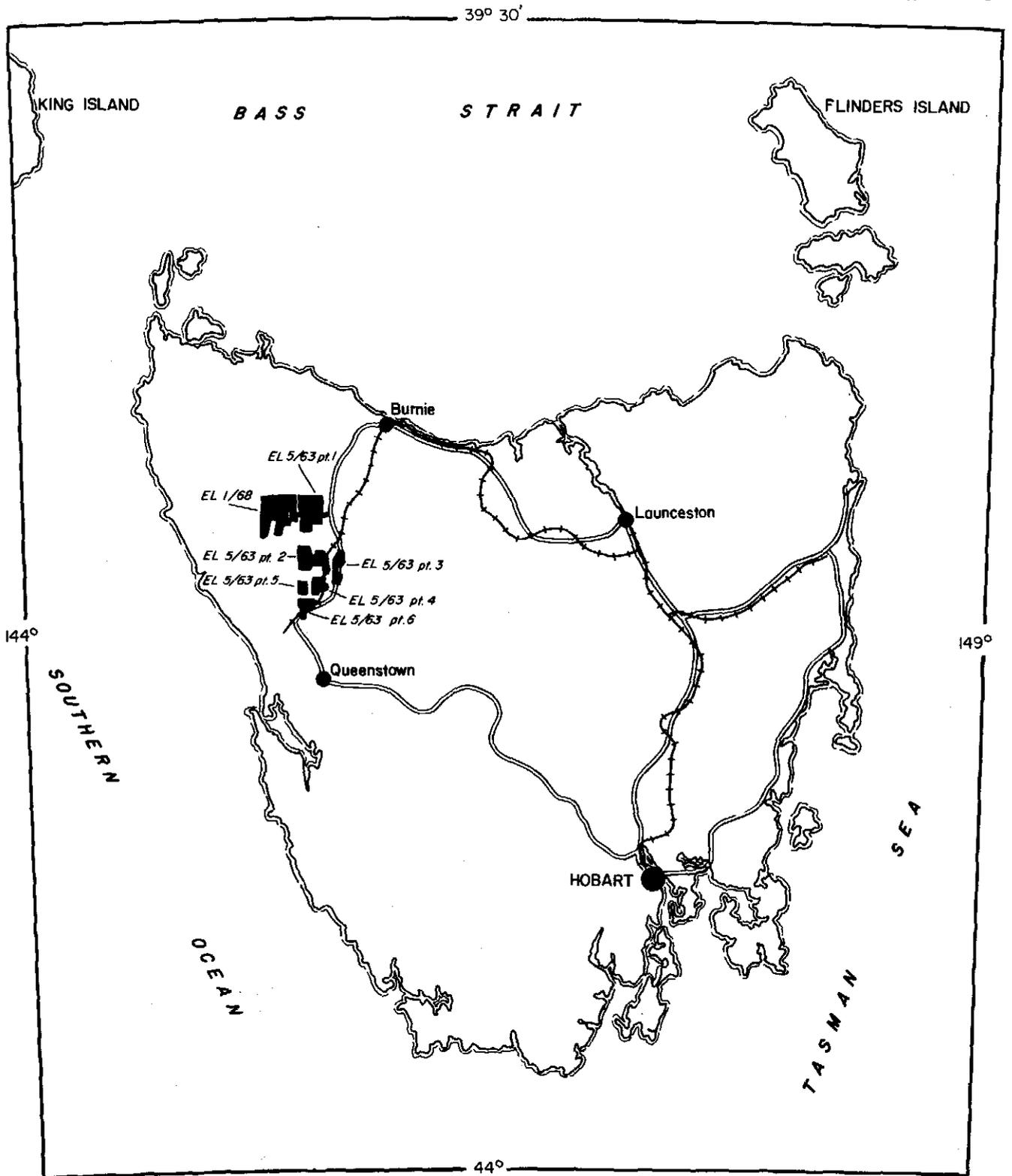
10. LIST OF MAPS

EAA GRID EXTENSIONS

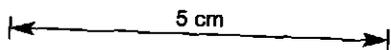
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Location	TAS/2/1586	Location of Comstaff Leases in Tasmania	1:2 500 000
"	TAS/2/1408	Comstaff Project Map	1:250 000
"	TAS/2/1801	EAA Grid Extensions Location	1: 50 000
Geology	TAS/2/1056/1057	Detailed Geology	1: 5 000
"	TAS/2/1921	Interpretative Geology	1: 5 000
"	TAS/2/1698	EAB Geological Interpretation	
Geochemistry	TAS/2/1785	A <sup>o</sup> Cu values and contours	1: 5 000
"	TAS/2/1786	A <sup>o</sup> Pb values and contours	1: 5 000
"	TAS/2/1787	A <sup>o</sup> Zn values and contours	1: 5 000
"	TAS/2/1788	A <sup>o</sup> Ni values and contours	1: 5 000
"	TAS/2/1789	A <sup>o</sup> Ba values and contours	1: 5 000
Geophysics	TAS/2/1922	Ground Magnetometer Stacked Profiles	1: 5 000
Composite	TAS/2/1872	1200N Profile	1: 5 000
"	TAS/2/1873	100N "	"
"	TAS/2/1874	R800N "	"
"	TAS/2/1875	800N "	"
"	TAS/2/1876	600N "	"
"	TAS/2/1877	400N "	"
"	TAS/2/1878	200N "	"
"	TAS/2/1879	000N "	"
"	TAS/2/1880	200S "	"
"	TAS/2/1881	415S "	"
"	TAS/2/1882	600S "	"
"	TAS/2/1883	800S "	"

015

161016



-  Major roads
-  Major railways
-  Major towns
-  Comstaff lease areas



**COMSTAFF PROPRIETARY LIMITED**

**LOCATION OF COMSTAFF LEASES  
IN TASMANIA**

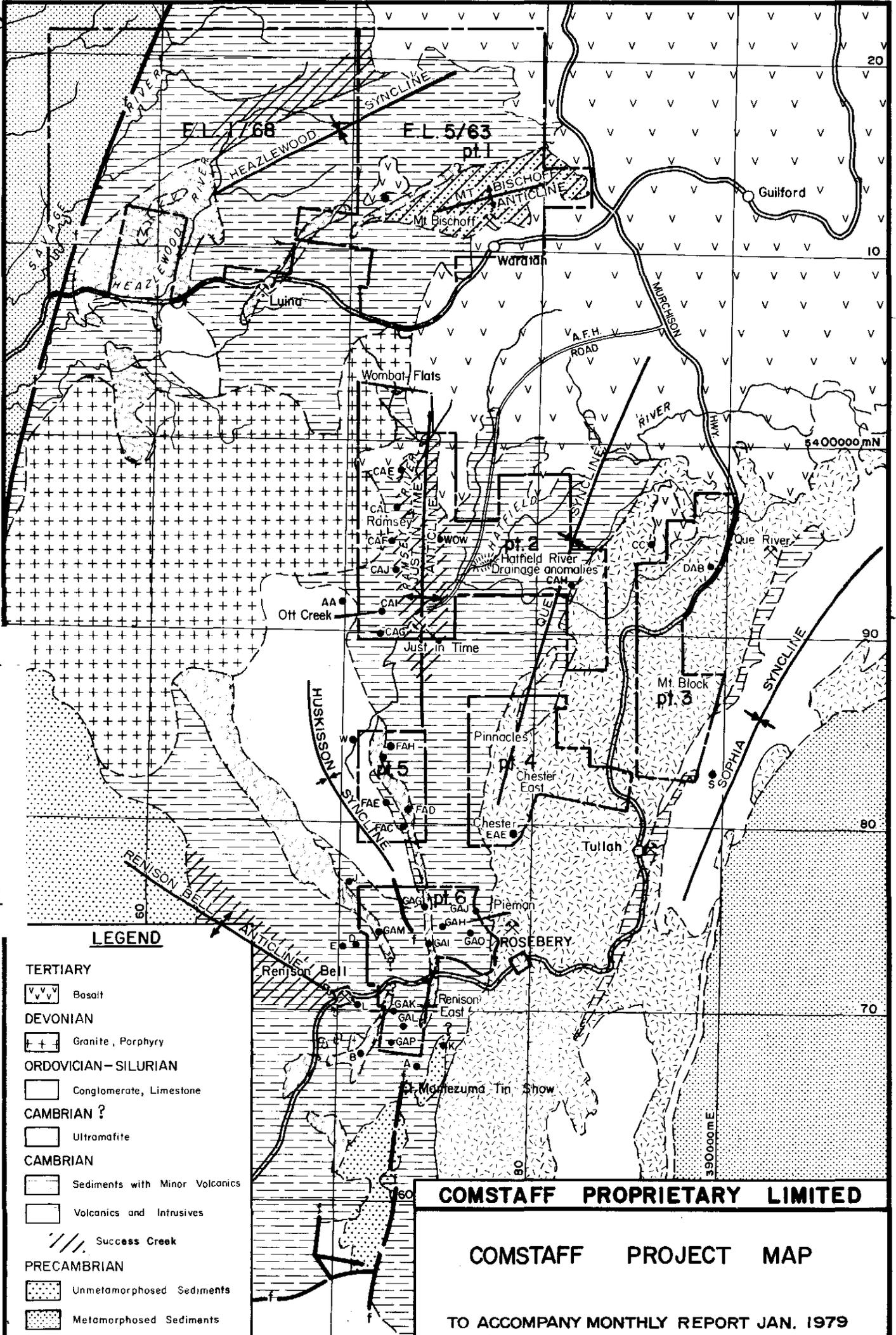
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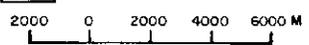
TAS/2/1586

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**LEGEND**

- TERTIARY**
- Basalt
- DEVONIAN**
- Granite, Porphyry
- ORDOVICIAN-SILURIAN**
- Conglomerate, Limestone
- CAMBRIAN ?**
- Ultramafite
- CAMBRIAN**
- Sediments with Minor Volcanics
- Volcanics and Intrusives
- Success Creek
- PRECAMBRIAN**
- Unmetamorphosed Sediments
- Metamorphosed Sediments



**COMSTAFF PROPRIETARY LIMITED**

**COMSTAFF PROJECT MAP**

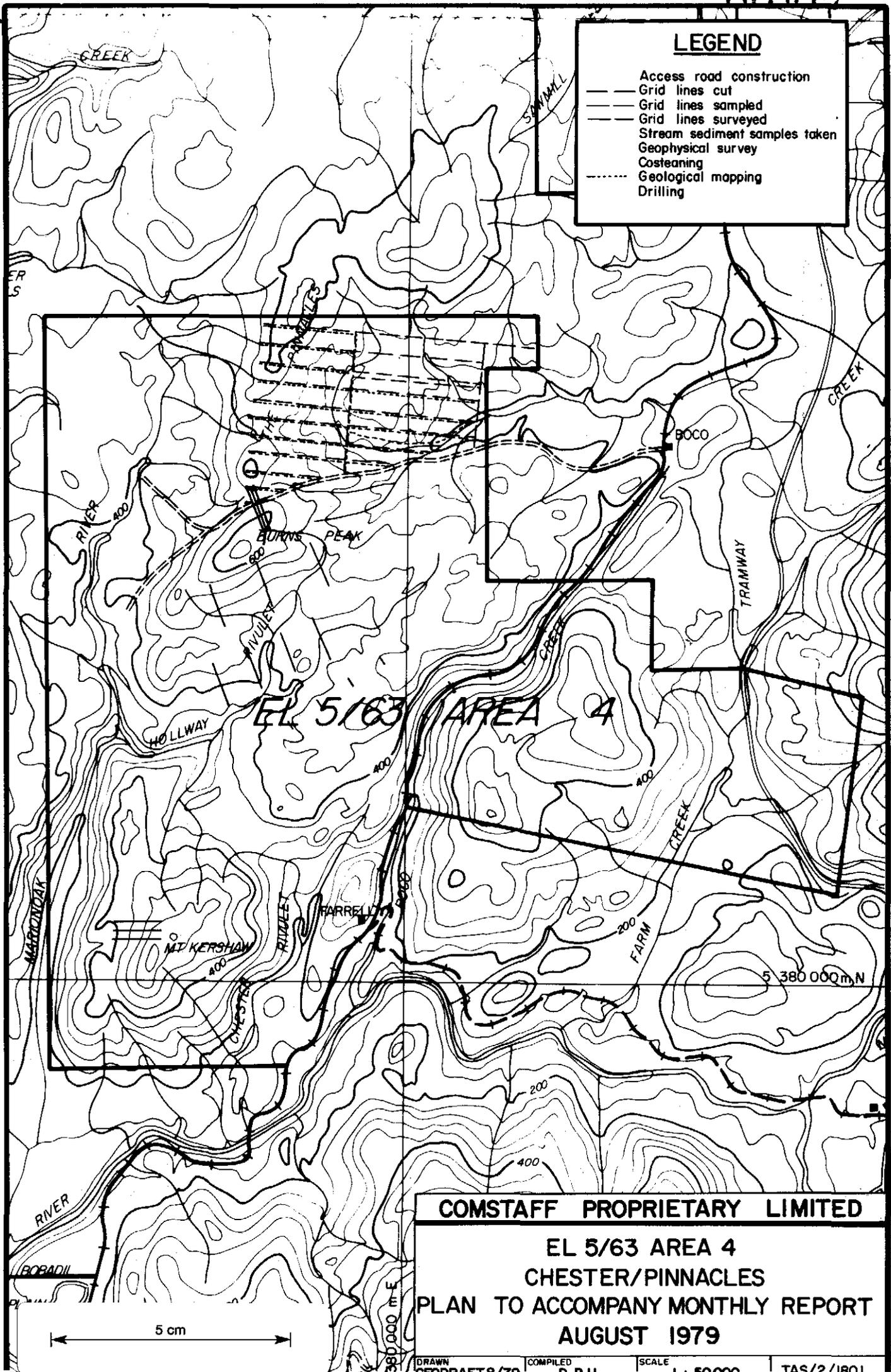
TO ACCOMPANY MONTHLY REPORT JAN. 1979

<b>DRAWN</b> GEODRAFT 10/77	<b>COMPILED</b> DBO. 12/10/77	<b>SCALE</b> 1 : 250 000	TAS/2/1408
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**LEGEND**

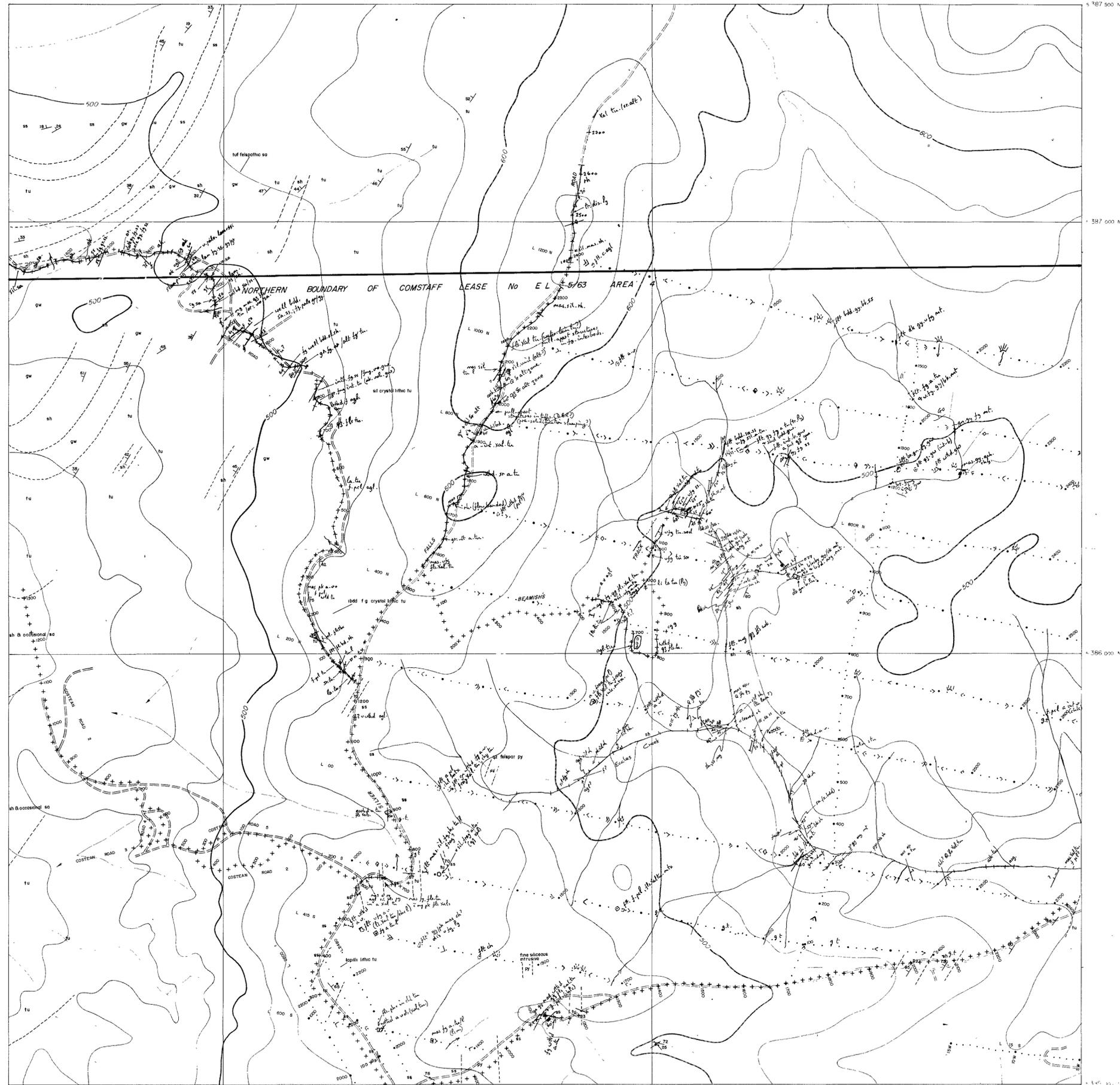
- Access road construction
- Grid lines cut
- - - Grid lines sampled
- · - Grid lines surveyed
- Stream sediment samples taken
- Geophysical survey
- Costeering
- Geological mapping
- Drilling



**COMSTAFF PROPRIETARY LIMITED**

**EL 5/63 AREA 4**  
**CHESTER/PINNACLES**  
**PLAN TO ACCOMPANY MONTHLY REPORT**  
**AUGUST 1979**

DRAWN: GEDDRAFT8/79 | COMPILED: D.B.H. | SCALE: 1:50000 | TAS/2/1801

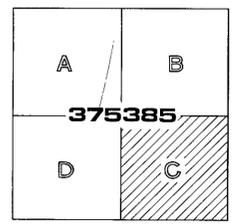


**LEGEND FOR GEOLOGICAL SERIES**

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,qt,sh	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		As b Asbestos
	Unconformity		Az Azurite
	Anticline showing direction of plunge		By Baryte
	Syncline showing direction of plunge		Cc Chalcocite
	Plunge of minor anticline		Ch Chalcopyrite
	Plunge of minor syncline		Fl Fluorspar
	Overturned anticline		G Galena
	Overturned syncline		MI Malachite
	Fault, showing hade		Mt Magnetite
	Shear zone		Py Pyrite
	Strike and dip of bedding		Sp Sphalerite
	Strike of vertical bedding		Sr Sericite
	Location of horizontal bedding		St Siderite
	Overturned bedding		
	Generalised strike & dip undulating strata		
	Strike and dip of jointing	<b>Mineral</b>	
	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	Osmium
	Mine tunnel portal	Pb	Lead
	Costean, 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	++	Road & track survey points
	Drainage	o-o	Cut line survey points
	Topographic contour line	>>	Direction of slope: moderate, steep
	Fence	◇	Peak, or ridge top
	Sample point	sw	Boggy or swampy areas
	Quarry/dump		
	Flow banding		

**SHEET INDEX**



5 cm

SCALE 1 5000



Contour Interval 25 Metres

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

161018 79-1259

**COMSTAFF PROPRIETARY LIMITED**

375385-C

GEOLOGY

DRAWN	GEO DRAFT
DATE	SEPTEMBER 1977
COMPILED	VARIOUS
SCALE	1 5000
	TAS/2/1056

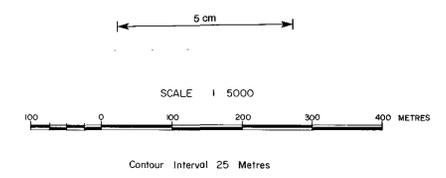
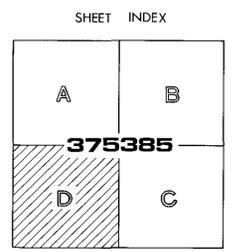
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**LEGEND FOR GEOLOGICAL SERIES**

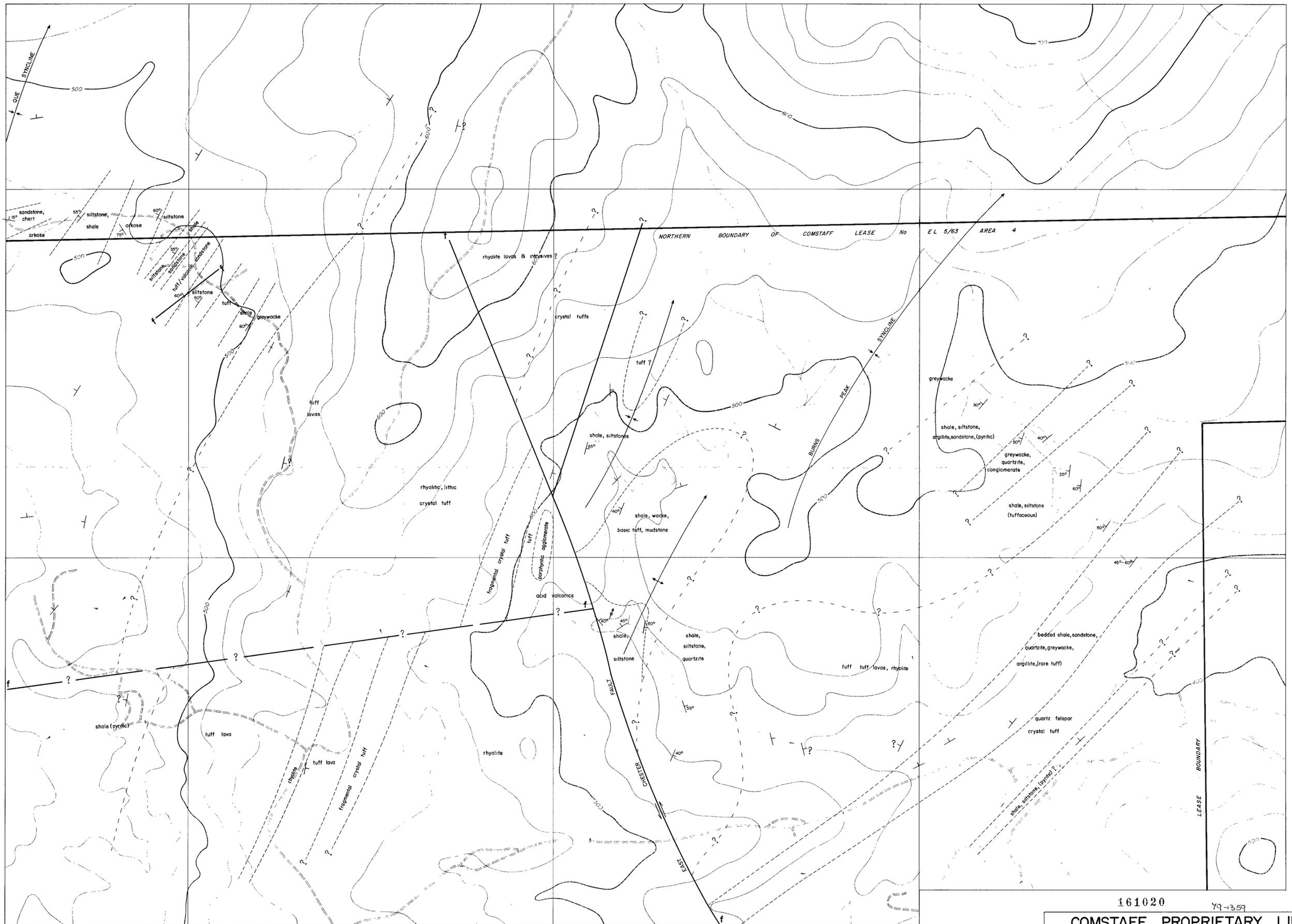
ar	Argillite	gr	Granite
sh	Shale	g	Gabbro
md,sl	Mudstone, slate	do	Dolerite
ss	Siltstone	gb	Gabbro
sq,qt,sh	Sandstone, quartzite, chert	px	Pyroxenite
cg	Conglomerate	sp	Serpentine
gw	Greywacke	um	Undifferentiated ultramafics
gw,cg	Greywacke conglomerate	tu	Tuffs
dl	Dolomite	ag	Agglomerate
ls	Limestone	gs	Gneiss
ph	Phyllite		
sc	Schist		
ge	Gneiss		
ho,am	Hornfels, Amphibolite		

	Geological boundary		Asb Asbestos
	Unconformity		Az Azurite
	Anticline showing direction of plunge		By Barytes
	Syncline showing direction of plunge		Cc Chalcocite
	Plunge of minor anticline		Ch Chalcopyrite
	Plunge of minor syncline		Fl Fluorspar
	Overturned anticline		G Galena
	Overturned syncline		Ml Malachite
	Fault, showing hade		Mt Magnetite
	Shear zone		Py Pyrite
	Strike and dip of bedding		Sp Sphalerite
	Strike of vertical bedding		Sr Sericite
	Location of horizontal bedding		St Siderite
	Overturned bedding		
	Generalised strike & dip undulating strata		
	Strike and dip of jointing		
	Strike of vertical jointing		
	Location of horizontal jointing		
	Strike and dip of foliation		
	Strike of vertical foliation		
	Location of horizontal foliation		
	Strike and dip of cleavage		
	Strike of vertical cleavage		
	Location of horizontal cleavage		
	Mineral occurrence - minor		
	Major mineral occurrence with mine		
	Mine shaft - operating, disused		
	Mine tunnel portal		
	Costean, pit or trench		
	Trigonometrical station		
	Road/track		
	Railway - used/disused (or formation)		
	Peg location		
	Drillhole location		
	Building		
	Dam or lake		
	Drainage		
	Topographic contour line		
	Fence		
	Sample point		
	Quarry/dump		



Drawn by Kemp Drafting from material supplied by Australian Anglo American Limited  
 161019 79-1309  
**COMSTAFF PROPRIETARY LIMITED**

<b>375385-D</b> <b>GEOLOGY</b>	DRAWN	GEODRAFT
	DATE	SEPTEMBER 1977
	COMPILED	VARIOUS
	SCALE	1 5000
		<b>TAS/2/1057</b>



161020 79-1359

COMSTAFF PROPRIETARY LIMITED

CHESTER - PINNACLES AREA  
 GRID EAA EXTENSIONS  
 GEOLOGICAL INTERPRETATION

022



DRAWN	GEOGRAFT
DATE	AUGUST 1979
COMPILED	D. B. H.
SCALE	1:5000
TAS/2/1921	



- Ch/Sec Cherty sediments or silicified rocks
- Sh Black gray shales, interbedded arenaceous units
- Qz/tp Quartz feldspar porphyry extrusive ?
- A/tu Tuffs acid, crystal, lithic, lapilli (altered)
- An Andesite vesicular, flow textured, tuffaceous
- An/tu Andesite tuff chloritic, pyritic
- Tu Tuff water-lam, bedded, interbedded siliceous sandy units
- Rh Rhyolite flow textured, vesicular ?
- Avo Sub-ventral acid volcanics flow banded, brecciated, ashfall tuffs, trachyandesites, gneissites & kamme
- Pcl Coarse pyroclastic, volcanic breccia

- Geological boundary
- Fault, fault inferred
- Glacial cover
- Coastal

5 cm



161021 79-1359  
COMSTAFF PROPRIETARY LIMITED

EAST CHESTER - EAB  
GEOLOGICAL INTERPRETATION  
003

DRAWN	cc
COMPILED	D B H
DATE	Jan 79
SCALE	1:5000
TAS/2/1698	

5 387 000 m N

5 386 000 m N

5 385 000 m N

378 000 m E

379 000 m E

380 000 m E

381 000 m E

161022

79-1359

COMSTAFF PROPRIETARY LIMITED

EAA NEW GRID

A° GEOCHEMICAL GRID SAMPLING

COPPER RESULTS in ppm

004

TAS/2/1785

5 cm

GEODRAFT

GEODRAFT 19/3/79

1 5000







5 387 000 m N

5 386 000 m N

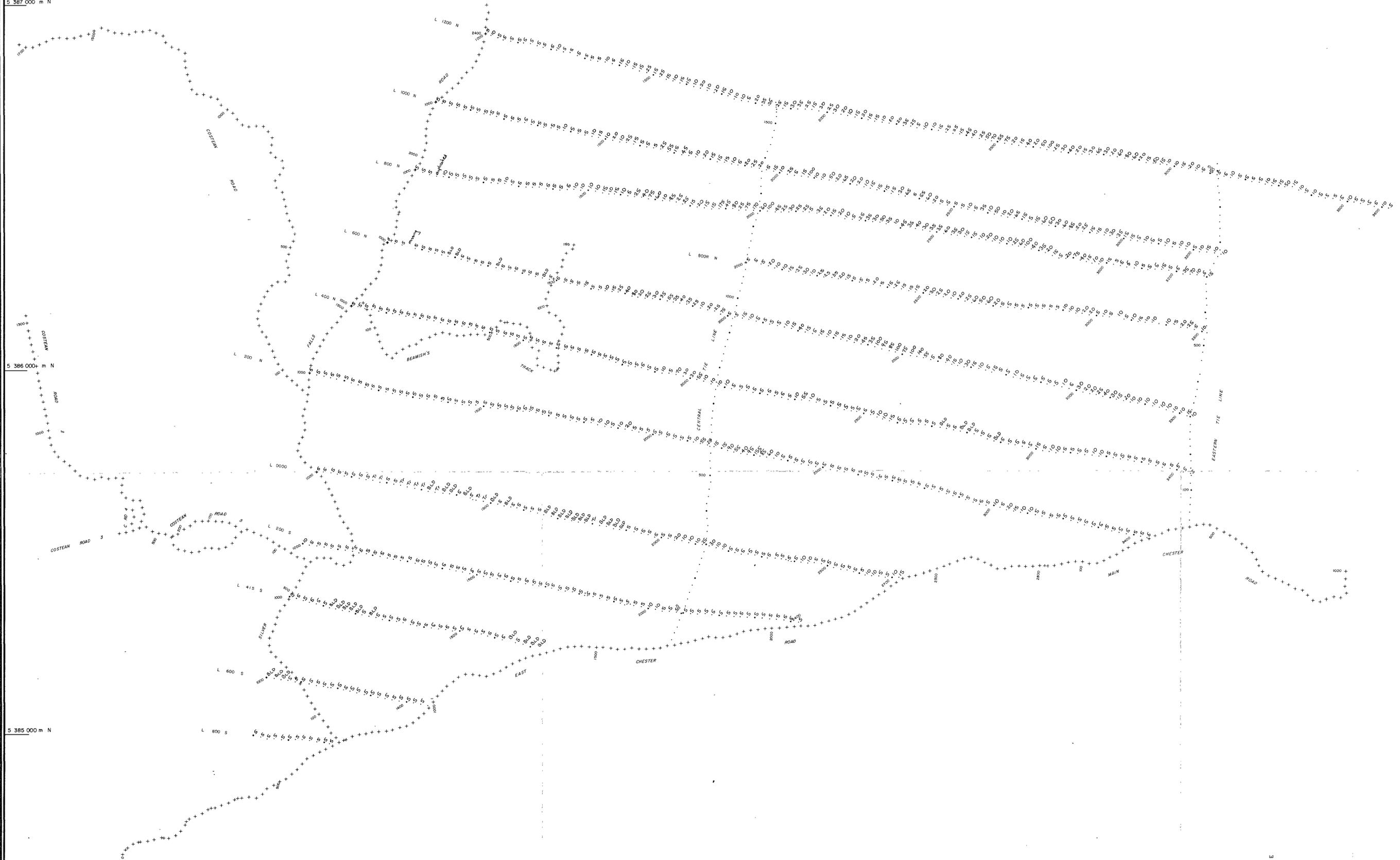
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378 000 m E

379 000 m E

380 000 m E

381 000 m E



161025		79-13-59	
<b>COMSTAFF PROPRIETARY LIMITED</b>			
<b>EAA NEW GRID</b>			
<b>A° GEOCHEMICAL GRID SAMPLING</b>			
<b>NICKEL RESULTS in ppm</b>			
			007
COMPILED	GEOGRAFT	DATE	19/3/79
DRAWN	GEOGRAFT	AMENDED	
SCALE	1	5000	
PLAN NO.	TAS/2/1788		

5 387 000 m N

5 386 000 m N

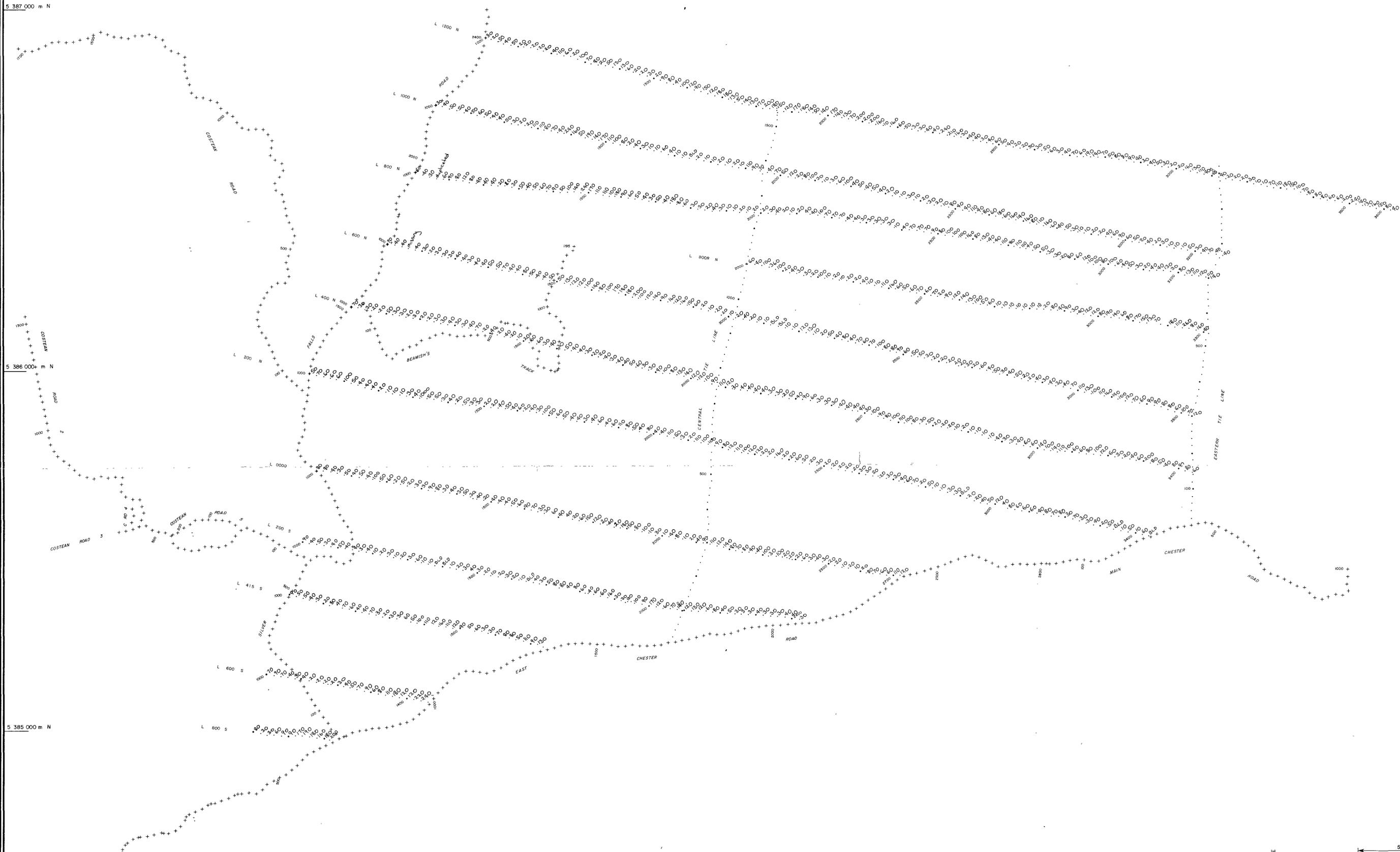
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378 000 m E

379 000 m E

380 000 m E

381 000 m E



161026

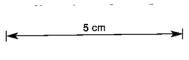
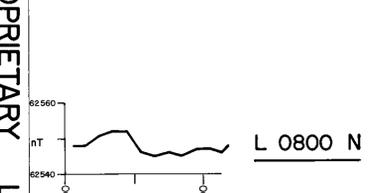
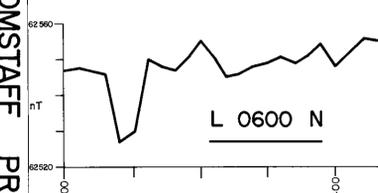
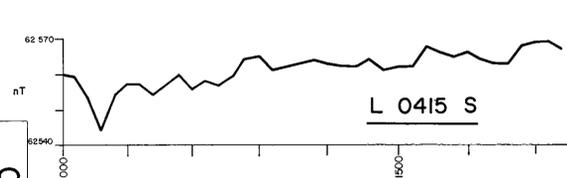
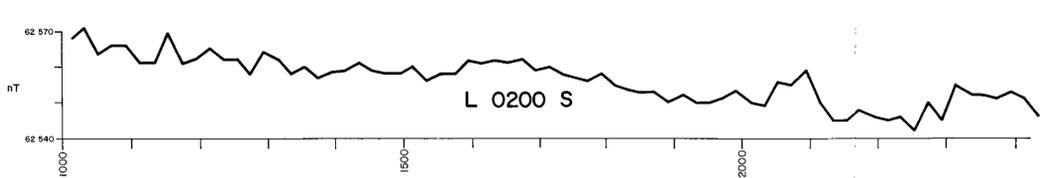
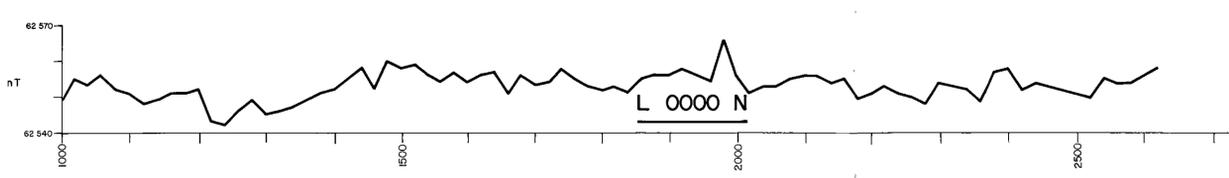
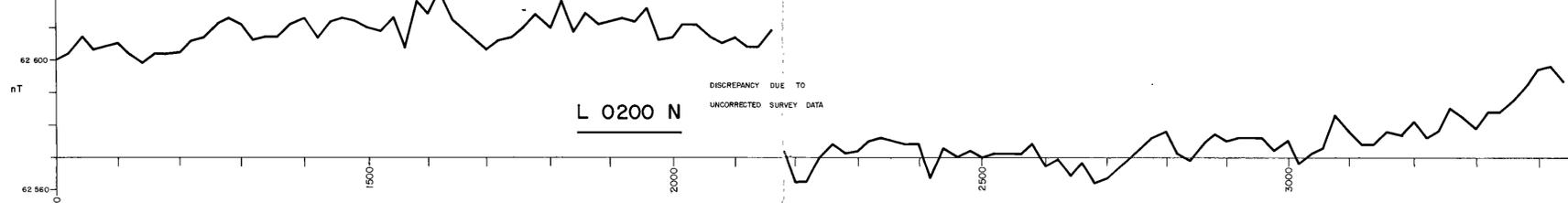
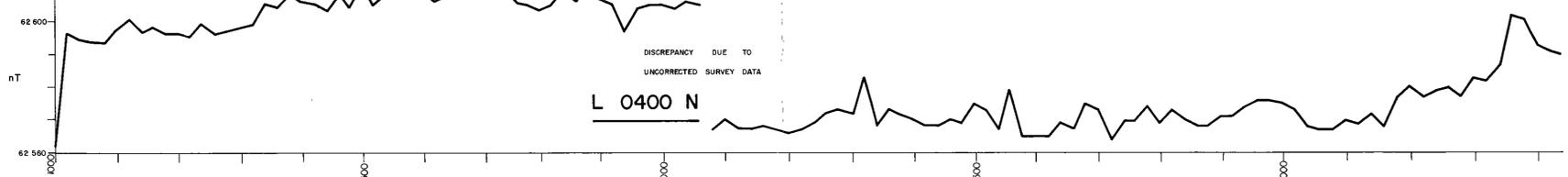
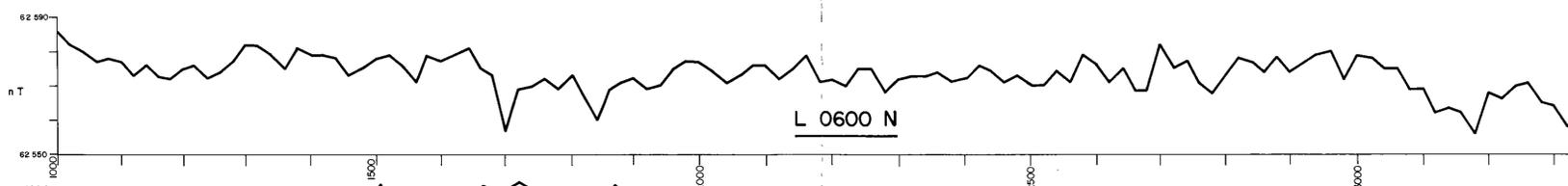
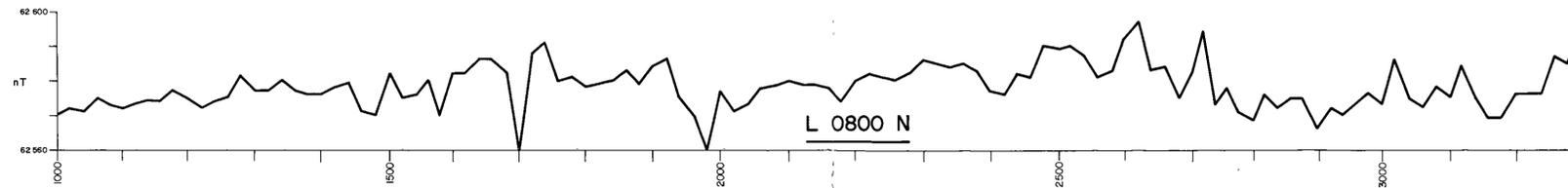
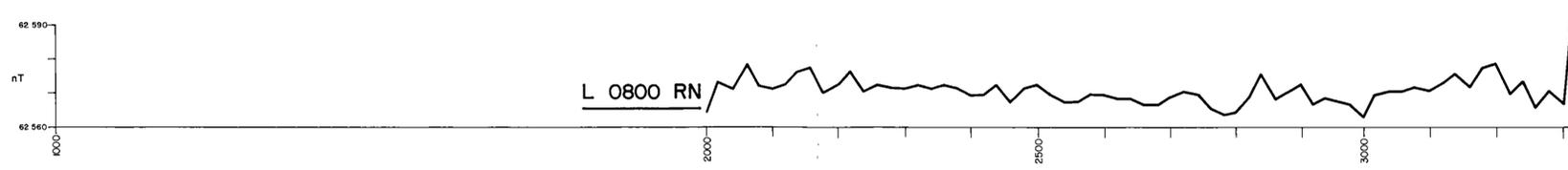
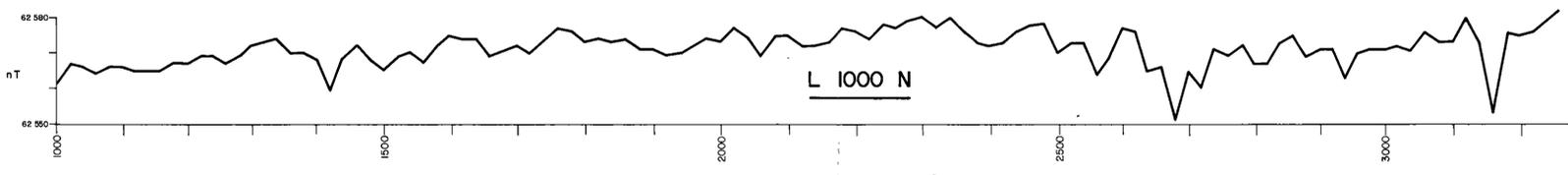
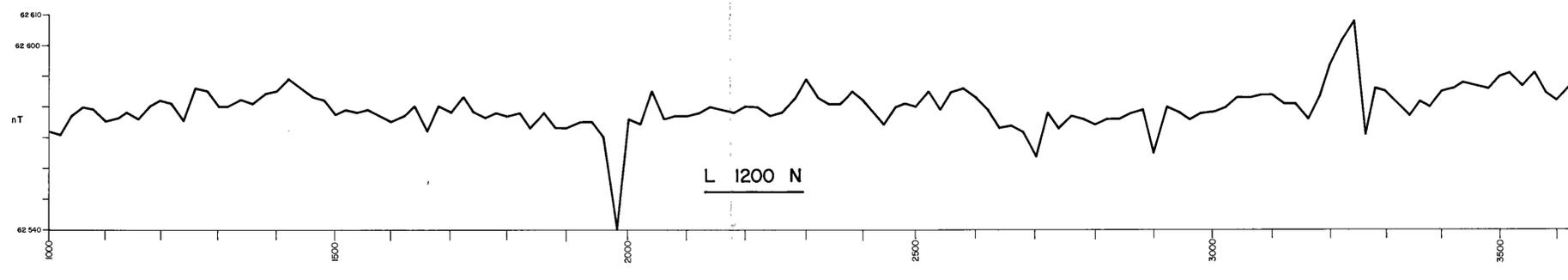
79-1359

COMSTAFF PROPRIETARY LIMITED

EAA NEW GRID  
 A° GEOCHEMICAL GRID SAMPLING  
 BARIUM RESULTS in ppm

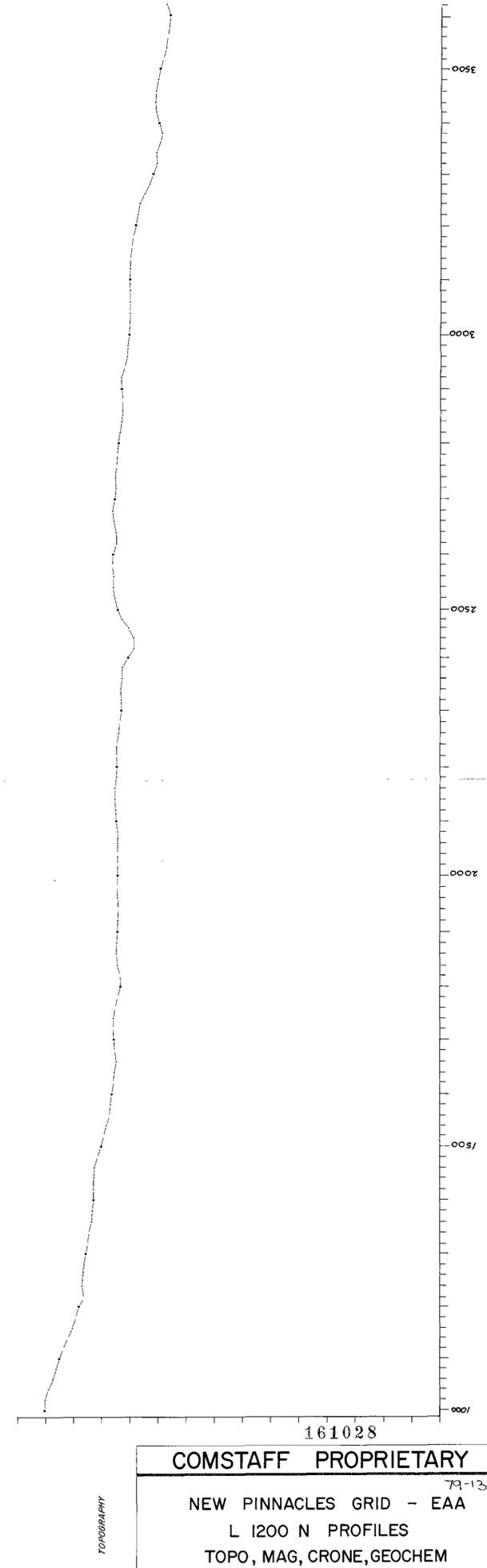
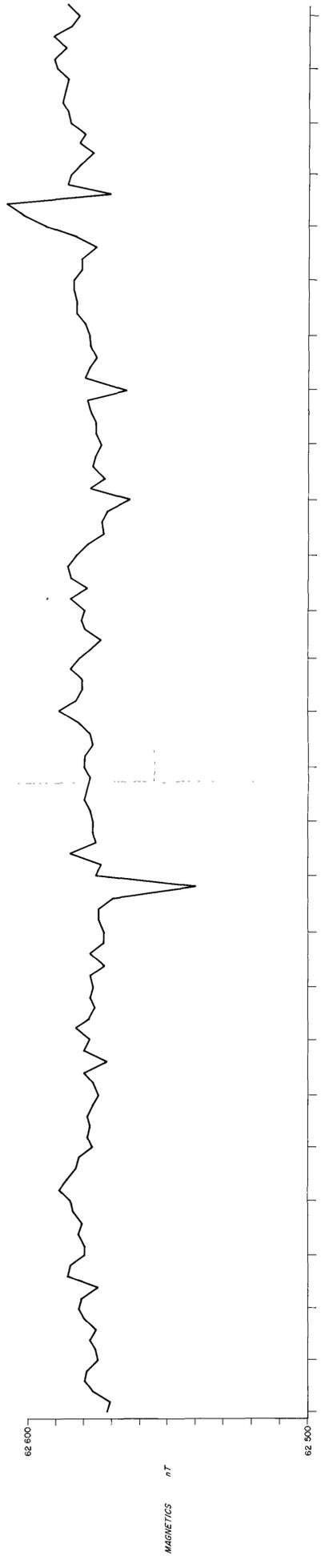
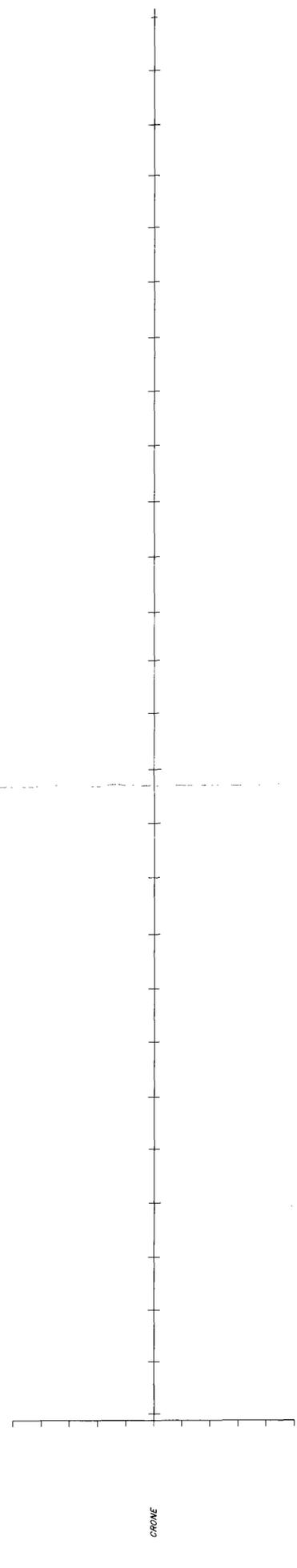
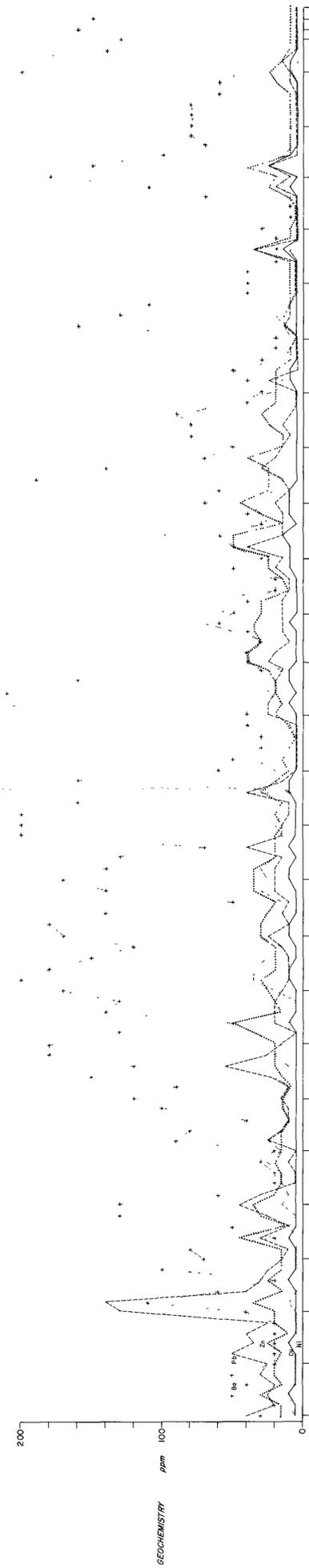
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DRAWN	DATE
GEOGRAFT	19/3/79
AMENDED	
SCALE	1 5000
PLANT No.	TAS/2/1789

008



COMSTAFF PROPRIETARY LIMITED  
 161027  
 CHESTER/PINNACLES GRID - EAA  
 STACKED GROUND MAGNETIC PROFILES  
 79-1359 009  
 TMS/2/1922

COMPILED BY: GEORGE  
 DRAWN BY: TMS  
 DATE: 7/79  
 SCALE: 1:5000



161028

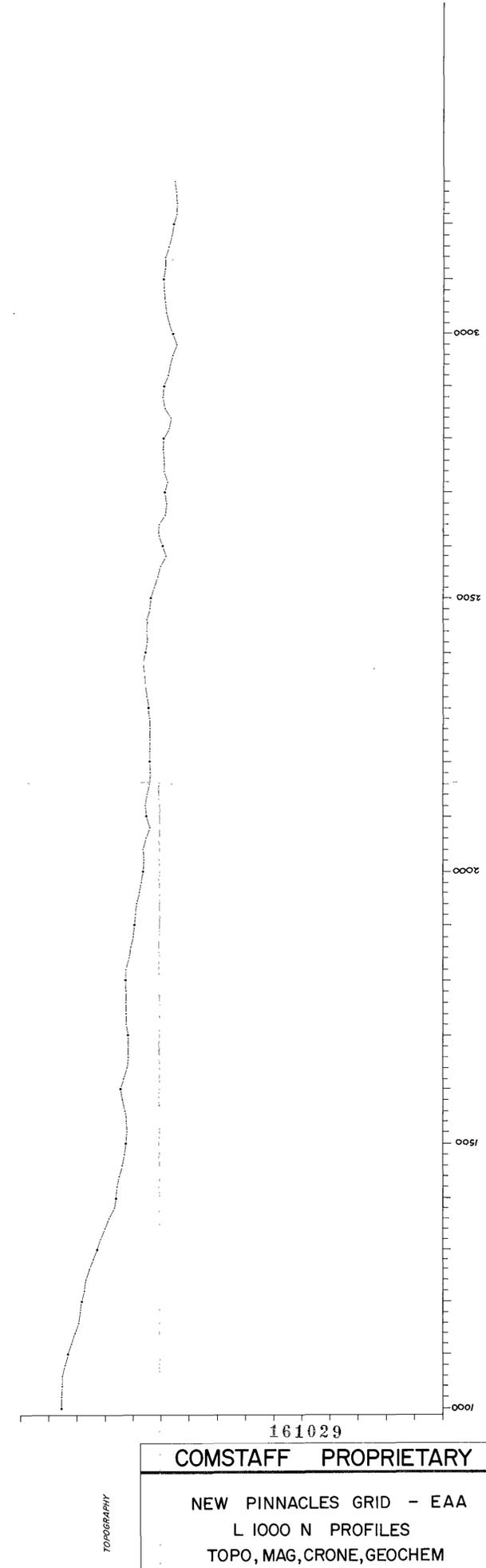
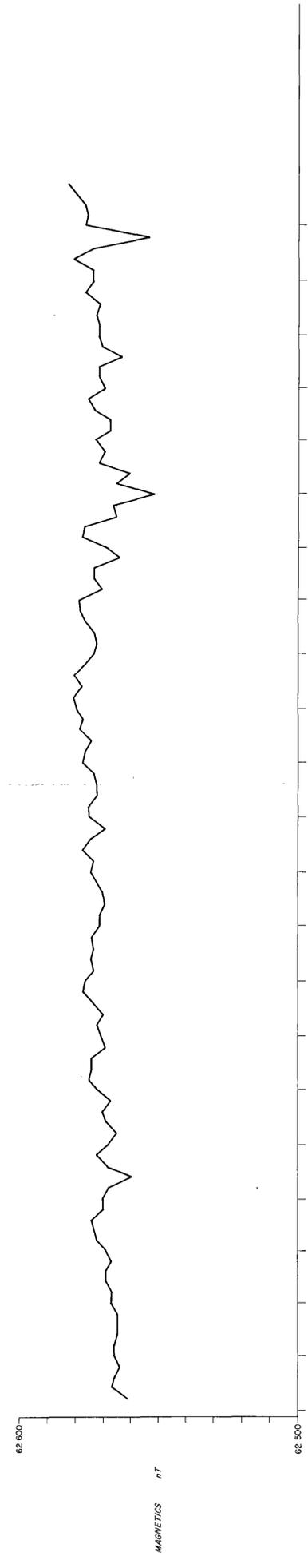
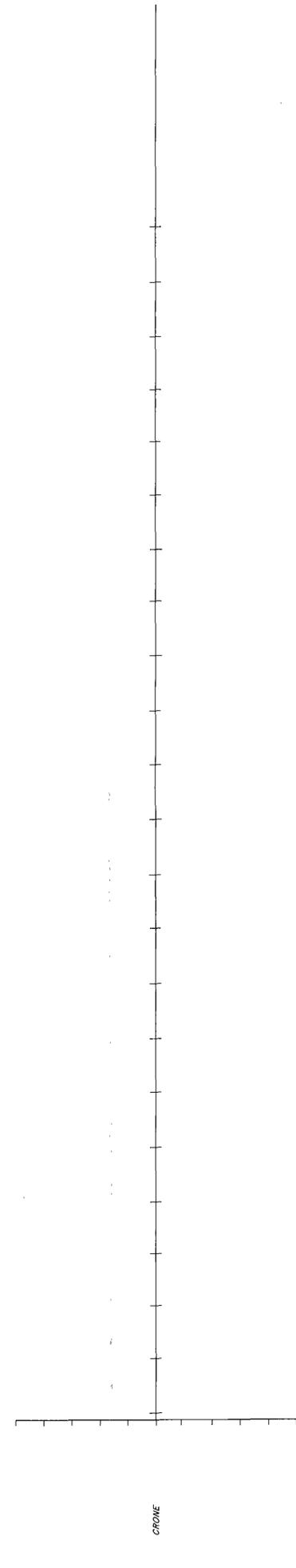
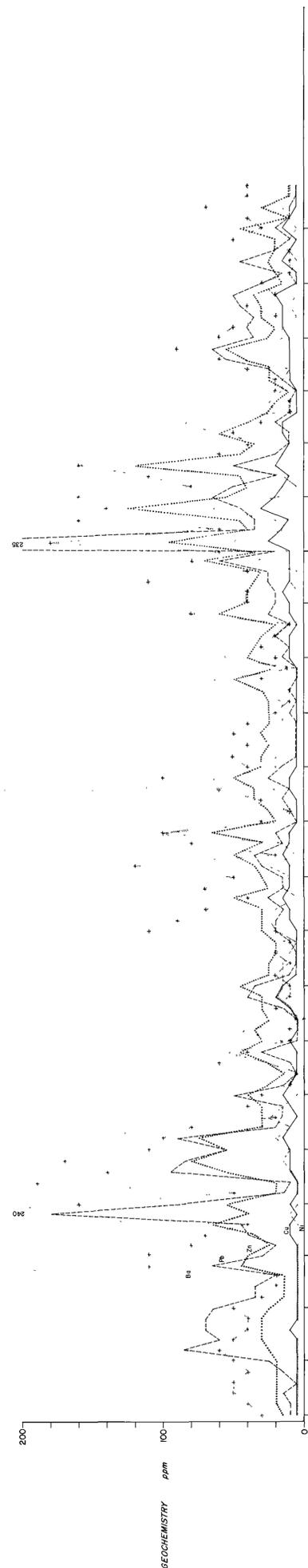
COMSTAFF PROPRIETARY LIMITED

NEW PINNACLES GRID - EAA  
L 1200 N PROFILES  
TOPO, MAG, CRONE, GEOCHEM

COMPILED	GEO DRAFT
DRAWN	DATE
GEO DRAFT	7/79
AMENDED	
SCALE	1 5000
PLAN NO.	TAS/2/1872

010





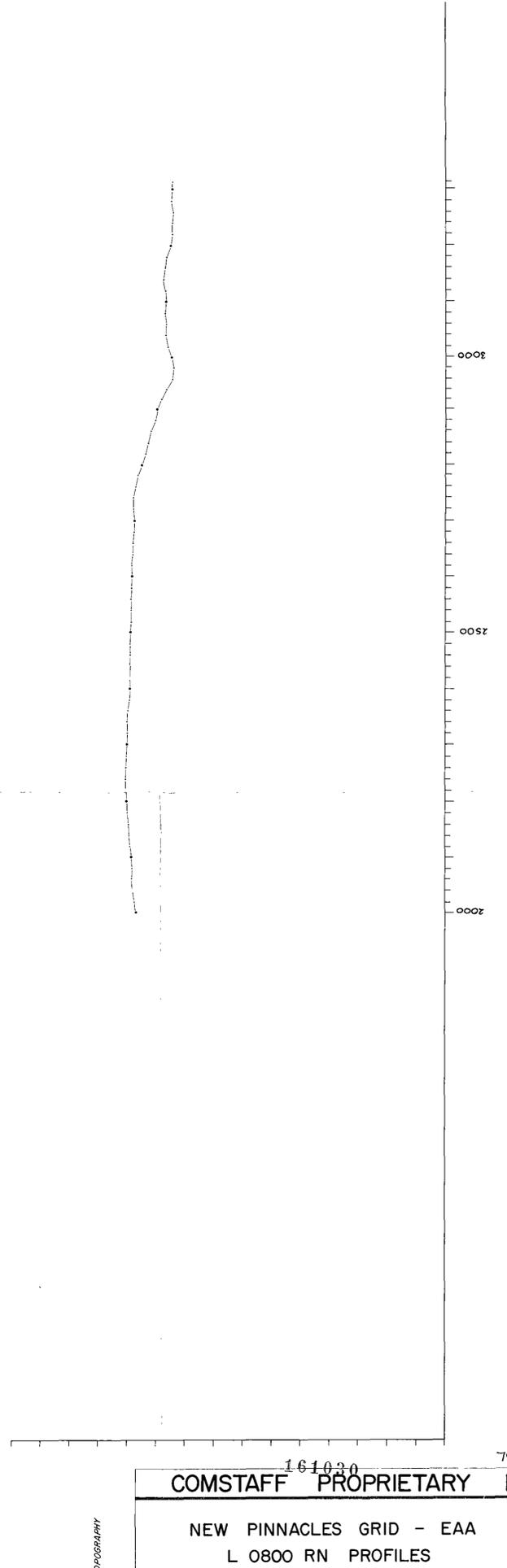
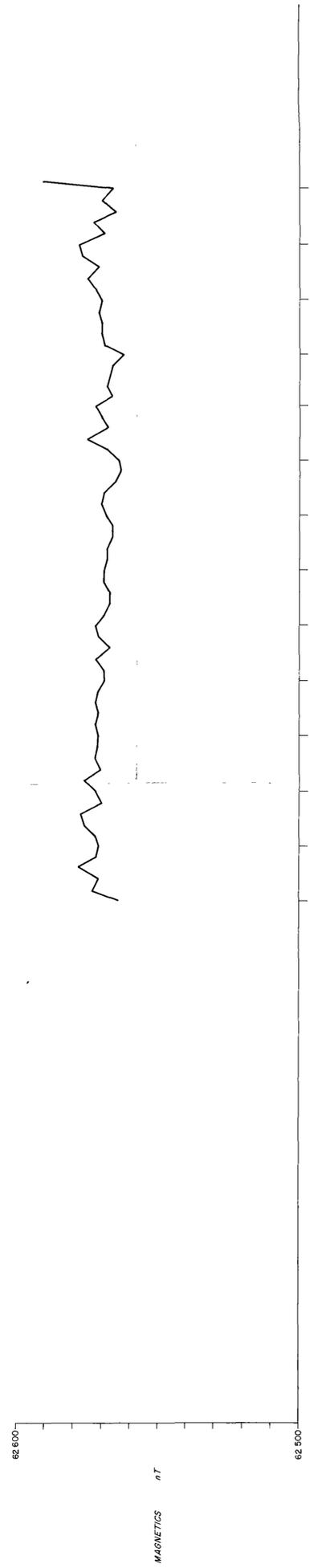
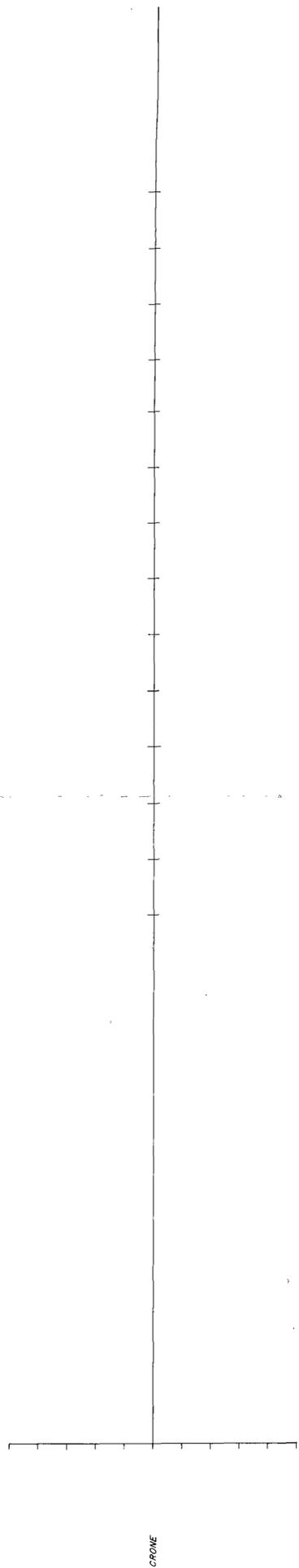
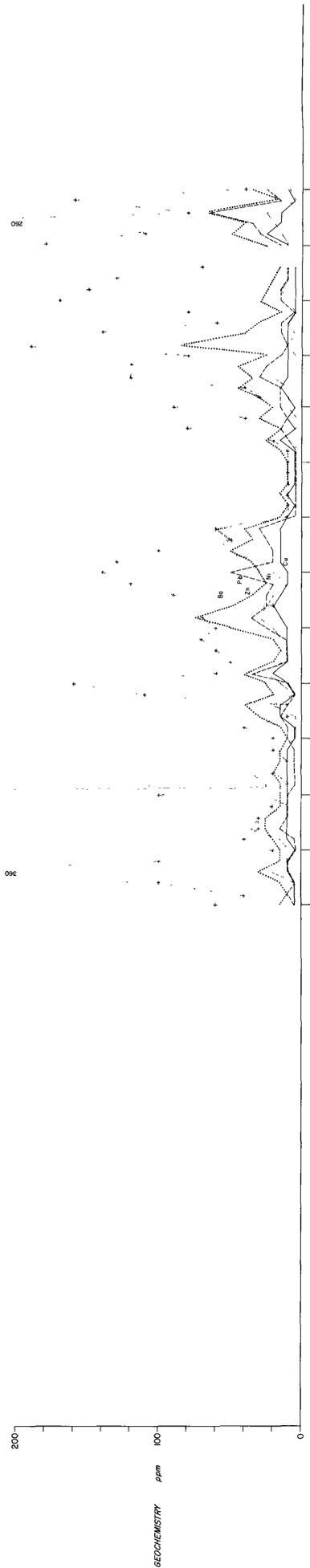
161029 79-1359

**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 1000 N PROFILES  
TOPO, MAG, CRONE, GEOCHEM 011

COMPILED	GEOGRAFT
DRAWN	DATE
GEOGRAFT	7/79
AMENDED	
SCALE	1 5000
PLAN NO.	TAS/2/1873

5 cm



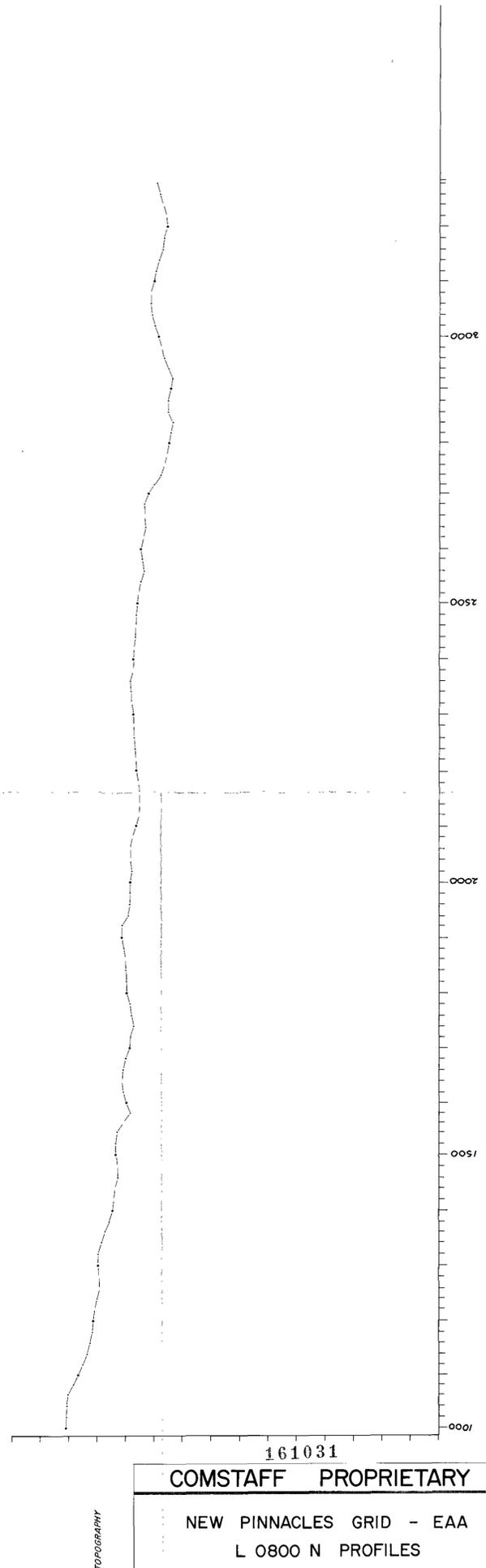
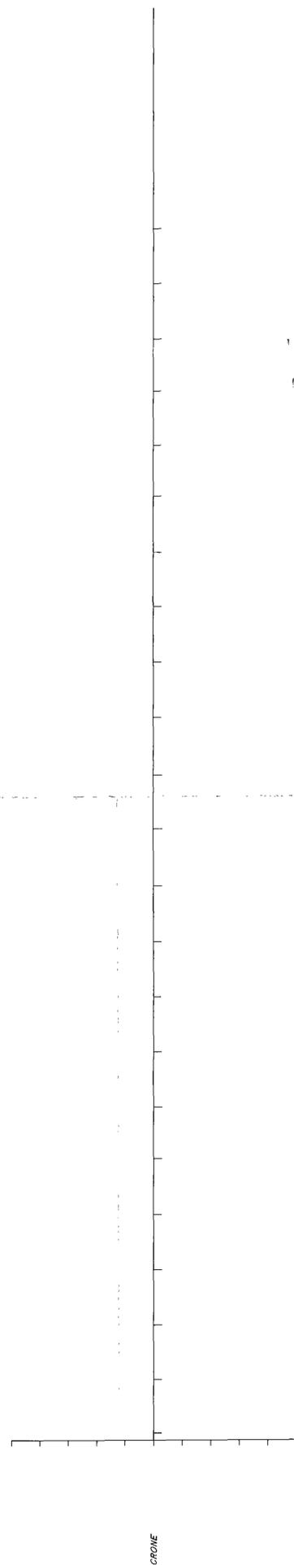
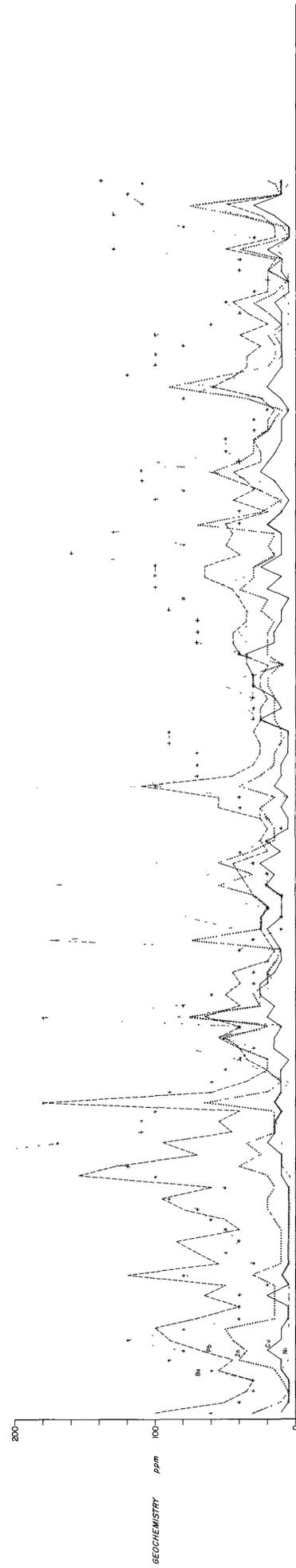
161030 79-1359

**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 0800 RN PROFILES  
TOPO, MAG, CRONE, GEOCHEM 012

COMPLETED	GEOCRAFT
DRAWN	DATE
GEOCRAFT	7/79
AMENDED	
SCALE 1:5000	
PLANT No. TAS/2/1874	

5.0m



161031 49-1359

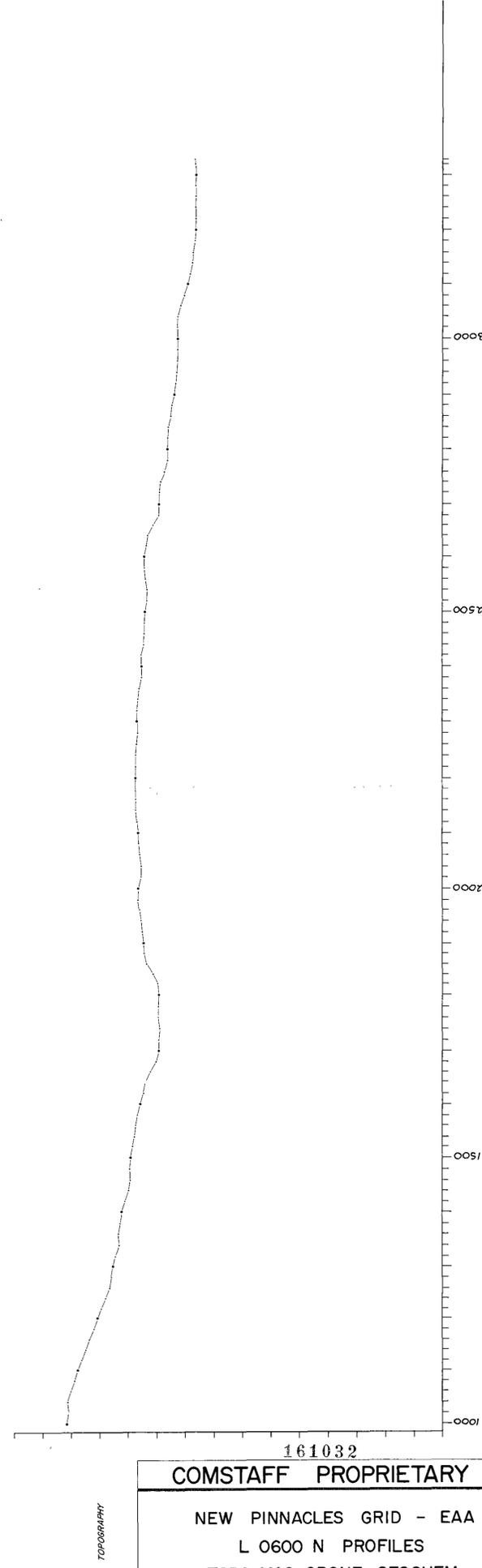
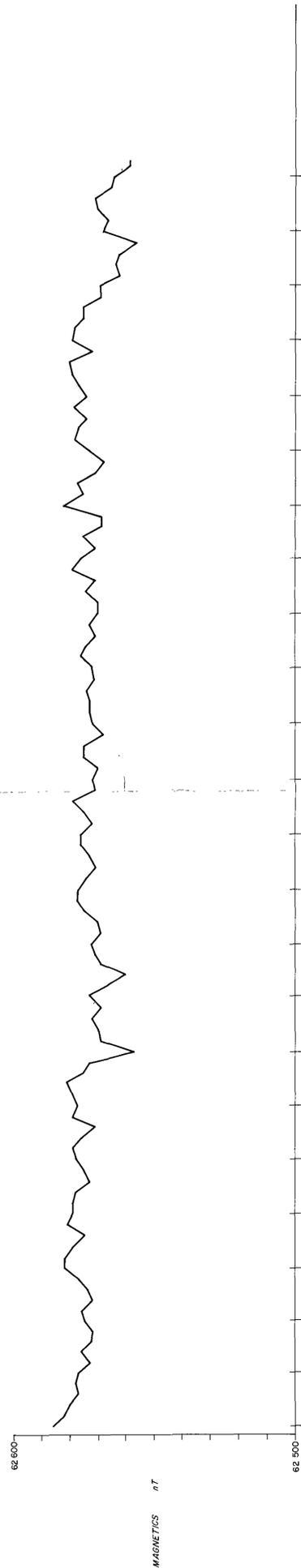
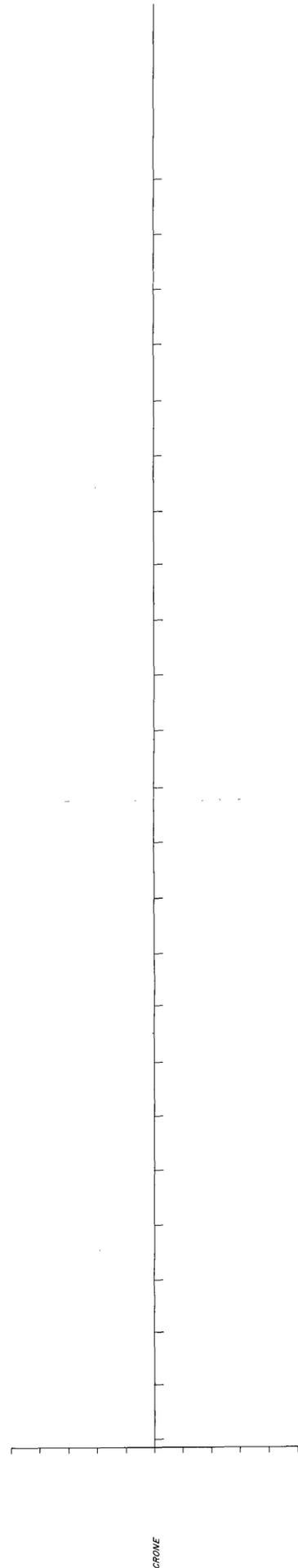
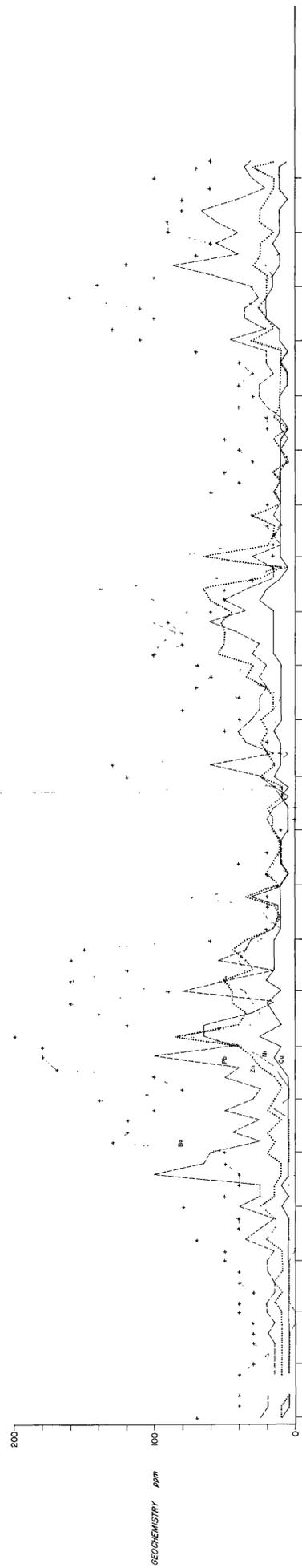
**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 0800 N PROFILES  
TOPO, MAG, CRONE, GEOCHEM

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DRAWN	DATE
GEOGRAFT	7/79
AMENDED	
SCALE	1 5000
PLAN NO.	TAS/2/1875

013

5 cm



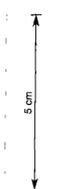
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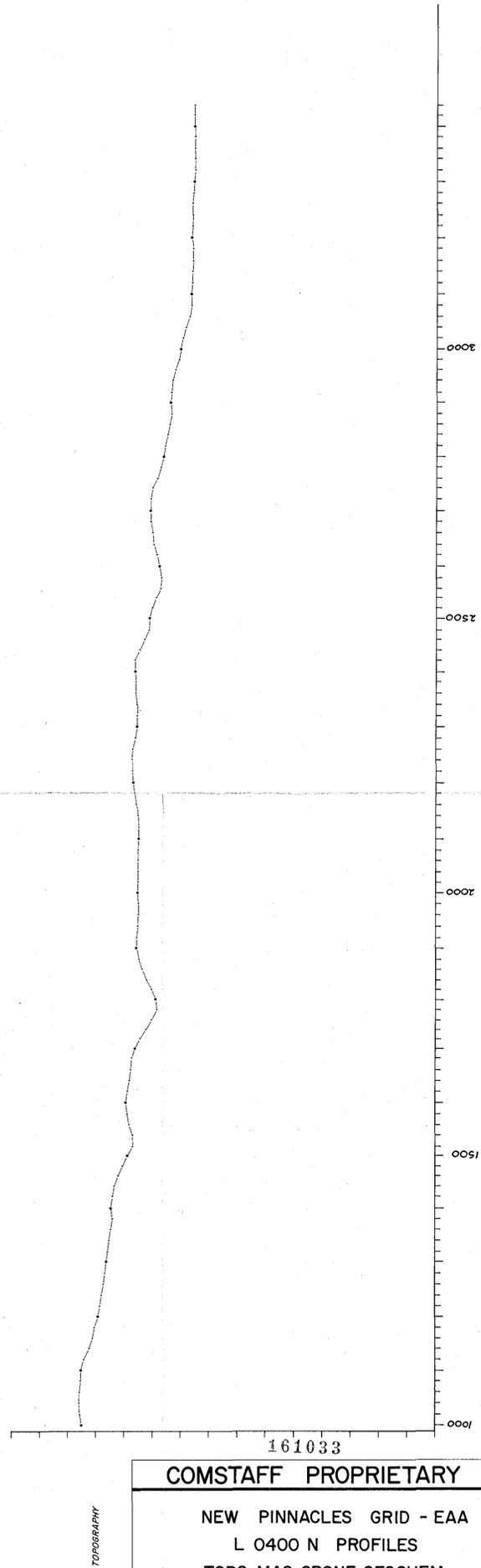
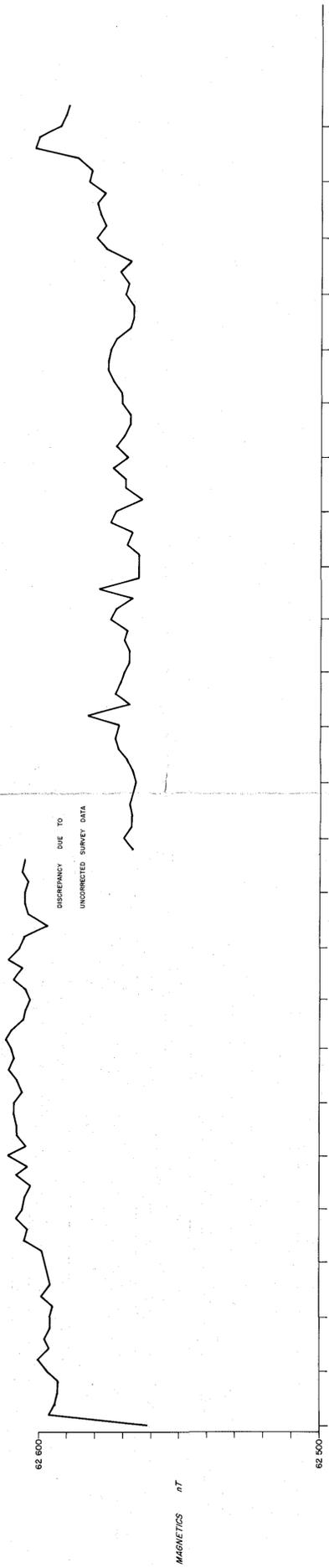
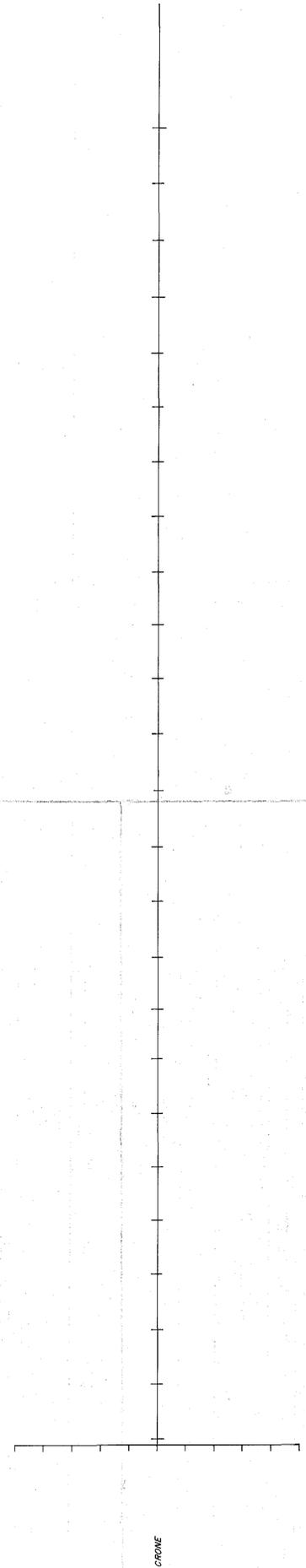
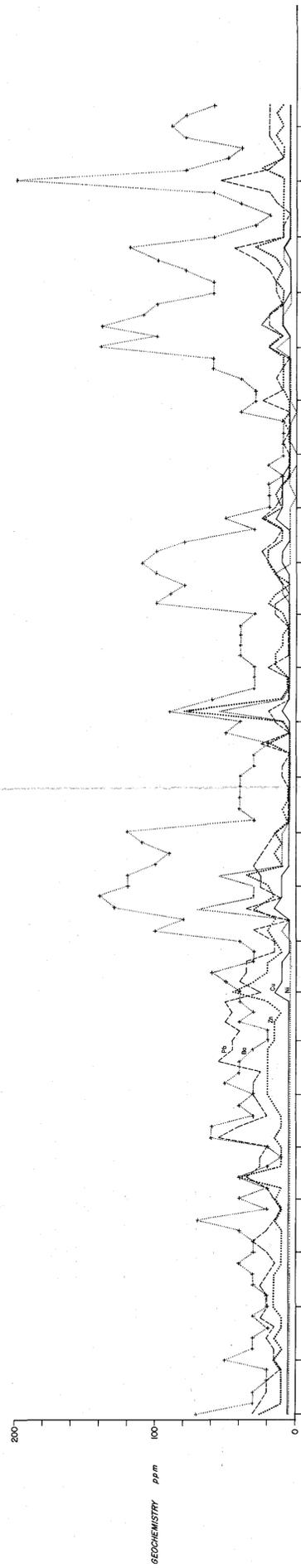
**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 0600 N PROFILES  
TOPO, MAG, CRONE, GEOCHEM

COMPILED	GEOGRAFT
DRAWN	DATE
GEOGRAFT	7/79
AMENDED	
SCALE	1:5000
PLAN NO.	TAS/2/1876

014



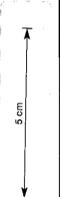


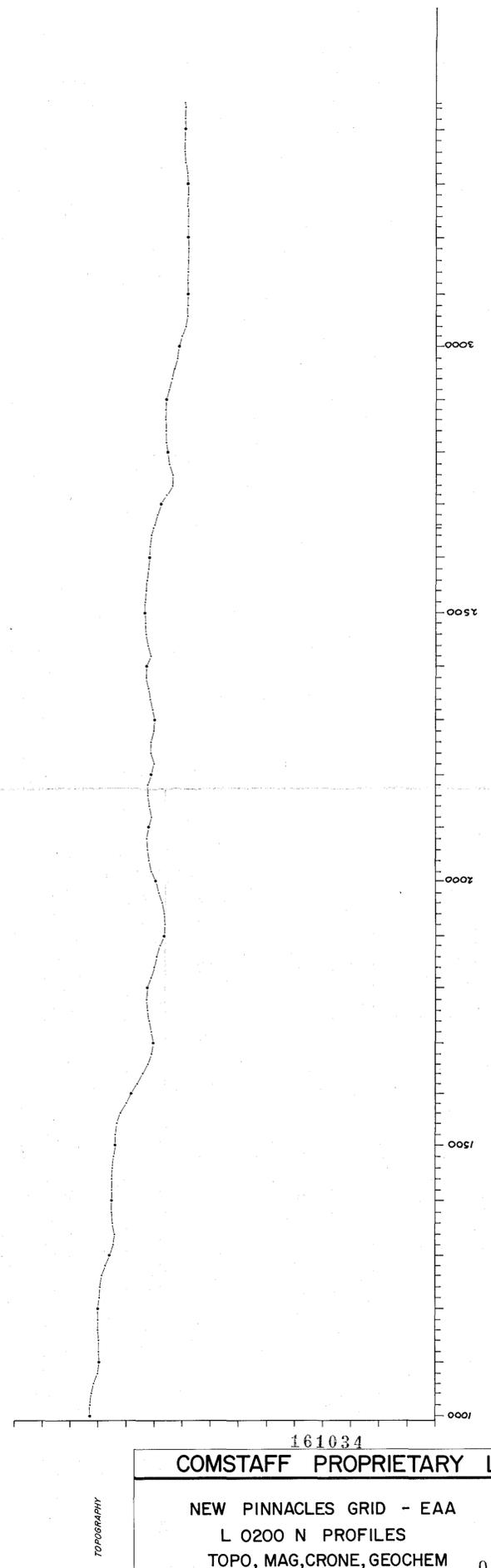
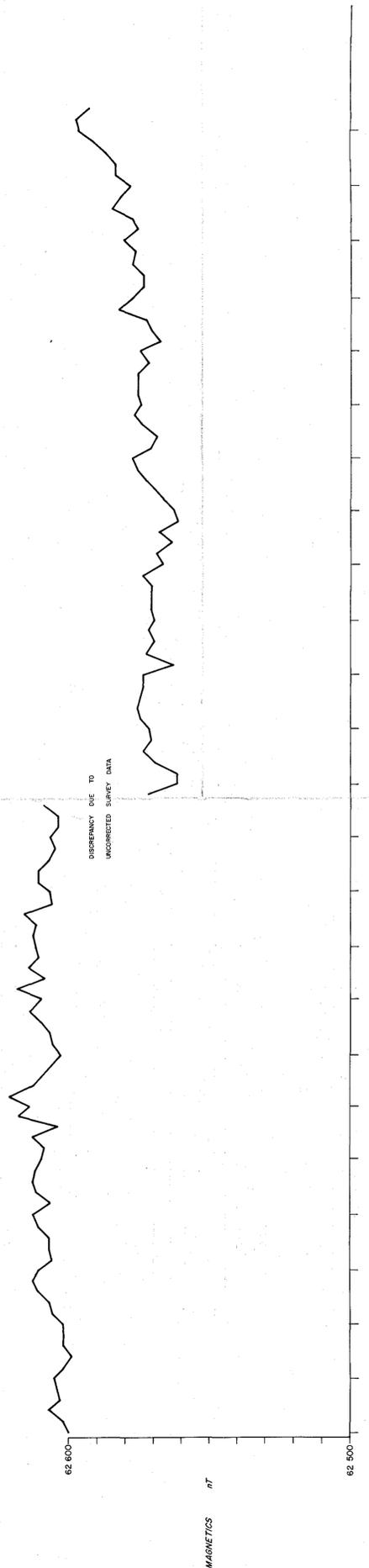
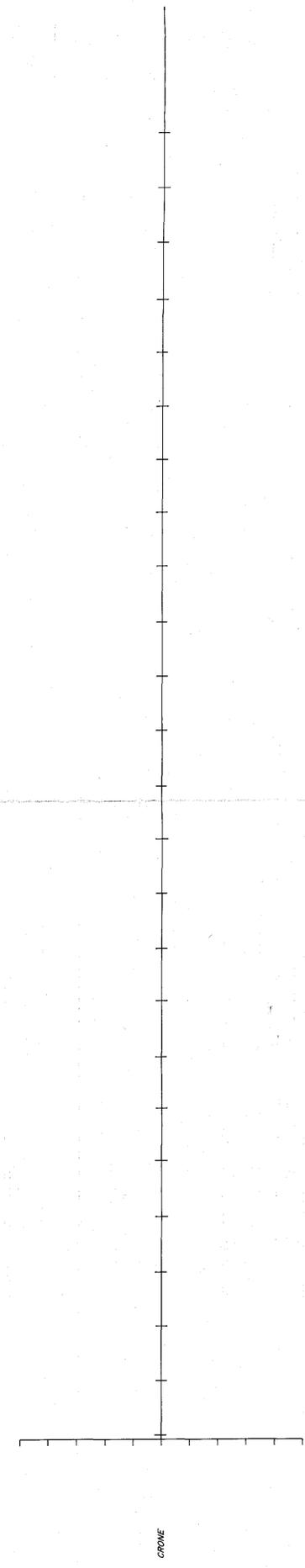
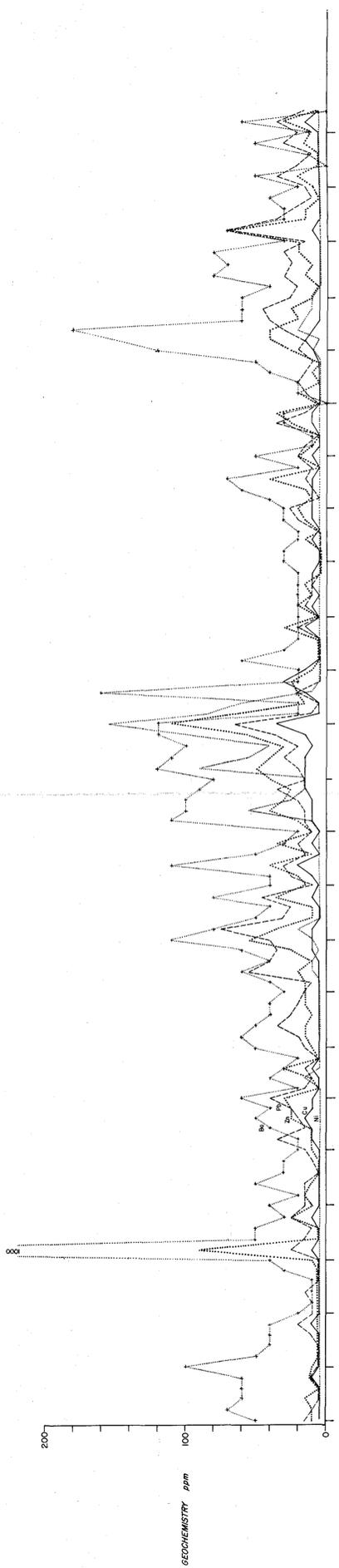
161033 79-1359

**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 0400 N PROFILES  
TOPO, MAG, CRONE, GEOCHEM 015

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DRAWN	DATE
GEO DRAFT	7/79
AMENDED	
SCALE	1 : 5000
PLAN NO	TAS/2/1877





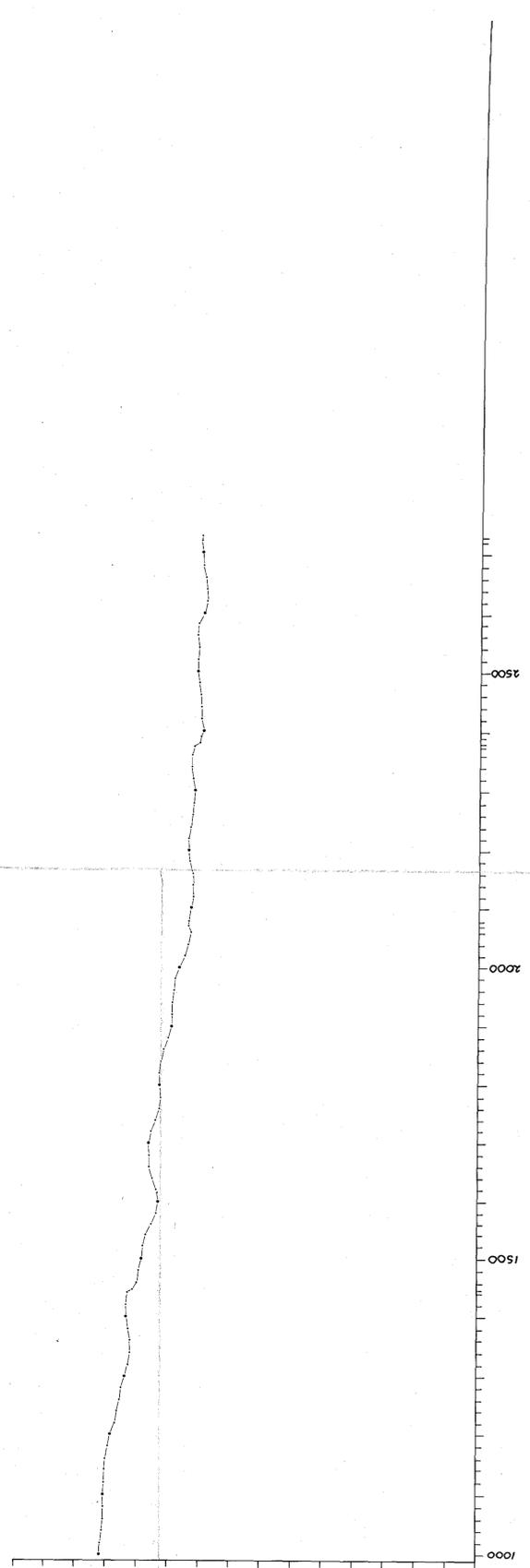
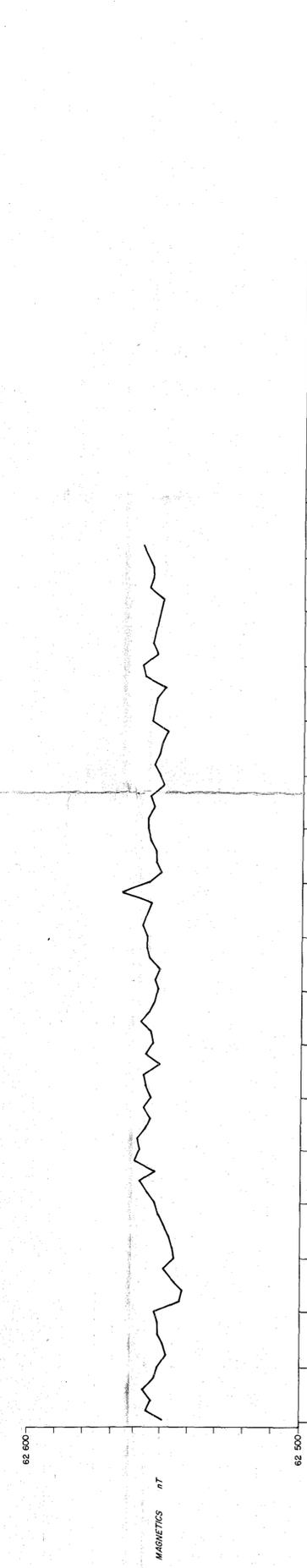
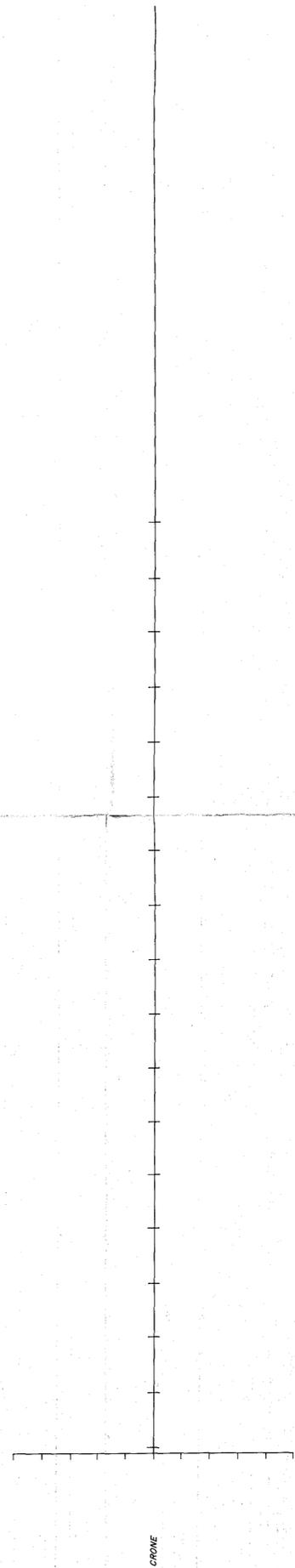
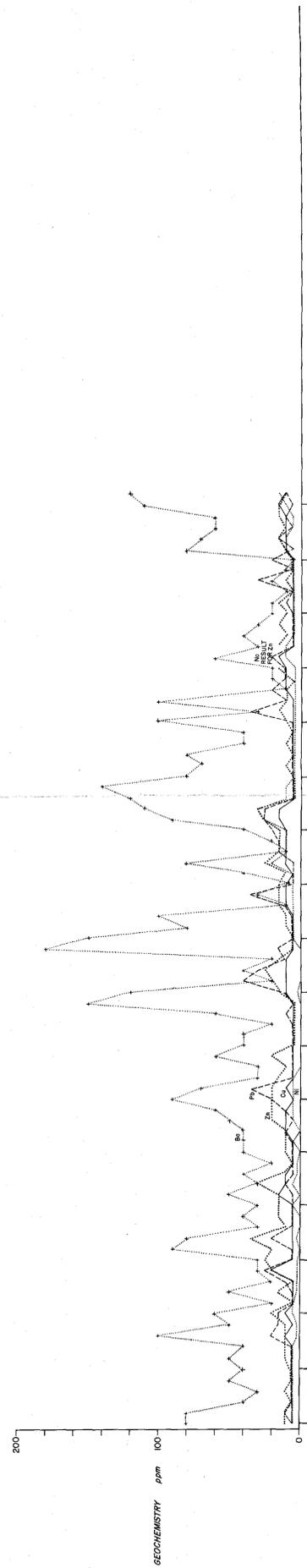
161034 79-1359

**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 0200 N PROFILES  
TOPO, MAG, CRONE, GEOCHEM 016

COMPILED	GEOGRAFT
DRAWN	DATE
GEOGRAFT	7/79
AMENDED	
SCALE	1 : 5000
PLAN No.	TAS/2/1878

6 MET



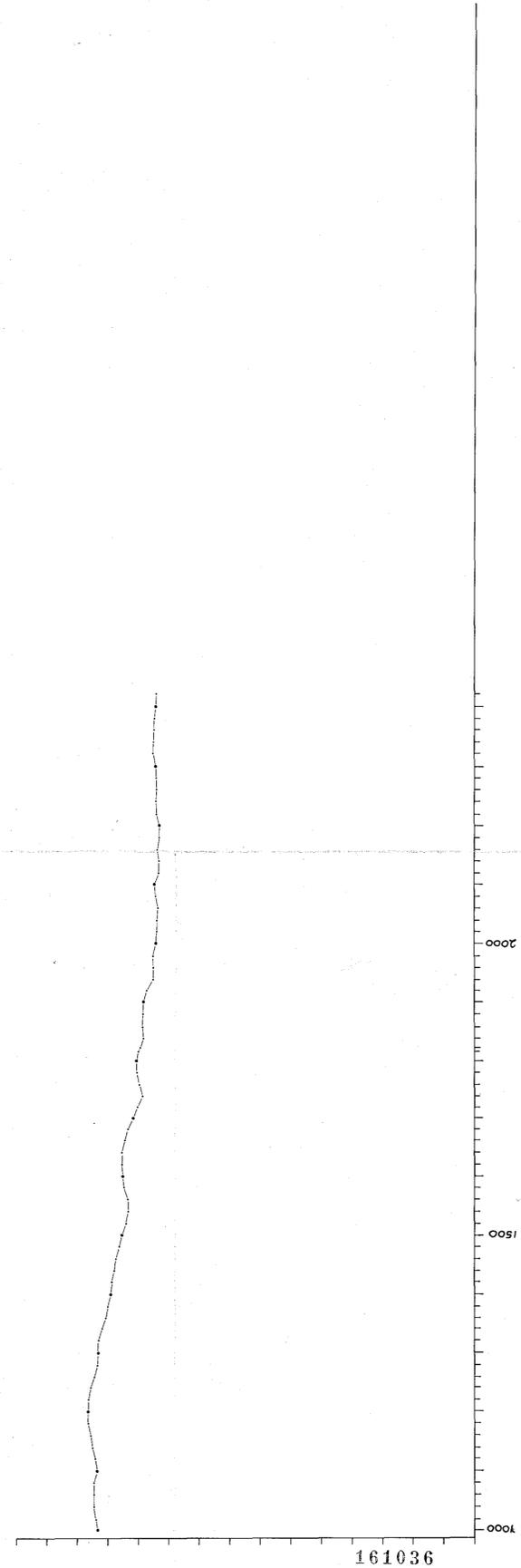
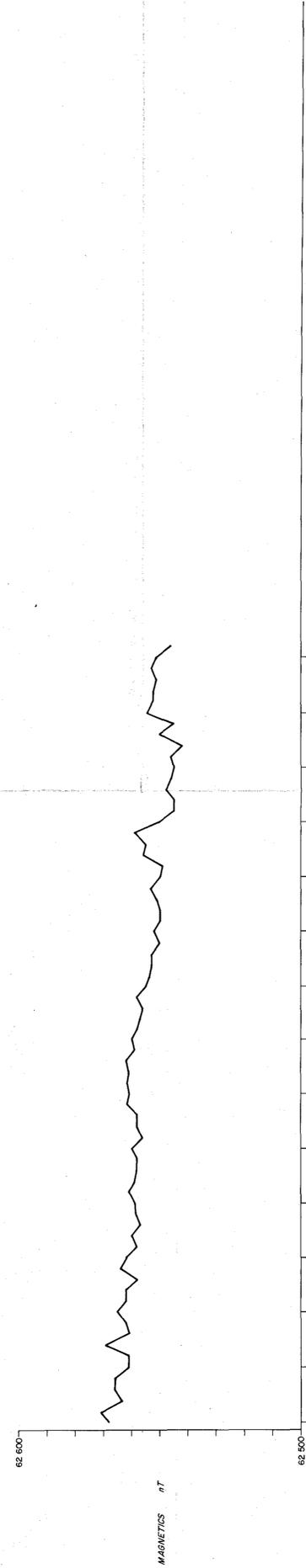
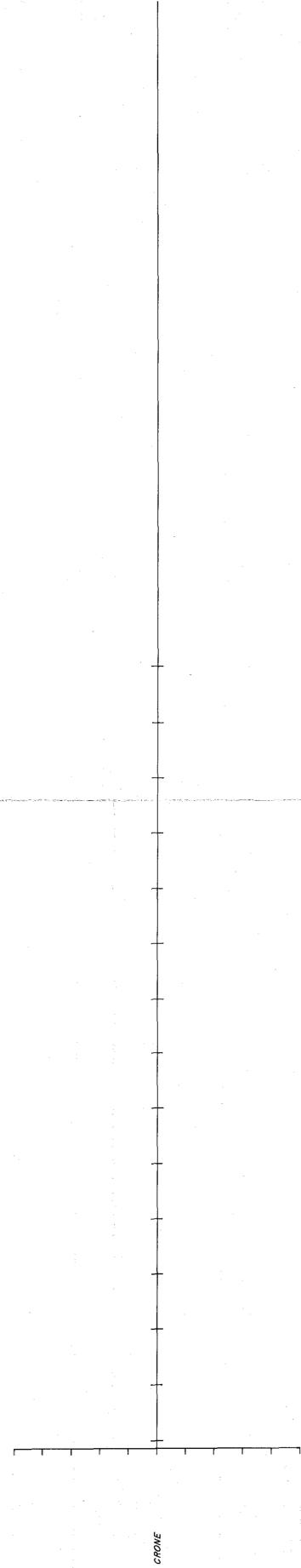
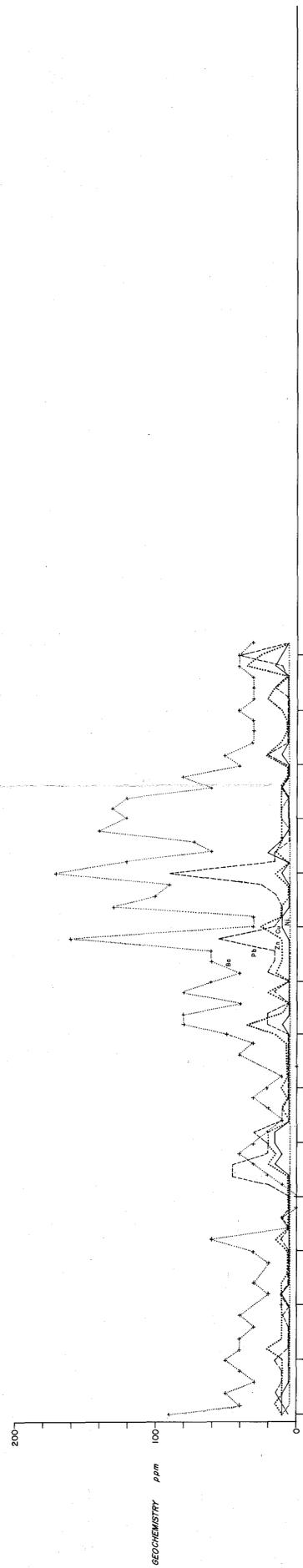
161035 79-1359

**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 0000 PROFILES  
TOPO, MAG, CRONE, GEOCHEM 017

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DRAWN	DATE
GEO DRAFT	7/79
AMENDED	
SCALE	1 : 5000
PLAN No.	TAS/2/1879





161036

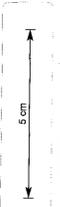
79-1359

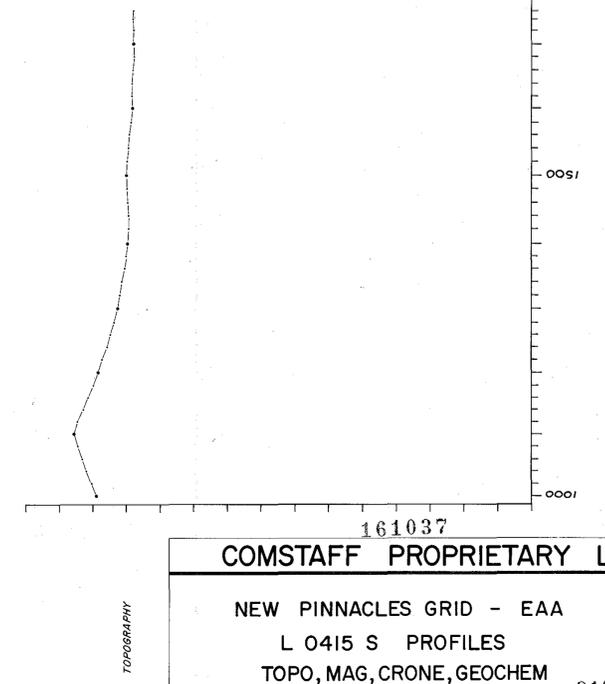
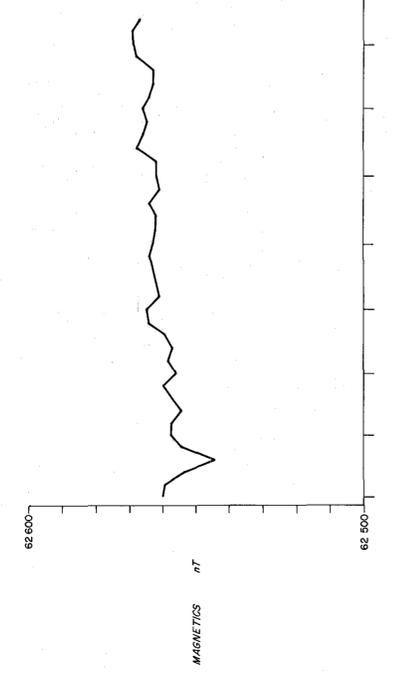
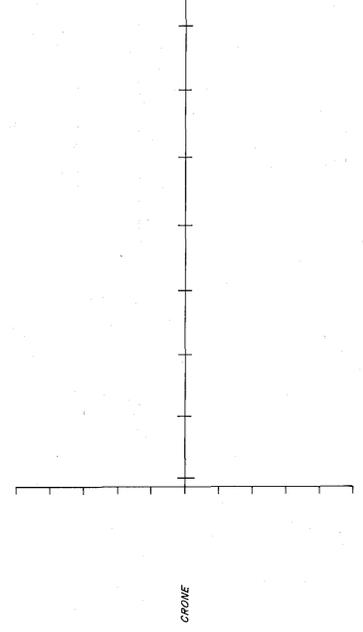
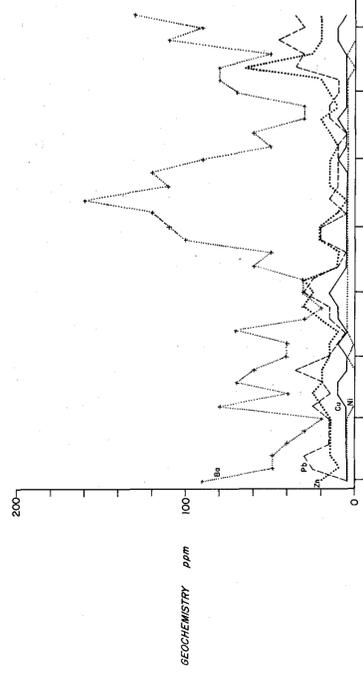
**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
 L 0200 S PROFILES  
 TOPO, MAG, CRONE, GEOCHEM

COMPILED	GEO DRAFT
DRAWN	DATE
GEO DRAFT	7/79
AMENDED	
SCALE	1:5000
PLAN NO.	TAS/2/1880

018





161037 79-1359

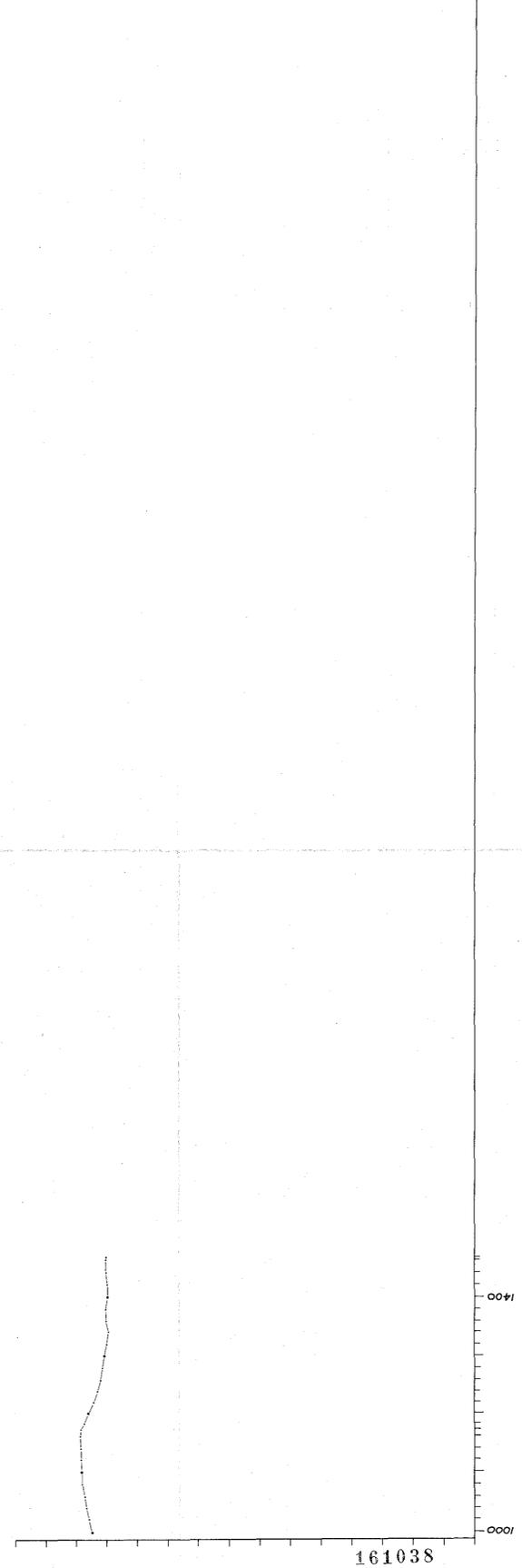
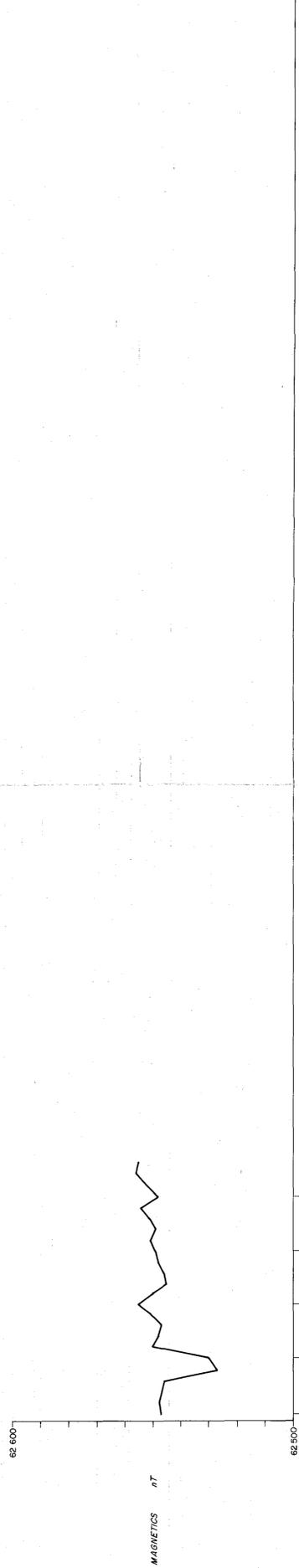
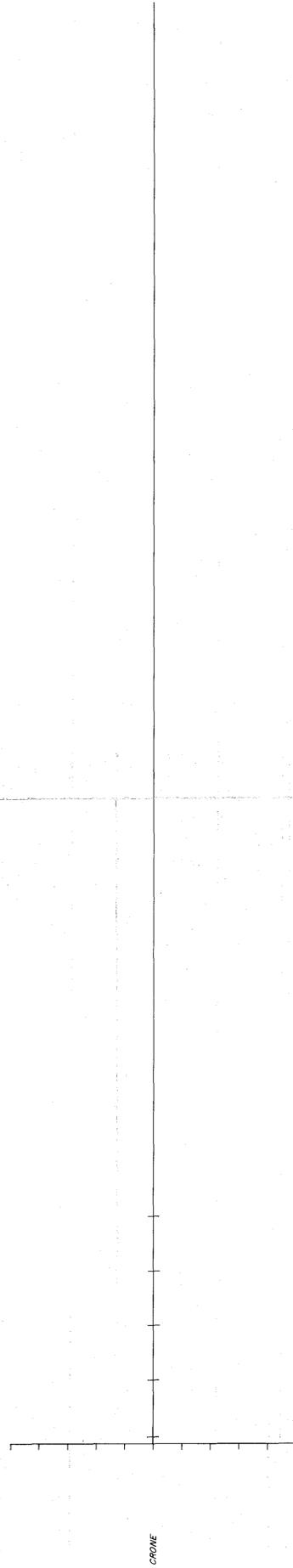
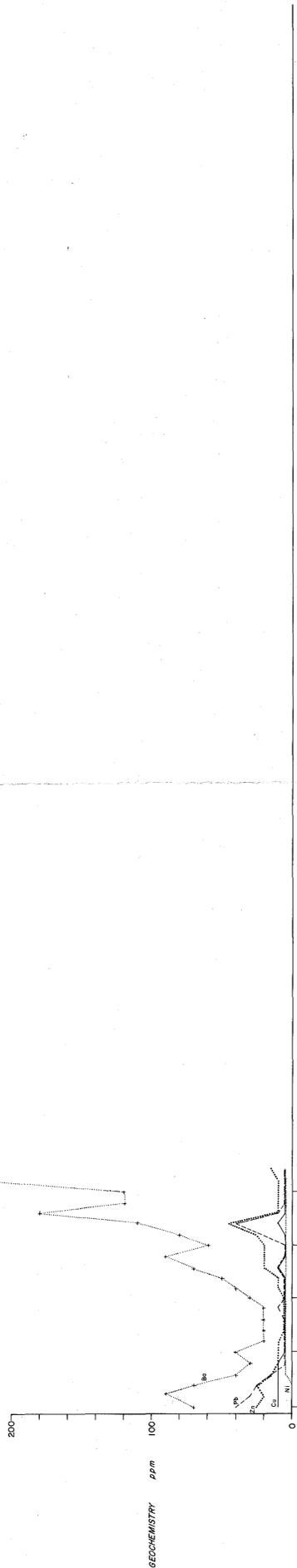
**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 0415 S PROFILES  
TOPO, MAG, CRONE, GEOCHEM

019

COMPILED	GEOGRAFT
DRAWN	DATE
GEOGRAFT	7/79
AMENDED	
SCALE	1 : 5000
PLAN NO.	TAS/2/1881





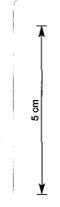
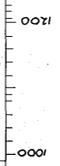
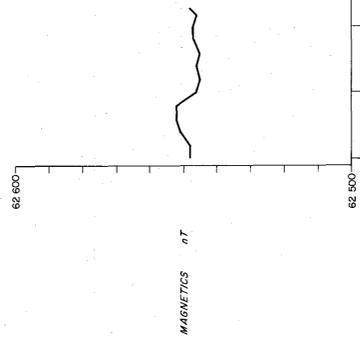
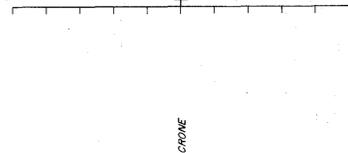
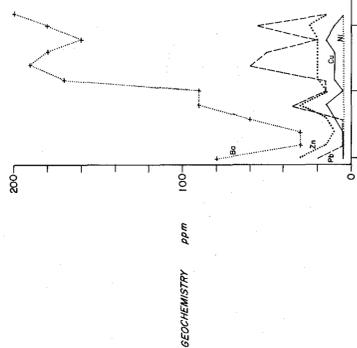
**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
 L 0600 S PROFILES  
 TOPO, MAG, CRONE, GEOCHEM 020

COMPILED	GEOGRAFT
DRAWN	DATE
GEOGRAFT	7/79
AMENDED	
SCALE	1 : 5000
PLAN No.	TAS/2/1882



161038 79 1359



161039 49-1359

**COMSTAFF PROPRIETARY LIMITED**

NEW PINNACLES GRID - EAA  
L 0800 S PROFILES  
TOPO, MAG, CRONE, GEOCHEM 021

COMPILED		GEOGRAFT	
DRAWN	DATE	GEOGRAFT	7/79
AMENDED			
SCALE		1 : 5000	
PLAN NO.		TAS/2/1883	