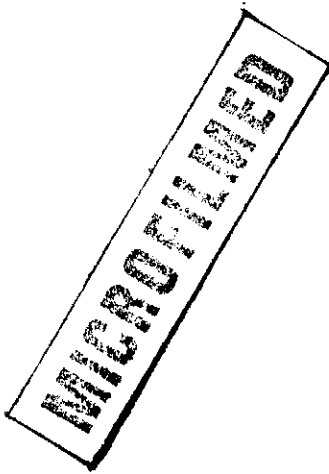


565001



QAC

D of M	A.O.	C.G.	E.O.	D.S.M.E.
Received Answered				6 JUN 1983
DEPT. OF MINES				Registrar
REF. No: 4860/83				E & IL

PROJECT NAME: COMSTAFF PROPRIETARY LIMITED

TITLE: STAGE REPORT ON THE EAST RENISON AREA
EXPLORATION LICENCE 5/63 PART 6

83-1986

AREA NAME/S, STATE 1:250,000 SHEET NO/S & COORDINATES: 1:250 000 sheet Queenstown SK 55-05

COMMODITY/IES: Sn, W, Cu, Pb, Zn, Ag

TEXT PAGES NO: 29

PLAN NOS: See List of Plans

TABLE NOS:

APPENDICES: 3

AUTHOR/S: S R Yardley, J D Crimeen

DATE: May 1983

AUSTRALIAN ANGLO AMERICAN LIMITED

Incorporated in the State of Victoria

STAGE REPORT ON THE EAST RENISON AREA

SECTION 6

FEBRUARY 1983

S R YARDLEY

J D CRIMEEN

C O N T E N T S

	Page No
1. SUMMARY	1
2. INTRODUCTION	2
2.1 General	
2.2 Location	
2.3 Access and Infrastructure	
2.4 Exploration Objectives	
3. WORK COMPLETED	4
3.1 Grid Lines and Access Tracks	
3.2 Surveying	
3.3 Geochemistry	
3.4 Geophysics	
3.5 Geology	
3.6 Photogeology	
3.7 Diamond Drilling	
4. RESULTS	9
4.1 Geochemical Surveys	
4.2 Geophysical Surveys	
4.3 Geological Mapping	
4.4 Diamond Drilling	
5. DISCUSSION AND RECOMMENDATIONS	28
6. REFERENCES	
7. LIST OF PLANS	
8. APPENDICES	
APPENDIX 1: Report on ground magnetic data of GAT/GAP grids	
APPENDIX 2: Preliminary Statement of resources at GAR Fenton's	
APPENDIX 3: Significant drill hole intersections	

1. SUMMARY

Exploration of the East Renison lease, Part 6, has been directed towards the finding of massive sulphide replacement carbonate horizons and mineralised fault zones of the same style as the Renison orebody.

Initial exploration involved the mapping and sampling of the major rivers and creeks. This outlined areas in which detailed ground work could be carried out. A systematic approach of a grid programme was then applied. Detailed ground work, combining geochemistry, geophysics and geology outlined anomalous zones, which if warranted were then drilled to establish the source of the anomalies.

The most important area outlined so far is the Fenton's structure. This structure, which runs from the western boundary in the south, up to the Pieman River in the north. Along the structure, tin and base metal mineralisation associated with quartz/carbonate/sulphide veins have been located. The structure itself is infilled by talc carbonate. A small tonnage ore body has been outlined in two parts: a base metal part named GAR-Fenton's (Salmon's Vein) and a tin part named the Pieman Tin Zone (Tin Vein).

To the south east of the Fenton's structure, and possibly representing a subsidiary arm of the main vein system is the Exe River Area. A quartz/tourmaline/sulphide stockwork, containing tin, has been worked in the past. The stockwork strikes NNW and appears to join the Fenton's trend.

The whole block has been gridded and mapped in order to locate carbonate horizons suitable for replacement by cassiterite bearing sulphides. The mapping has established the major rock units and the major structural features of the area. The eastern and southern areas contain the youngest sequence of rocks, mainly Dundas Group Sediments within the Huskisson Syncline. The major synclinal axis has been hard to locate within the lease. The east-west thrusting of the later Renison Anticline has caused the folding and faulting prevalent in the south-east and the overprinting structures hide the syncline's axis.

Between the northern part of the GAP grid and the Pieman River, and to the west, the rock sequence is part of the Crimson Creek Formation. Absent in the area near the Fenton's structure on the GAR grid are the conspicuous basal Dundas Group conglomerates, indicating that the deposition of the conglomerates has been impeded by an ancient mid-Cambrian ridge or barrier.

Roughly dividing the two sedimentary sequences are the ultramafic bodies. To the north and south, the ultramafics are large, layered and variably altered (serpentinised), emplaced complexes. In the GAR grid however, a relatively narrow emplaced and completely altered talc unit infills the Fenton's structure.

Metasomatic alteration and hornfelsing has occurred in many areas of the lease and outlines the metamorphic aureole of the variably deep underlying basement granite and apophyses.

Potential for upgrading of presently established ore resources, and undiscovered mineralisation, still exists on surface areas to the north west of the GAR grid, in the GAP grid and in several areas at depth within veins, and within calcareous units.

2. INTRODUCTION

2.1 General

This report is a review of the exploration activities up to the drilling and the drilling programmes themselves. The work has comprised geological mapping, geochemical sampling, geophysical surveys and literature searches followed by the drilling of the areas of greatest interest. Results of the drilling programmes are summarised in tables.

2.2 Location

The area is located in North-West Tasmania, 140 km south west of Burnie, to the east of, and adjacent to the Renison Mine (Sn) and 7 km to the west of Rosebery (Zn, Pb, Ag). The area is bordered by the Pieman River to the north, the Ring River to the west and cutting through the centre, and to the east by the Exe River.

The elevation ranges from 125 metres to 525 metres above sea level, with variably rugged terrain. Rain forest of myrtle, horizontal and also eucalypt, covers most of the area, with lesser swampy areas, on glacial till, covered by peaty swamps with button grass, sword grass and bauera. The rivers (Pieman, Ring and Exe) and main creeks (Colebrook, Moose) are permanent with deeply incised courses.

2.3 Access and Infrastructure

The Murchison Highway crosses the lease east-west with four wheel drive access tracks, mostly all weather, leading off to the north and south. The Emu Bay Railway runs above the southern side of the gorge of the Pieman River east-west across the lease.

Two 44 000 volt power lines adjacent to the highway supply power to the Renison Mine. Further south underground cables provide telecommunications to Renison.

Accommodation, an office, core and sample processing with storage facilities are established at Zeehan.

2.4 Exploration Objectives

The exploration work has been directed towards the following targets:-

- a) stratabound replacement orebodies with calcareous/ carbonate horizons of the Crimson Creek Formation or the Success Creek Group
- b) fault controlled orebodies of Bassett Federal lode type, either as an extension of Renison itself (ie Bassett Federal fault) or another separate system.
- c) vein style (quartz stockwork) tin mineralisation, and,
- d) vein style base metal mineralisation with associated tin.

3. WORK COMPLETED

3.1 Grid Lines and Access Tracks

Approximately 127 km of grid lines have been cut by contractors and Comstaff field crews. Details of gridding are summarised as follows:-

Area	No of Lines	Bearing (Mag ^o)	Total Length (km)	Ranges of E N Grid Co-ordinates N - S W - E		
X Prop Mine Area	4	90	3.02	1452 4000	- -	1960N 5100E
Gar Nth & Sth	29	78	30.27	5300 5700	- -	3600N 4200E
GAT(includ infil lines)	23	78	81.32	5360 6800 2100	- - -	3740N 4900E 3400E
GAP(includ W bound & GAR Sth ext infil lines)	38	90	62.15	4000 2700 600	- - -	1000E 6100E 00E
Total kms			126.76			

The grid line spacings varied from between 60 metres to 240 metres at either 78^o or 90 magnetic bearing.

Several kilometres of access tracks and drill tracks have been bulldozed in and cross all the above grids, but are not always accessible to four wheel drive vehicles.

3.2 Surveying

Control grid lines, tie lines, major roads and drill collars were surveyed in by theodolite by contract surveyors, Peacock, Darcy and Anderson, and also by R Reid. These accurately surveyed points were used as control points for the plotting of grid lines.

Grid lines, minor tracks and major rivers and creeks were tape and compass surveyed and flagged at 20 metre intervals and some areas with 10 metre spacings. Three lines of the GAP grid have been surveyed in at a horizontally corrected spacing of 20 metres.

Locations of trenches, costeans, adits and shafts were tied in by tape and compass as were the dimensions and attitudes of the old workings.

3.3 Geochemical Surveys

Soil samples were collected at the surveyed 20 metre stations and occasionally at 10 metres, if warranted, along the grid lines. In the GAP grid, A^o samples were taken at every station, the samples were dried, sieved to -80# and submitted, part to Geochemical and Mineralogical Laboratories and part to Analabs, for analysis. Analysis was for copper, lead, zinc, nickel and selected Hg and Mn by AAS and tin by XRF. Details are recorded in the Interim Report of Renison East by G F Pigott (1978).

From Line 3200N northwards in the GAP grid, C horizon samples were collected, using a hand screw auger.

The GAR, GAT, X-Proprietary and western GAP infill lines were sampled by auger at the C horizon (except where glacial till covers bedrock) and along with the GAP C horizon samples, were submitted to Analabs after drying and -80# sieving. They were analysed for copper, lead, zinc, nickel and arsenic by AAS and tin and occasionally tungsten by XRF.

Approximately 5450 soil samples have been collected and analysed.

Costeans and adits were channel sampled along sides and walls. Chip and grab samples were collected from outcrops and submitted for analysis.

3.4 Geophysical Surveys

All grid lines have been surveyed with a proton precession magnetometer. In mid 1982 the results of a government sponsored aeromagnetic survey of the Tasmanian west coast became available. All of Comstaff's ground including the East Renison block was flown at a nominal height of 135 metres above the ground and a line spacing of 500 metres.

Approximately 23.0 km of Crone EM survey was carried out on part of the GAP grid. 16.1 line km of self potential surveys were also completed on the GAP grid. Also IP and resistivity surveys were completed on most of the GAP grid.

Experimental individual lines of Crone EM and SP were tried on the GAT but were not drawn into full surveys.

Mise a la masse (Applied Potential) drill hole surveys were carried out on the following holes:-

RBE 3, 5, 7, 10A, 11, 12, 14, 16, 17, 18, 19 by
Geoterrex and

RBE D1 and 2 by Scintrex.

A downhole Sirotek survey was carried out on RBE 28 at two different 120 x 120 metre loop positions by Geoex.

Magnetic susceptibility has been measured on drill core of the following holes:-

RBE D1, 44, 45, 27, 26, 28, 43, 29, 21, 33, 46.

3.5 Geological Mapping

All grid lines, tracks, surveyed rivers and creeks and the Emu Bay Railway were all geologically mapped. Interpretation was commonly based on rock chip and float and even soil as outcrops are confined mostly to the water courses and road cuttings. Costeans were excavated in the GAP grid and near the Exe River and were mapped in detail. Most of the old adits and trenches have been entered and mapped where possible.

3.6 Photogeological Survey

A photogeological study of 1:13 000 scale colour aerial photographs was undertaken in December 1981. The study incorporated an aerial survey and ground checks, then digitising of information on computer. The emphasis of the exercise was on establishing faulting and major structural features. The results of this study are included in the Stage Report by S R Yardley on GAR Fentons, 1982.

3.7 Diamond Drilling

Drilling on the East Renison block began in November, 1978 and apart from the period November 1979 to May 1980 and various extended Christmas breaks drilling has been continuous up to the present date. From August 1982, two drill rigs were operating, with one of the rigs on double shift on the deep drilling projects. Up to January forty-seven holes have been completed and the 48th hole is nearing completion. Drilling on an annual basis is listed below:-

<u>Hole No</u>	<u>Year</u>	<u>Metres</u>
RBE 3 - 5	1979	307.0
7 - 19	1980	3893.6
20 - 32	1981	5153.4
35 - 46	1982	4440.5
RBE D1 D2	1982	2036.5

Several areas of continuing interest and target potential were established, where numerous holes were drilled, the main areas are summarised below:-

<u>Area</u>	<u>Hole Nos</u>	<u>Metres Drilled</u>	<u>Target (s)</u>
GAR Fentons	3,5,7 to 21	4 800.8	Vein style base metal prospect, with minor tin, targeted at mean sea level and 60m drill interval.
GAR Fentons	22,23,24	1 477.2	The base metal veins targeted at - 100 metres RL.
GAR Fentons	30,31,34-37	1 185.0	The Salmon's vein base metal vein targeted approx at +100 metres RL
GAR South	26,27,28	1 257.7	Southern contin. of the Fenton's mineralisation targeted at mean sea level.

Pieman Tin Zone	25, 32, 33, 38-42 X1	2.802.2	Vein style, fault related? tin prospect and northern contin. of Fenton's, targeted at various RL's (commonly MSL)
Exe River X Proprietary Mine	1, 13, 29	730.7	Quartz/sulphide stockwork/vein system with tin, previously mined by prospectors
GAR Sth Extn Northern GAP	2, 43, 44	1 246.9	Southern continuation of the Fenton's struct. with associated anomalies plus tin
Northern GAP	4	94.0	Tin positive indicators for Renison style mineralisation
Centre GAP	6	125.7	Positive geophysical anomalies under glacial cover.
Western GAP/ GAT	45	334.0	Strong magnetic anomaly/ partly stratigraphic
Western GAP	RBE D1	1 098.6	Stratigraphic information possibly Federal Bassett Fault at depth.
Exe River	RBE D2	938.5	Stratigraphic information depth extension of the Exe River mineralisation
Pieman Tin Zone	RBE 46/46D		Stratigraphic information depth extension of the Pieman Tin Vein.

Drill core was sampled by grinding and split core methods and analysed for:- lead, silver, zinc, copper, arsenic and nickel by AAS and tin and occasionally tungsten by XRF with selected zones of some holes for gold and molybdenum by AAS.

All holes were, or are in the process of being, geologically logged in detail, with selected units being examined by a petrologist, chiefly Central Mineralogical Services and Pontifex. Petrology specimens are studied mostly using thin section microscopy with minor polished section work.

4. RESULTS

4.1 Geochemical Results

4.1.1 General

Detailed analysis and description of A⁰ results from the GAP grid are presented in the Interim Report on Renison East (GAP) by G F Pigott, 1978. Results on the GAP grid indicate that anomalous zones in the C horizon and the A⁰ horizon were commonly co-incident. Samples taken over glacial cover were not indicative of bedrock geochemistry.

Results of the C horizon sampling in the northern grids point to the Fenton's structure as being distinct as a mineralised zone. The highest anomalous values are generally indicative of the best grades in the ground by its narrow linear nature. The narrow, linear nature of the soil geochemistry suggests a vein style of mineralisation.

4.1.2 Tin

Generally, values for most of the area are low, therefore anomalous zones stand out strongly against background. Contamination occurs in the Ring River as sludge from Renison tailings dams and from creeks draining the mine area. Contamination has exaggerated anomalous zones around the X Proprietary workings and the Exe Gorge workings. A weak anomalous trend, starting against the western boundary near Line 2600N and striking north-north east along the western edge of the ultramafic body. The trend continues on past the ultramafic through the Stockwork Hill area, combining with the talc carbonate structure, north to the Emu Bay Railway and the Exe Gorge workings.

Values appear to increase along the lineament going further north (<200 ppm Sn at the western boundary; <300 ppm Sn at Stockwork Hill; <400 ppm Sn at GAR Sth and up to 4200 ppm Sn near the Emu Bay Railway). Gossan geochemical values also confirm the anomalous zone.

Another trend occurs in the Exe River area, around the X Proprietary Mine and workings, and trending northwards. It is unclear whether the anomalies disappear underneath the glacial cover north of the Murchison Highway or swing to the north-north west and up into the Exe Gorge area.

The tin geochemistry generally reflects the vein nature of the mineralisation. Important tin prospective areas near the Pieman River are mostly covered by glacial till.

4.1.3 Copper

Basic igneous rocks and their derived sediments (ie the Crimson Creek basic tuffs) all exhibit high background copper geochemistry, possibly masking anomalous zones within these units. However along the Fenton's structure the vein system is visible as several higher value patches along the trend.

4.1.4 Zinc

Basic derived sediments and the ultramafic complexes have high background zinc geochemistry, again possibly masking zinc soil responses due to mineralisation in the GAT, western GAP and northern GAR grids. A large zinc anomaly directly south of the Murchison Highway is due to the spreading of Fenton's gossan across the area when the highway was constructed. Fenton's structure stands out with a series of high value patches, co-incident with other metals.

4.1.5 Lead

Lead values indicate low background levels in most units sampled on the grids. Anomalous values stand out along the Fenton's structure from the western lease boundary in GAP at Line 2600N through the Stockwork Hill area where galena in vein carbonate is present.

It continues through the GAR South grid with a broad anomalous zone directly south of the Murchison Highway probably there has been some spreading of gossanous material as is evident with the zinc values. Strong anomalies are found in the GAR Fenton's area south of the Emu Bay Railway.

4.1.6 Arsenic

The arsenic soil values commonly duplicate the results of the tin soil values. This can be explained by the intimate association of cassiterite and arsenopyrite evident in the Fenton's area, the Exe River area and also at Renison. Arsenic soil anomalies are present along the whole length of the Fenton's structure.

4.1.7 Nickel

Anomalous nickel values are restricted to over ultramafic bodies. Values of greater than 1000 ppm are common over ultramafics, several hundred ppm values are found over the talc carbonate and elsewhere readings are generally less than 100 ppm.

4.2 Geophysical Surveys

4.2.1 General

Due to the nature of the target being sought in the East Renison block, ie pyrrhotite associated tin mineralisation, the most effective geophysical tools are magnetics, electrical and electromagnetic methods. Ground magnetics, SP, IP and EM were employed on most of the GAP grid. However, in the northern grids EM and IP were not used, apart from test lines because of anticipated problems from graphitic shales and high voltage power lines crossing the grids. Ground magnetic surveys were swamped close to the ultramafic bodies due to their high magnetite content, providing a useful tool in locating ultramafics but masking targets in close proximity. Interpretation of geophysical surveys of the GAP grid are included in the Interim Report on East Renison (GAP) by G F Pigott, 1978.

4.2.2 Ground Magnetics

Plans Tas/2/3000, 3001 and 3002 show contoured ground magnetic data over all of the East Renison Block, south of the Pieman River.

Plans TAS/2/2798, 2799 and 2800 show ground magnetic trends and anomalies. Results from the GAP grid are described in the attached Interim Report, 1978, by D B Trussell. The data from the GAR grid is interpreted by G O Dickson and summarised by D B Trussell in the Stage Report on GAR Fenton's by S R Yardley, 1982.

Interpretation of ground magnetic data on the GAT and northern GAP grids by G O Dickson, 1982, indicate that there are three anomalous zones. All three zones are due to formational magnetite. This has been verified by diamond drilling. An important feature of the GAT/GAP ground magnetic data is the identification of faults, which may provide a host for mineralisation. Several faults have been established, the most important being the east-west Mawson Fault, which has a significant downthrow to the south. The report by G O Dickson is attached.

The data from the aeromagnetic survey of the west coast of Tasmania over the East Renison block duplicates the ground data in contoured trends, shapes and anomaly size although in less detail. The data is useful however, in outlining features adjacent to the Comstaff lease such as the Renison ore body, the Federal Bassett Fault and the Colebrook Ultramafic body. An interesting feature within the Serpentine Hill Ultramafic Complex in EL 5/63 is the apparent break in the data co-incident with the location of the Bassett Federal Fault. The break would appear to be attributable to post Cambrian movement along the fault, and the absence of the same break in the data over the sediments to the east of the ultramafics suggests that the fault terminates against the ultramafic body.

4.2.3 Mise a la Masse (Applied Potential)

Results from the Applied Potential survey carried out at the end of 1982, start of 1983, on drill holes RBE D1 (at 420m and 855m) and RBE D2 (595m) have not yet been received for interpretation by D B Trussell. However, preliminary (field) results indicate that the sulphide intersections tested in each drill hole, each have considerable strike length, each are conformable to the bedding in strike and dip, and each represent the fairly extensive replacement of suitable host rocks.

The results of the surveys are summarised below:-

Electrode Location	Conductor Strike Length	Strike	Dip	Comments/Conductor
RBE D1 420m	500m (nth of drill hole)	N-S	70° E	Coincident with IP anomaly (D B Trussell 1978), semi massive replacement style pyrrhotite.
RBE D1 855m	800-1 000m (nth of drill hole)	NNW	60° E	Surface expression west of EL 5/63 but actual conductor within lease, sulphide zone within skarn.
RBE D2 595m	600-800m (nth of drill hole)	N-S	90°	patchy metasomatic style pyrrhotite.

A report on the Applied Potential will be available after the data is received by D B Trussell from Scintrex.

Results of previous Applied Potential surveys on the GAR Fenton's drilling are attached to the Stage Report on GAR Fenton's by S R Yardley 1982.

4.2.4 Downhole EM Survey

On January 21 and 22, 1982, a Sirotem downhole survey was completed on RBE 28 by Geoex. Two loops were surveyed and the results were commented on by D B Trussell (see attached). The results were usually accounted for by sulphide intersections in the drill hole.

4.2.5 Magnetic Susceptibility

Magnetic susceptibility has so far been used on drill holes as a tool for confirming/locating sources of magnetic trends/anomalies indicated by ground magnetometer surveys. The readings were useful in establishing magnetite content of magnetic formations such as the talc carbonate at Fenton's and tuffaceous sandstones on the GAT grid.

4.3 Geological Mapping

4.3.1 General

The rocks of East Renison can be classified into the following units:-

Crimson Creek Formation - a turbiditic sequence of basic to intermediate tuffaceous sandstones, greywackes, siltstones, basalts, shales and carbonates.

Basalt/Ultramafic Complexes - an ophiolitic sequence?

Dundas Group - a sequence of conglomerate, intermediate to acid tuffs and sandstones and shales and siltstones.

All are Cambrian in age, ranging from Lower to Upper Cambrian respectively.

The units were deposited/emplaced within the Dundas Trough between the Tyennan and Rocky Cape Nuclei. The trough was initially filled by the Success Creek Group, a sequence of quartzose sandstones, shales and carbonates. The next unit was the Crimson Creek Formation, followed by the extrusion/emplacement of the basalt/ultramafic complexes and lastly the infilling of the trough by the Dundas Group.

4.3.2 Lithologies

Success Creek

The Success Creek Group consists of quartzose sandstones, micaceous quartzites, siltstones, shales and three significant carbonate horizons. The units Upper Proterozoic to Lower Cambrian in age are exposed in the Renison mine area but are cut off to the east by the Bassett Federal Fault, and are not exposed on the East Renison block, although there is a possibility of the units occurring at depth along the western boundary in the GAT grid.

Crimson Creek Formation

The units of the Crimson Creek Formation are lower to mid Cambrian in age, and form the majority of rocks outcropping in the northern and western grids. Field mapping and drill hole data has enabled the formulation of the probable sequence of the formation (see table). Units are predominantly basic to intermediate tuffaceous sandstones, greywackes, siltstones, shales, minor cherty sediments and occasional calcareous pelites. The units at the base are predominantly red/purple and green, with a high haematite and common detrital magnetite content. Further up the sequence (to the east) units are mostly grey. Small scale bedding features such as grading, flames and scours are visible. Slumping and other soft sediment deformation are commonly seen in the top part of the Crimson Creek Formation where there appear to be more shales and calcareous units, although calc pelites are found in the lower parts of the formation.

Basaltic Unit

Basalts, gabbros and altered gabbros (granophyres) are found on the GAP grid from the south-western corner and strike east of north to the PMG road. Where they are hornfelsed in the south the basalts are typically indurated, dark green and finely crystalline. Elsewhere the units are deeply weathered to red-brown clay.

Ultramafic Complexes

There are three large ultramafic bodies in or near the East Renison block, the main body is part of the Serpentine Hill Complex, also there is the Colebrook Hill Serpentinite and the Pieman Ultramafics.

In the western area of the GAP grid, a sequence of layered serpentinitised ultramafics intrude within the basaltic unit. The rock types include serpentinitised dunites, harzburgites, pyroxenites, feldspathic pyroxenites and microgabbros. The rocks vary from massive, to layered and highly foliated. Commonly the rocks have been altered to dark green or apple green serpentinite.

Along the eastern boundary but predominantly outside the lease, is the Colebrook Hill Serpentinite comprising mainly of apple green serpentinized pyroxenite with inclusions of country rock and lies along a series of shear zones trending north/south. Several large gabbroic dykes intrude from the main body west into the country rocks.

A large ultramafic is emplaced north of the Pieman River, a possible continuation of the Serpentine Hill Complex. The southern limit of the body has faulted contacts in the GAR grid, a series of splinters and dykes of predominantly dark green serpentinized ultramafics.

The Serpentine Hill and the Pieman Ultramafics are connected by a relatively narrow (up to 60 metres wide) re-emplaced ultramafic which has been altered to talc carbonate. The talc carbonate has infilled a major fracture zone. Fenton's Structure and the alteration also occurs along the contacts of the ultramafics in the north and the south.

Dundas Group

The rocks of the Dundas Group are assigned to the Upper Cambrian. Units at the base of the group commence with a conglomerate containing mafic, ultramafic, chert and sediment clasts, with sediment/basalt matrix. These overlie the basalts with a transition zone to the south of GAP, north of the Colebrook Creek they overlie a calc pelite unit. The conglomerate also includes lenses of quartzite, lithicwacke and greywacke. The colour is variably purple, red and green. The unit is not found north of the PMG Road until the north side of the Pieman River.

Overlying the conglomerate is a monotonous sequence of siltstones, sandstones and intermediate and acid tuffaceous sandstones and weakly conglomeratic greywacke. The rocks are well exposed in the Exe River area near the Murchison Highway.

It appears that most of the rocks of the central and eastern GAP grid belong to this unit, and are part of the Huskisson Group - a correlate of the Dundas Group.

A fault contact in the south-eastern corner of the GAP grid has brought into the lease rocks of the upper part of the Dundas Group. These include black shales, acid tuffs and greywackes.

Acid Intrusive Rocks

On the western boundary, on the tie line 1040m in the GAP grid, there is outcrop?/float of a quartz/tourmaline rock, believed to be a replaced granitic intrusive dyke along a fault plane, on strike from the Pine Hill Ademellite. A dyke like body of altered microgranodiorite was mapped in Wilbur Creek, also along a fault plane.

The belief that most of the area was underlain by a basement of granite was verified by intersections in deep drill holes of porphyritic microgranite. The granite appears to similar to that underneath the Renison Mine.

A large proportion of the East Renison block lies within the aureole of the granitic intrusions. Albite/epidote and biotite hornfels and the presence of actinolite/tremolite/epidote/chlorite/tourmaline and axinite in the rocks implies a granitic stock underlying most of the area.

4.3.3 Structure

General

The general geology of the region around the East Renison block has been mapped and recently described by government geologist A V Brown (in print). A simple large scale picture is evident but is confused by moderate and small scale features, due to the degree of folding and faulting and the incompleteness of data. The dominant structures are the Renison Bell Anticline to the west, and the Huskisson Syncline to the north and east. Several largethrow block faults are present in the area. It appears that the junction point of the fold structures occurs within the East Renison block.

Folding

The Huskisson Syncline, a clear feature north of the Pieman River loses its definition south of the river. Most of the northern grids contain east facing and dipping sediments, with only minor open folding and rare tight recumbent folds are seen in the Crimson Creek sediments. The axis of the Syncline may lie to the east, although occasional west facing sediment can be found near the Exe River, these vary due to the above mentioned recumbent folds.

To the south and east in the Dundas Group sediments, a series of tight synclines and anticlines are evident. The folds strike northerly and plunge mostly to the south, although a dome structure has been mapped on the Ring River Road.

The Renison Bell Anticline is a later feature than the Huskisson Syncline and appears to have been pushed into the western limb of the syncline. The anticline itself is not evident in the lease but its influence can be seen by the resulting folding and faulting patterns in the southern GAP grid.

Faulting

Block faulting appears to be very common in the East Renison area. Fault traces have been geologically mapped, others have been located by magnetics and photogeology, and confirmed by geology and in drill core.

The major faulting trends are; north-west/south-east, north-south and east-west. The north-west/south-east trend includes the Bassett Federal Fault which although it has not been mapped in Comstaff ground is significant in that it hosts the Renison Mine. The fault has a downthrow to the east of approximately 1 000 metres. The major north-south trending faults (including east and west of north) include the Fenton's Structure, the Ring Fault, the Cole-Ring Fault and the Colebrook Fault. These faults, all? uplifted to the east cause the repetition of units across the GAR grid. These faults change their strike direction from east of north in the south to west of north in the north.

East-west trending faults are mapped in the south GAR area, the major fault being the Mawson Fault which appears to be downthrown to the south approximately 700 metres.

4.3.4 Geological History

The major geological events which have acted upon the East Renison block are summarised below:-

Late Proterozoic to Early Cambrian

At the end of the Proterozoic to the start of the Cambrian, near-shore sediments were being deposited. These units were sands, silts and carbonates of the Success Creek Group. A rapidly subsiding trough was developing at the same time, with fault controlled margins. Along these margins, basic and intermediate lavas were extruded, and erosion of these volcanic units provided the source of the Early Cambrian tuffaceous sandstones and greywackes.

Early to Mid Cambrian

The deposition of basic derived sandstones and greywackes continued although the units appear to grade up the sequence to finer units, indicating turbiditic units. Moving up the time scale, the trough either became more stable or the source volcanism decreased as did the uplift of the source area. After this basalts were extruded into the trough and subjected to erosion. Also at this time there was emplacement of ultramafic bodies, derived either from oceanic crust (ophiolite) or the mafic remains of the magma chamber of the intermediate lavas. Detritus from the igneous units was deposited, slumping into submarine fans, the detritus remaining coarse and pebble, consolidating as conglomerate.

Mid to Late Cambrian

During this time, Dundas Group sandstones, siltstones, shales and tuffs formed, with material coming from the Mt Read Volcanic arc, supplying intermediate and acid volcanic derived detritus, into various restricted basins.

Mid Devonian

The Tabberabberan Orogeny of the mid Devonian involved folding and faulting and later the intrusion of granitic stocks. From the granite came the tin and base metal fluids using the associated faults as conduits.

Post Devonian

During the Jurassic, dykes of gabbro/dolerite were intruded into areas around the East Renison block.

During the Pleistocene glacial till was deposited over most of the area. Since then erosion and drainage has removed glacial till and formed the present drainage system.

4.4 Diamond Drilling

4.4.1 General

Drilling on the East Renison block is divided into several areas, each with separate targets or target zones. Economic mineralisation in the East Renison is related to the granitic intrusions of the area. Tin and base metal mineralisation is associated with quartz/carbonate veins emanating from the upwelling granitic stocks, and has penetrated along fractures and faults and in some cases has been soaked up by receptive rock units, especially calcareous units. A paragenesis has been established which shows that tin mineralisation is associated with quartz/arsenopyrite/pyrrhotite with chalcopyrite/pyrite. The next phase was the base metal mineralisation with quartz/carbonate veins. Later minor veins of quartz/calcite and fluorite occur followed by a late barren quartz vein phase. (see Appendix 1)

The significant tin and base metal intersections of all drill holes have been summarised in Appendix 1.

Syngenetic disseminated sulphides are common in the shales and carbonates, and remobilisation of these sulphides into fractures and suitable horizons has also occurred.

4.4.2 GAR Fenton's

The major percentage of drilling in the East Renison lease has been carried out on the GAR Fenton's area. The most significant geochemical anomalies are found over the Fenton's area and several adits and trenches have been worked by old time prospectors.

The drilling at GAR Fenton's has been directed towards establishing the tonnage reserves of primarily the silver-lead-zinc vein mineralisation. The initial intersection was in RBE 3, and further holes 5, 7, 8 and 9 were drilled to establish the style and attitude of the veins. The drilling established that there were several veins of different mineralogy, the silver-lead-zinc sulphides were with quartz/carbonate veins to the west of the talc-carbonate, and cutting through the talc-carbonate further south. Tin mineralisation was with quartz and quartz/arsenopyrite/pyrrhotite to the east of the silver lead zinc vein. Several smaller and lower grade veins with pyrrhotite and/or base metal sulphides are also intersected along the length of the talc carbonate. The veins are named as follows:-

<u>NAME</u>	<u>SULPHIDE ASSOCIATION</u>
Salmon's	silver, lead, zinc
Copper	pyrrhotite
Tin	pyrrhotite/cassiterite
Western	silver, lead, zinc
Gossan vein	mixed pyrrhotite/silver, lead, zinc
Fenton's vein	pyrrhotite

The veins have been projected to mean sea level on plan TAS/2/2803.

Drilling continued from hole RBE 10 to RBE 21 targeted at the mean sea level intersection of the veins, on a planned spacing of 60 metres along strike to the south. A base metal zone of 230-300 metres in strike length was established between holes RBE 5 and RBE 14. The vein system occupies a dilated breccia zone.

The next stage was a program of three deeper holes RBE 22, 23 and 24 drilled at 45° and to the east, and designed to intersect the vein system at 150 metres below sea level.

The vein systems were intersected, however without grade values.

Recently in 1982 a 100 metres above sea level drilling program RBE 30, 31, 34, 35, 36 and 37 was completed. The vein systems were intersected, with grade values of base metals in holes above the mean sea level grade holes, but generally results were poorer than the mean sea level results.

A metallurgical report on high grade silver, lead zinc mineralisation from holes RBE 5 and 10A was prepared by Amdel. The report studied the mineralogy of the ore and the potential recovery percentages. The results are summarised in the Stage Report on GAR Fenton's by S R Yardley, 1982.

A preliminary statement on the indicated resources at the GAR Fenton's prospect, has been issued by Dr I G P Wilding, see Appendix 2.

4.4.3 Pieman Tin Zone

Several isolated holes in the GAR Fenton's structure intersected tin grades exceeding 1%. However from the results of drill holes RBE 8, 11 and 25, a program was established to delineate a tin zone to the south of the Pieman River. Holes RBE 25, 33, 38, 39, 40 and 42 were drilled to intersect the target at mean sea level. Holes 25, 33 and 38 were successful in intersecting economic grade tin mineralisation being cassiterite within quartz and quartz/arsenopyrite/pyrrhotite veins. In RBE 33, the tin values were in a silicified fault zone similar to Renison.

Holes 11, RBE 8 and 41 intersected the tin vein at approximately 100 metres above sea level. RBE 32 intersected the tin vein at 150 metres below sea level. Results are listed in Appendix 1. Hole RBE 46 was targeted at 300 metres below sea level. Results are unavailable and the geology is discussed under deep drilling below.

Results from drill holes RBE 39, 40 and 42 indicate that the Pieman Tin Zone terminates against the southern edge of the Pieman ultramafics.

However, there is evidence that the Tin Vein bifurcated in RBE 38, with two tin intersections and the mineralisation has swung to the north-west, and thus was not intersected by the northern holes which were designed to hit the expected northern trend.

A preliminary statement of indicated resources on the Pieman Tin Zone was also issued with the GAR Fenton's statement.

4.4.4 Exe River Area

Holes RBE 1, 13, 29 and RBE D2 were drilled in the Exe River area, to intersect tin bearing quartz/sulphide veins. The area had previously been worked by a small syndicate in several small shafts, adits and trenches, collectively called the X Proprietary Mine. The area gave strong tin geochemical anomalies, and the vein mineralisation has similarities to certain phases occurring at the Renison Mine.

The holes intersected a very open stockwork zone of quartz/tourmaline/arsenopyrite/chalcopyrite/minor cassiterite in narrow veins usually less than 10 centimetres. Best grades in the veins were up to 0.3% Sn but mostly averaged 300 ppm Sn.

The sediments through which the holes were drilled, were medium grained sandstones, weakly conglomeratic in part and siltstones have undergone hornfelsing, and were porous and have sulphides disseminated through the beds, although little tin is present.

Hole RBE D2 intersected the mineralising structure at depth and although it contained tourmalinized granitic dykes little tin was present. The area appears to have little potential left for finding economic mineralisation except in the areas to the north of DDH RBE 29.

4.4.5 Miscellaneous

GAR South

Diamond drill holes RBE 26, 27 and 28 were drilled to locate the southern extension of the Fenton's Structure. Geophysics, geochemistry and field mapping implied the continuation of the vein system.

Drilling intersected the talc carbonate and several quartz carbonate veins with minor base metal and tin values. RBE 27 also contained a calc pelite horizon which contained up to 15% pyrrhotite and enhanced but subeconomic tin values.

GAR South Extension/Northern GAP

Mapping in the area found gossanous talc carbonate on the northern end of the Serpentine Hill Complex in intimately mixed gabbros and ultramafic. Quartz stockwork was prevalent in the gabbro and had a coincident tin geochemical anomaly. Vein carbonate with galena was exposed along the western contact in rubble. Indications were that it was the southern extension of the Fenton's mineralisation.

Drill holes RBE 2, 43 and 44 were drilled and intersected the Serpentine Hill Complex. In RBE 2 the highest base metal and tin values occur in the carbonated and carbonate veined sections of the gabbro. There is also enhancement of tin values in the calcareous sediments on the western side of the ultramafics. The mineralisation appears to be associated with hydrothermal alteration along the fault contact.

RBE 43 was drilled into the same sequences as RBE 2, to the north of an east-west fault. The most significant intersection was a zinc mineralised fault breccia zone - the Colebrook fault. RBE 44 was collared further north to investigate a gossan zone with over 4% Pb and 0.2% Sn. Veins intersected next to a talc carbonate zone did not carry these grades.

Northern GAP

RBE 4 was collared on Line 3600N to intersect a hydrothermally altered zone of a style believed to be similar to Renison. The host rock was conglomerate with a partly calcareous matrix. The hole intersected some weakly anomalous zones with base metal values but very low tin values.

Centre GAP

RBE 6 was drilled on Line 2600N and was to investigate the cause of the Pulse EM anomaly with coincident IP anomaly.

The hole intersected a sequence of pyritic and carbonaceous mudstones. No significant results were achieved.

Western GAP/GAT

RBE 45 was drilled in the western GAT grid to investigate the source of a strong north striking magnetic anomaly. The hole intersected tuffaceous sandstones, greywackes and siltstones with detrital magnetite. Further down the hole, a unit of calc pelites was intersected. There were no values of interest in the hole.

4.4.6 Deep Drilling

In 1982, part of the exploration program on the East Renison block was directed towards establishing stratigraphic targets. Several areas of interest at depth were recognised and a listing of proposals was prepared. The holes drilled covered an economic target in each case, as well as the gaining of important stratigraphic information.

RBE D1 - Western GAT/GAP

The initial deep drill hole was drilled on the western side of the lease, and was designed to investigate the possibility of Success Creek Group sediments occurring in Comstaff's lease at depth. The hole was also to find out whether or not the Bassett Federal Fault dipped into the lease at a depth around 1 000 metres below the surface.

The hole was drilled south west at an inclination of 85°. The hole maintained its inclination but swung around to the west. The hole did not intersect the Bassett Federal Fault at depth. At 912.15 metres the hole entered a porphyritic microgranite with common tourmaline veining and clay sericite alteration.

All the sediments intersected in the hole belonged to the Crimson Creek Formation. Several calcareous zones were entered, which had undergone metasomatic replacement.

At 422.6 to 427.3 metres a calcareous unit contained semi-massive to massive replacement and then to vein style pyrrhotite, with minor chalcopryite and axinite and other metasomatic minerals. The zone was tin barren and this with the presence of the axinite suggests that the mineralisation belongs to a post tin bearing phase.

A weak skarn zone with minor pyrrhotite was intersected fifty metres above the granite at 854.2 to 864.54 metres. Minor enhancement of tin and tungsten was found in the skarn zone and tin in the tourmaline veins in the granite, up to 0.1% Sn. The hole finished at 1 098 metres

RBE D2 Exe River Area

RBE D2 was designed to intersect the downdip extension of the quartz/sulphide stockwork zone of the X Proprietary Mine, with the possibility of intersecting the main feeder zones, as well as massive bedded sulphides within porous coarse grained units. The hole was also to establish the attitude, alteration and continuation of carbonate horizons of the GAR South drilling at depth.

The hole was collared near the eastern bank of the Exe River, and drilled west on an azimuth of 265° mag and an inclination of 65° . The hole maintained direction and lifted to 50° by the end of the hole at 938.5 metres.

The top of the hole drilled through Huskisson Group siltstones and sandstones. A large gabbro body was intersected at 229.6 metres. Below the gabbro the hole drilled through conglomerate and then basalt, the same units seen further to the west at Stockwork Hill. This would appear to be a small block or splinter pushed several hundred metres to the east.

At 470.0 metres, below the trend of the X Proprietary Mine quartz 'tourmaline/sulphide stockwork zone, several dykes of tourmalinized granite were intersected, but contained little sulphide or tin.

At 540 to 600 metres, the sediments were metasomatically altered and carried up to 15% pyrrhotite in patches and fractures.

A breccia fault zone, part of the Mawson fault, followed by porphyritic microgranite was intersected at 714.4 metres. The hole re-entered hornfelsed sediments at 826.6 metres, with several granite dykes. The hole entered porphyritic microgranite at 857.7 and the hole was terminated at 938.5 metres.

Geochemical results are poor in tin and base metals. The most significant tin result of - 0.1% Sn over 5.1 metres occurs at 289.2 to 294.3 metres, within gabbro and is associated with a quartz/siderite/arsenopyrite/pyrrhotite vein. A 1.0 metre base metal vein was intersected within the granite at 910.7 metres.

RBE 46 / RBE 46D Pieman Tin Zone

RBE 46/46D was designed to intersect the downdip extension of the Tin Vein at 300 metres below sea level, with the possibility of massive sulphide replacement within adjacent calcareous horizons. The hole was also planned to investigate the attitude of the calcareous units and the talc carbonate with its associated veins at depth and closer to the granite.

The hole was collared 40 metres west of the collar of RBE 33, drilled east at an inclination of 65°. The hole is continuing at the present time, the current depth at approximately 1 100 metres. The hole has intersected a sequence of Crimson Creek Formation or Dundas Group sediments, a hydrothermally altered unit of mixed sediments then black shales and then calcareous horizons. The calcareous units do not contain replacement style mineralisation. At 570 metres, in a silicified limestone cut by a very small quartz/arsenopyrite vein was intersected with 600 ppm Sn. The possible down dip continuation of the Tin Vein is represented by an 0.5 metre replacement style arsenopyrite zone at 723 metres.

The downdip continuation of the talc carbonate either does not exist, or is represented by a dark green foliated ultramafic. There is no veining associated with the ultramafic.

The rocks in the bottom half of the hole are hornfelsed siltstones and tuffaceous sandstones with minor shale and gabbro.

5. DISCUSSION AND RECOMMENDATIONS

Most of the East Renison block has been sufficiently covered by grids and further work would mainly involve the drilling of targets.

5.1 Northern GAR Pieman Tin Zone

A drill program will need to be implemented in order to determine if the Tin Vein of the Pieman Tin Zone has altered course to strike to the north west. The bifurcation of the Tin Vein in RBE 38 would suggest that this has occurred. A short hole 60 metres north of RBE 38 drilled to the east would establish if this is the case.

5.2 Western GAP

An area outlined by W H R Ramsay emphasised a prospective area on the western side of the ultramafics near the lease boundary. The area near line 2600N has anomalous base metal and arsenic geochemical values. The mineralisation appears to be within the fault contact of the ultramafics, and it may represent the area where the surface trace of the Bassett Federal Fault may enter Comstaff's lease. A short hole drilled on Line 2600N to the west should investigate the anomalies and the potential of the area alike.

5.3 Northern Exe River

Geochemical trends striking from the Exe River area, appear to trend NNW in a en-echelon fashion to the Fenton's area. However this picture is inconclusive due to the glacial till which covers the eastern side of the Exe River, north of the Murchison highway. The strong tin trends could in fact disappear underneath the glacials. A short hole drilled south of the Rosebery rubbish dump, north of the highway, drilling west would investigate this possibility.

5.4 South Extension GAP

Follow up work should be carried out on the suggestion of G F Pigott in 1978, on the investigation of the possibility of syngenetic sulphides. In the Interim Report on East Renison 1978 Section 8.4 G F Pigott outlines the potential of the area in an acid volcanic environment.

The possibility for Dundas type base metal veins also exists. Provision should also be made for drilling in the area.

5.5 GAR South Deep Drilling

RBE D2 was unable to investigate the calcareous units intersected in RBE (27) at depth, because of the hole did not lift sufficiently before intersecting granite. Because of the sporadic to semi-massive replacement of carbonate by sulphide with enhanced tin values found in RBE 27, a deep hole is needed to investigate the potential of the horizon closer to the granite. A hole along the lines of proposal B submitted previously would suffice the objectives.

5.6 Deep Drilling

The intersections in RBE D1 and RBE 45 and the results of the Applied Potential survey suggest the continuation of metasomatically altered carbonates, northwards into the GAT grid. Because of the inferred uplift (by the Mawson fault) to the north, the possibility of the Success Creek Group occurring at depth in the GAT grid is strengthened. A deep drill hole drilled to the west, east of the Ring River at a steep inclination, would investigate this possibility, and would also gauge the potential of the implied sulphide zone. A hole similar to proposal E previously submitted should resolve the matter.



S R YARDLEY

J D CRIMEEN

6. REFERENCES

1. Pigott, G F - 1978 Interim Report on Renison East
Grid GAP
2. Ramsay, W H R - 1980 Interim Report on Renison East
Grid GAP west
3. Yardley, S R - 1982 Stage Report - GAR Fenton's

L I S T O F P L A N S

<u>Plan No</u>	<u>Description</u>	<u>Scale</u>
TAS/2 '1802	Plan showing location of Renison Grid GAR	1:50 000 ✓
3299	Overlay to TAS/2 '1802 showing major fault and fold traces	1:50 000 ✓
3301	Overlay to TAS/2/1802 showing major geological units	1:50 000 ✓
3302	Overlay to TAS/2/1802 showing interpreted cross sections of TAS/2 '3301	1:50 000 ✓
3300	Overlay to TAS/2/1802 showing further work recommendations - drilling	1:50 000 ✓
3306	Renison Grid GAR - Interpreted geology N Sht	1: 5 000 ✓
3308	Rension Grid GAR - Interpreted geology central sheet	1: 5 000 ✓
3309	Rension Grid GAR - Interpreted geology South Sheet	1: 5 000 ✓
3304	Rension Grid GAR - geological cross section about 5372000mN	1: 5 000 ✓
3100	Plan of ground magnetic anomalies N Sheet GAR grid	1: 5 000 ✓
3101	Plan of ground magnetic anomalies S Sheet GAR grid	1: 5 000 ✓
3367	Renison Grid GAR - geochemical grid auger results N Sheet - Copper	1: 5 000 ✓
3368	Rension Grid GAR - geochemical grid auger results Central Sheet - Copper	1: 5 000 ✓
3369	Rension Grid GAR - geochemical grid auger results N Sheet - Lead	1: 5 000 ✓
3370	Rension Grid GAR - geochemical grid auger results Central Sheet - Lead	1: 5 000 ✓
3371	Rension Grid GAR - geochemical grid auger results N Sheet - Zinc	1: 5 000 ✓
3372	Rension Grid GAR - geochemical grid auger results Central Sheet - Zinc	1: 5 000 ✓
3373	Rension Grid GAR - geochemical grid auger results N Sheet - Arsenic	1: 5 000 ✓
3374	Rension Grid GAR - geochemical grid auger results Central Sheet - Arsenic	1: 5 000 ✓
3375	Rension Grid GAR - geochemical grid auger results N Sheet - Nickel	1: 5 000 ✓
3376	Rension Grid GAR - geochemical grid auger results Central Sheet - Nickel	1: 5 000 ✓
3377	Rension Grid GAR - geochemical grid auger results N Sheet - Tin	1: 5 000 ✓

TAS/2/3378	Renison Grid GAR - geochemical grid auger results Central Sheet - Tin	1: 5 000 ✓
3379	Renison Grid GAR - geochemical grid auger results Central Sheet - Tungsten	1: 5 000 ✓

565036

A P P E N D I X 1

565037

G.O. DICKSON & ASSOCIATES PTY. LTD.

110 AUBURN ROAD,

HAWTHORN. 3122

Telephone: 818 7290 or 818 1782



INTERPRETATION OF GROUND MAGNETIC

DATA

ON THE

T
GAR AND GAP GRIDS OF EL5/63.

Prepared for:

Comstaff Proprietary Ltd.

BY:

G. O. Dickson & Associates Pty. Ltd.

June 17, 1982.

1.0 INTRODUCTION:

G. O. Dickson and Associates Pty. Ltd. were requested by Mr. John Crimeen of Comstaff Proprietary Ltd. to interpret ground magnetic data collected on the GAR and GAP grids on EL 5/63 in North Western Tasmania.

We received our briefing from Mr. Crimeen, along with two geological plans, two base plans plus 32 lines of profile ground magnetic data, all at a scale of 1 : 5000. The lines included in this survey are shown in appendix A; this is an extract from Mr. Crimeen's letter.

We were advised that a deep drilling program is under consideration in this area and hence that deep seated structures and faults are of major interest.

2.0 SUMMARY:

The data available to us in this exercise is set out in the introduction; our comments are therefore restricted to those data and their possible effect on the Comstaff program.

2.1 For the most part the anomalies appear to have formational sources. We believe the source of the anomaly labelled A will be found in magnetic units within the shales. Again the source of the anomalies appears to be shallow and in favourable circumstances, should be field identifiable.

- 2.2 We strongly recommend that susceptibility measurements be made on fresh shales in the western section of the GAR grid. The unit is likely layered and a traverse, or several, will be required.
- 2.3 We note a strong ENE fault through the GAP grid. We suggest that this is a major fault with a throw of hundreds of metres.
- 2.4 We conclude that as the magnetic anomalies appear to be largely formational, these data do not lend strong support to a deep drilling program.

3.0 DISCUSSION

3.1 General:

The data proved to be fairly difficult to handle at a scale of 1 : 5000. The magnetic relief is large, several thousand gammas in less than 100 metres is not uncommon. We have employed standard procedures for handling such data. The data were smoothed and contour cuts were made at 200 gamma intervals, and then transferred to the base plans. Given that smoothing procedures are subjective and the fact that the grid is irregular, some inaccuracies are bound to be present. There is little that can be done about this and we suggest that the profiles be used in any field follow-up program.

3.2 Interpretation:

On the western₀ side of the GAR^T grid is a strong

anomaly that we have labelled A_1 through A_4 . The anomaly extends into the north western section of the GAP grid. The unit may be cut by faults in several places and we have indicated these on the plans.

In the vicinity of A_2 we note that the magnetic strike does not agree with the geological strike, the angle between the two being about 30 - 35 degrees. Because of the obvious interpretational implications such a discrepancy needs to be explained.

Initially we considered that the source of anomaly A_2 may lie in a fault at a low angle to the geological strike; perhaps even a strike slip fault. We no longer believe this to be the case and suggest the source of anomaly A is formational. We note that the anomalies arise in a purple shale which suggests an oxygen poor environment, which in turn would favour the survival of magnetite and in any case, suggests an iron rich environment. The magnetic data strongly suggest that the source is layered and very close to surface.

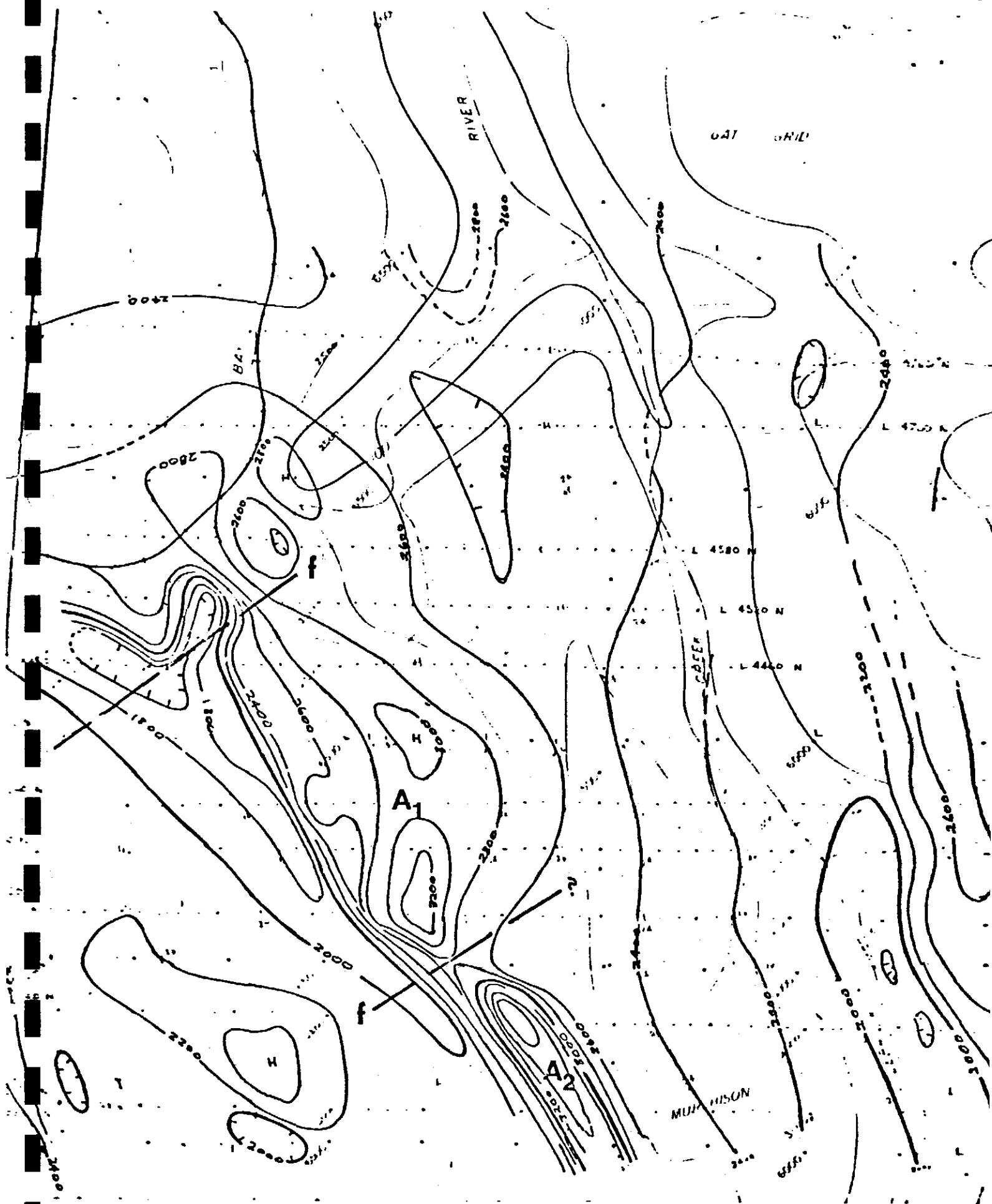
In our opinion iron rich layers, some tens of metres thick, will be found within the shales. We expect the susceptibility of these beds to be in excess of 5000 cgs units. The entire magnetic complex dip steeply to the north east.

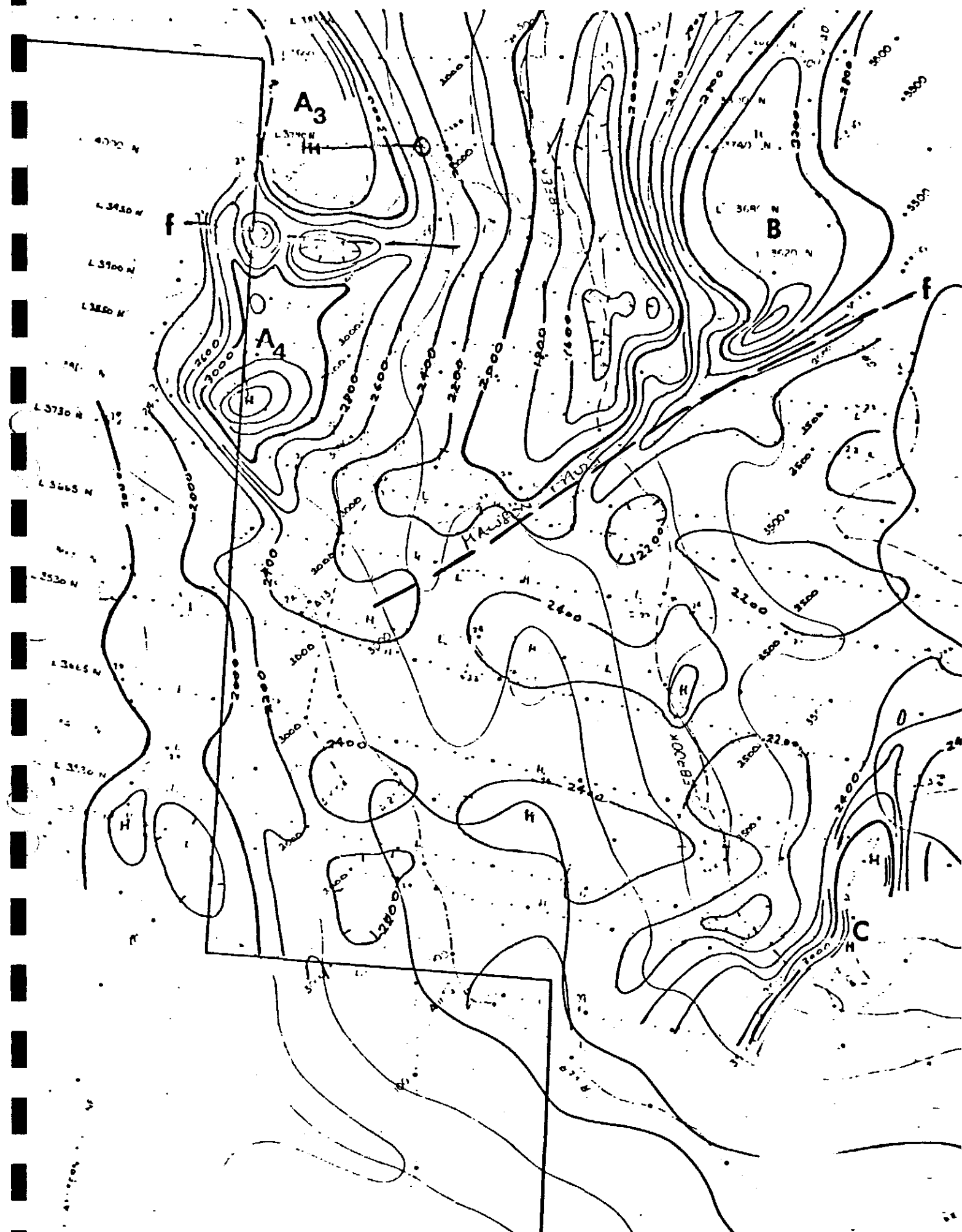
Figures 1 & 2 are models of the response computed in the vicinity of anomaly A_1 . Both models show the same general east dip and both require that the source be very close to surface.

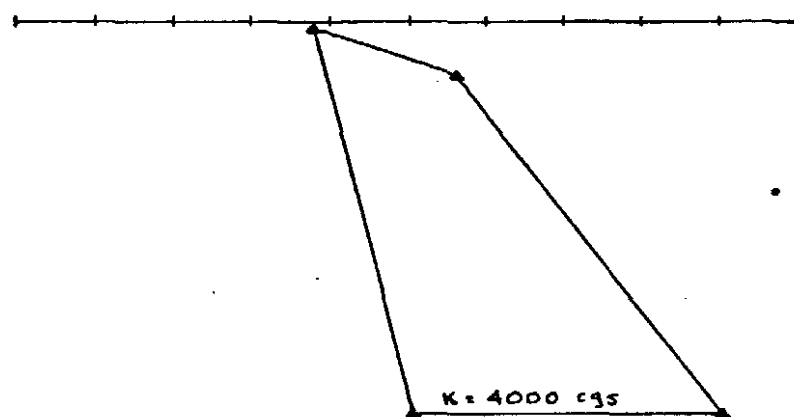
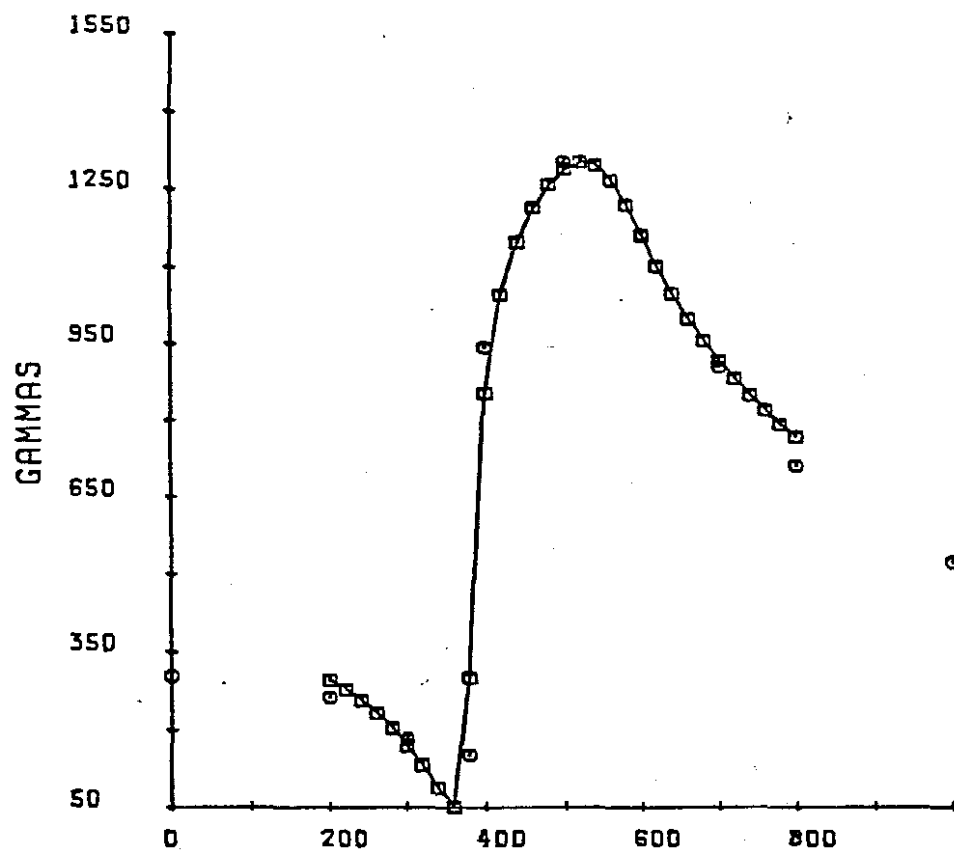
The susceptibility of the models vary considerably. The reason for this, we believe, lies in the fact that the source is layered and we can only compute the bulk susceptibility of the structure as a whole. Figure 3 is a model made in the vicinity of anomaly A_2 . Again the solution requires an east dipping source fairly close to surface. Some manipulation of the data was required to model A_2 and the overall dip of the structure would not be as steep as indicated in figure 3.

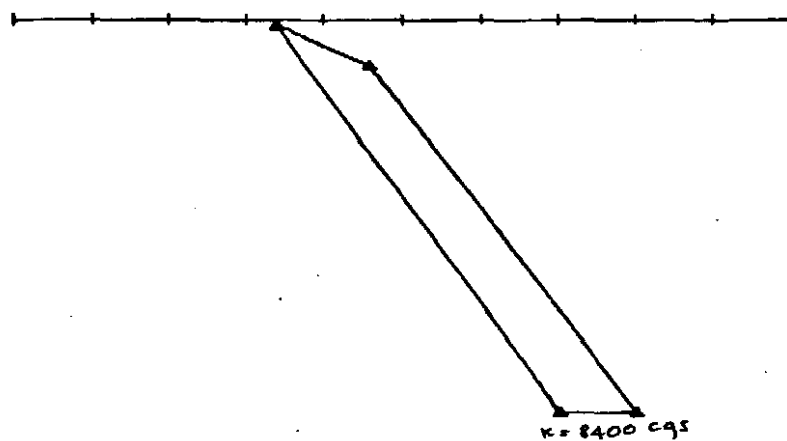
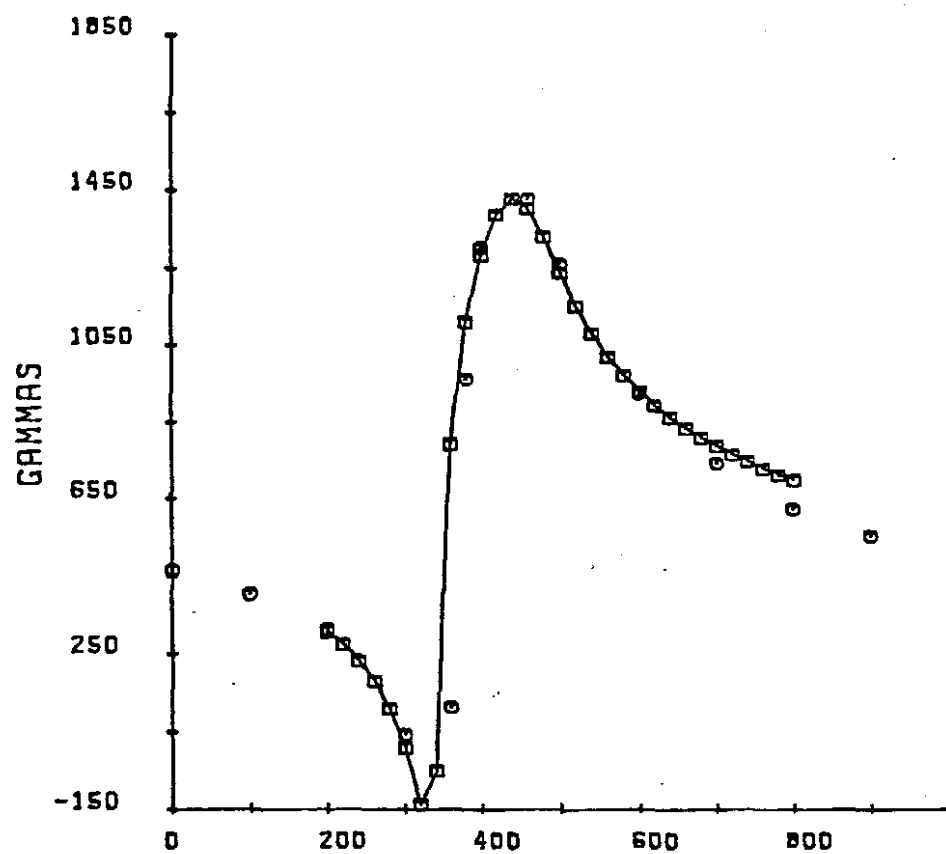
We have not modelled anomaly B as we believe its source is clearly the triffaceous sandstones and shales mapped in that area. The fault south of B is, however, of some interest and it may be the same fault mapped farther to the east on the GAP grid. It is our opinion that this fault would require a throw of hundreds of metres to produce such a change in the magnetic pattern. It is clearly a major fault.

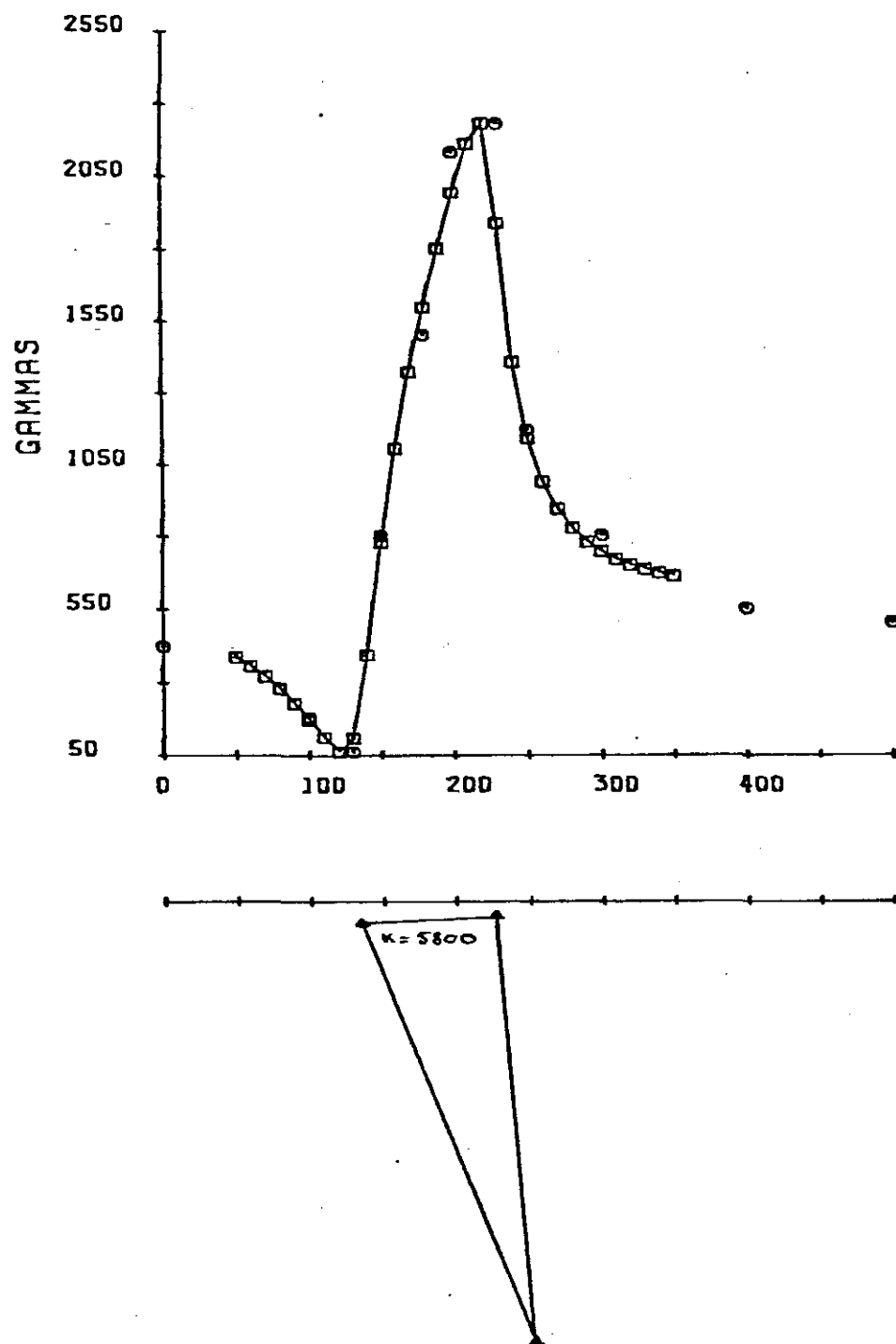
Anomaly C is obviously due to ultrabasics.











A P P E N D I X 2

COMSTAFF PROPRIETARY LIMITEDCOMSTAFF - PREUSSAG JVEL 5/63, Section 6, East Renison
Preliminary statement of indicated resources at
GAR-Fentons Prospect

For the purposes of this statement the GAR-Fentons Prospect area is defined as the area between the Pieman River in the north and the Murchison Highway in the south (TAS-P-27), a strike length overall of 1350m. 32 holes have been drilled into the prospect area as defined. The drilling programme has led to the conclusion that there are two quite different 'shoots' of moderate - high grade mineralisation in a structurally controlled complex vein system which extends the entire length of the prospect area - and beyond. One shoot, called SALMON'S VEIN comprises predominantly Ag-Pb-Zn mineralisation; the second shoot, called PIEMAN TIN ZONE is a Sn-Cu zone.

SALMON'S VEIN

This is, perhaps, the dominant and most important vein of the system. The mineralisation is predominantly Ag, Pb (galena) and Zn (sphalerite) in a quartz-carbonate gangue. The vein can be traced from 5 372 200m N to beyond 5 373 050m N, i.e. more than 850m from holes RBE 19 to RBE 32. The highest grade mineralisation occurs over a 320m strike length (from N to S in holes 7, 5, 9, 10A, 30, 11, 34, 31, 12 and 14 - Dwg. No TAS-P-28). The in situ resource is calculated at:-

654,282 tonnes at

247.36 gAg/t

5.35 % Pb and

3.32 % Zn.

The average estimated true width is 3.75m. Mean S.G. is 3.47.

The data from which the calculation was made are listed in Table 1. The grades quoted in table 1 are fully weighted (i.e. length and SG). The data are derived from analyses of half core - cut with a diamond saw. Analyses for Ag, Pb, Zn and Cu were carried out by Analabs in their Coee (Tas.) and Perth (W.A.) laboratories by method A6 - digestion with hot mixed acids, including hydrofluoric acid (i.e. total digestion) with determinations by atomic absorption spectrophotometry to the undermentioned limits of detection:-

Ag	0.5 ppm
Pb	5 ppm
Zn	5 ppm
Cu	5 ppm

SG determinations were by air pycnometer on all samples comprising an intersection. Cutoff value was set at an F1 value greater than 35 over a minimum estimated true width of 2m. The F1 value used to facilitate determination of cut off is defined as an in situ A\$ value^{*} for Ag + Pb + Zn based on

Ag at US\$13.00 per ounce

Pb at US\$0.36 per pound

Zn at US\$0.40 per pound - these are

AAAL forward projected price estimates.

* 1980 dollars.

The outline of the Salmon's Vein shoot is shown on plan and longitudinal section (Dwg. Nos TAS-P-28 and TAS-P-29).

PIEMAN TIN ZONE

The Sn zone can be traced from 5 372 550N to beyond 5 373 260N i.e. more than 810m from hole RBE 12 to RBE 40. The highest grade mineralisation occurs over a strike length of about 240m (from S to N in holes 8, X1, 25, 32, 33 and 38 - Dwg. No. TAS-P-28). From the data in Table 2, and assuming a vertical (dip) extent of 300m and an SG of 3 the in situ resource is calculated to be of the order of:-

384,480 tonnes at

0.94% Sn

The average estimated true width is 1.75m.

The data of Table 1 are derived from analyses carried out on half core samples by Analabs using the A14-XRF-method which has a detection limit of 3 ppm. SG determinations have not been carried out. For purposes of this preliminary calculation cutoff has been set at 0.3% Sn over a minimum estimated true width of 1m.

The outline of the high grade shoot in the Pieman Tin Zone is shown on plan and longitudinal section (Dwg. Nos TAS-P-28 and TAS-P-29).

DISCUSSION

Data on the Pieman Tin Zone is not as detailed as data on the Salmon's Vein and there is the possibility of the tonnage in the high grade Pieman Tin Zone being increased by moving the southern limit southwards. However, the best that might be hoped for is a doubling of the apparent tonnage. At present further drilling to test for additional tonnage appears unwarranted.

Attention is drawn to the fact that arsenopyrite occurs in both shoots - to a greater degree in the Pieman Tin Zone - and, thus, As could well be a deleterious component in concentrates produced from the GAR-Fentons mineralisation. No metallurgical work has been undertaken specifically on As contamination.

On the plus side, preliminary metallurgical tests on high grade samples (from holes 5 and 10A) from Salmon's Vein indicated that a high quality lead concentrate, containing about 95% of the silver, could be readily produced.

No metallurgical work has been done on the material from the Pieman Tin Zone but some ore microscopy studies have been commissioned in an attempt to identify the Sn bearing minerals.

4.

The indicated resource aggregates >1.0 million tonnes and could be mined via a single system of openings: however, two separate metallurgical circuits would be required. The tonnages indicated appear too small for a stand alone situation. Accordingly, it is proposed that current strategy be that:-

- (a) further drilling on the GAR-Fentons prospect area be postponed whilst
- (b) the current exploration and deep reconnaissance drilling programmes in the East Renison area south of the Murchison Highway are completed and followed up if warranted,
- (c) the proposed additional hole and requisite follow up work at Godkin are completed and
- (d) that part of EL 5/63, Section 6 north of the Pieman River is explored.

If no other bodies of similar mineralisation can be found to boost tonnage the fall-back situation would be to examine the possibility of mining the GAR-Fentons mineralisation with the Ag-Pb-Zn from Salmon's Vein being treated at Rosebery and the Sn from the Pieman Tin Zone going to Renison.

IGPW

16.9.82
IGPW:st

TABLE 1

Details of data forming basis of mineralised .
resource calculation for Salmon's Vein

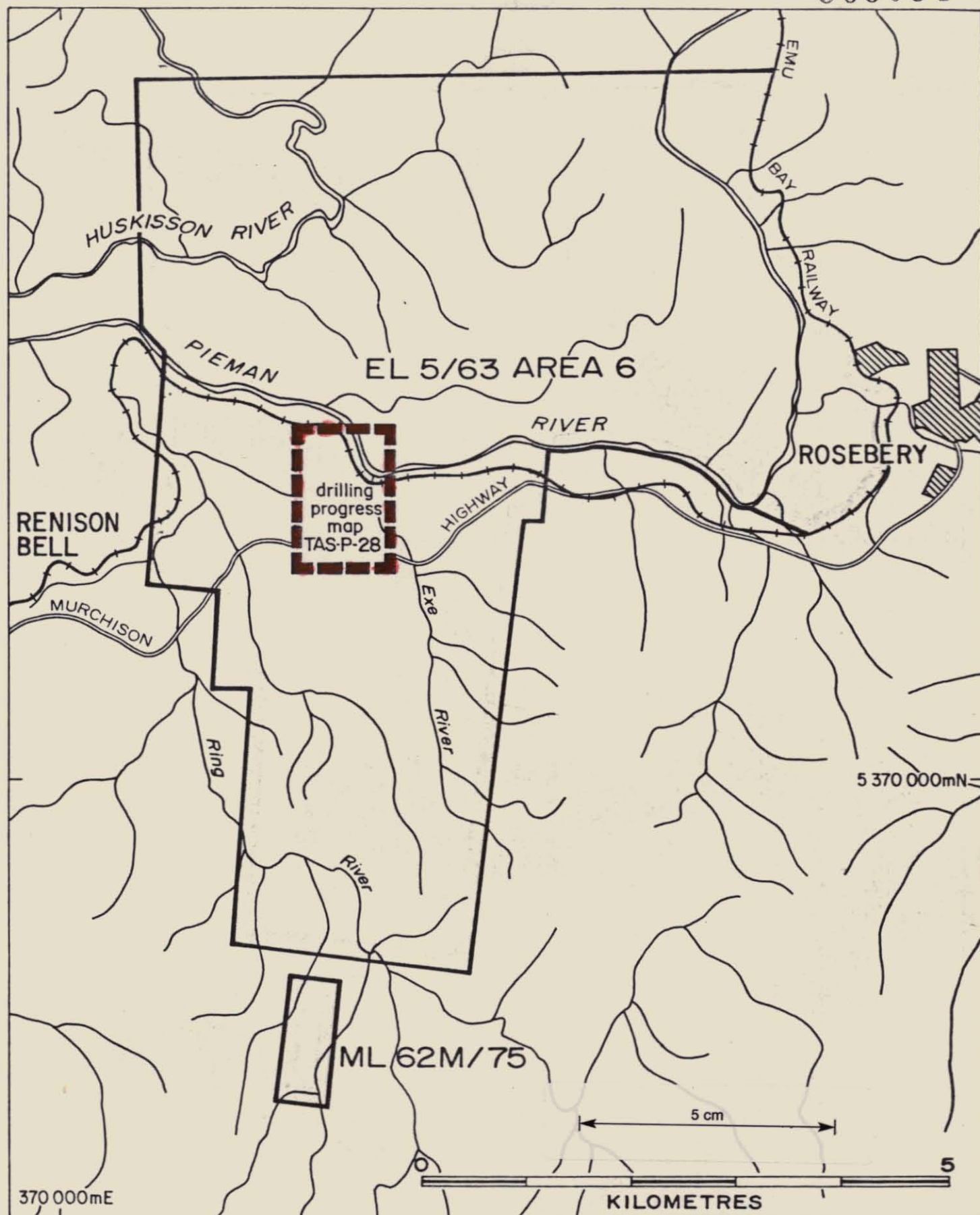
HOLE	CROSS-SECTION	EST TRUE WIDTH(m)	Ag(g/t)	Pb(%)	Zn(%)	Cu(%)	F1 (A\$)	S.G.	TONNES
RBE 14	2 540N	3.45	539.7	2.43	2.02	1.23	232.25	3.56	91,848
RBE 31	2 600N	2.75	44.4	2.60	1.45	0.04	45.79	3.30	39,600
RBE 12	2 600N	2.80	32.2	0.77	2.35	0.08	35.40	3.35	48,240
RBE 34	2 660N	3.07	125.5	2.78	3.58	0.11	93.46	3.47	58,140
RBE 11	2 660N	5.70	29.0	1.10	3.38	0.09	44.46	3.51	124,254
RBE 30	2 720N	2.97	109.7	1.04	3.35	0.36	73.66	3.52	46,464
RBE 10A	2 720N	5.10	441.5	12.35	5.78	0.14	294.31	3.69	117,342
RBE 7	2 780N	3.50	250.8	9.35	2.78	0.05	179.65	3.44	59,856
RBE 5	2 780N	4.90	525.9	15.38	3.24	0.06	327.19	3.56	42,720
RBE 9	2 780N	3.30	142.4	4.77	1.90	0.04	100.71	3.31	25,818

TABLE 2

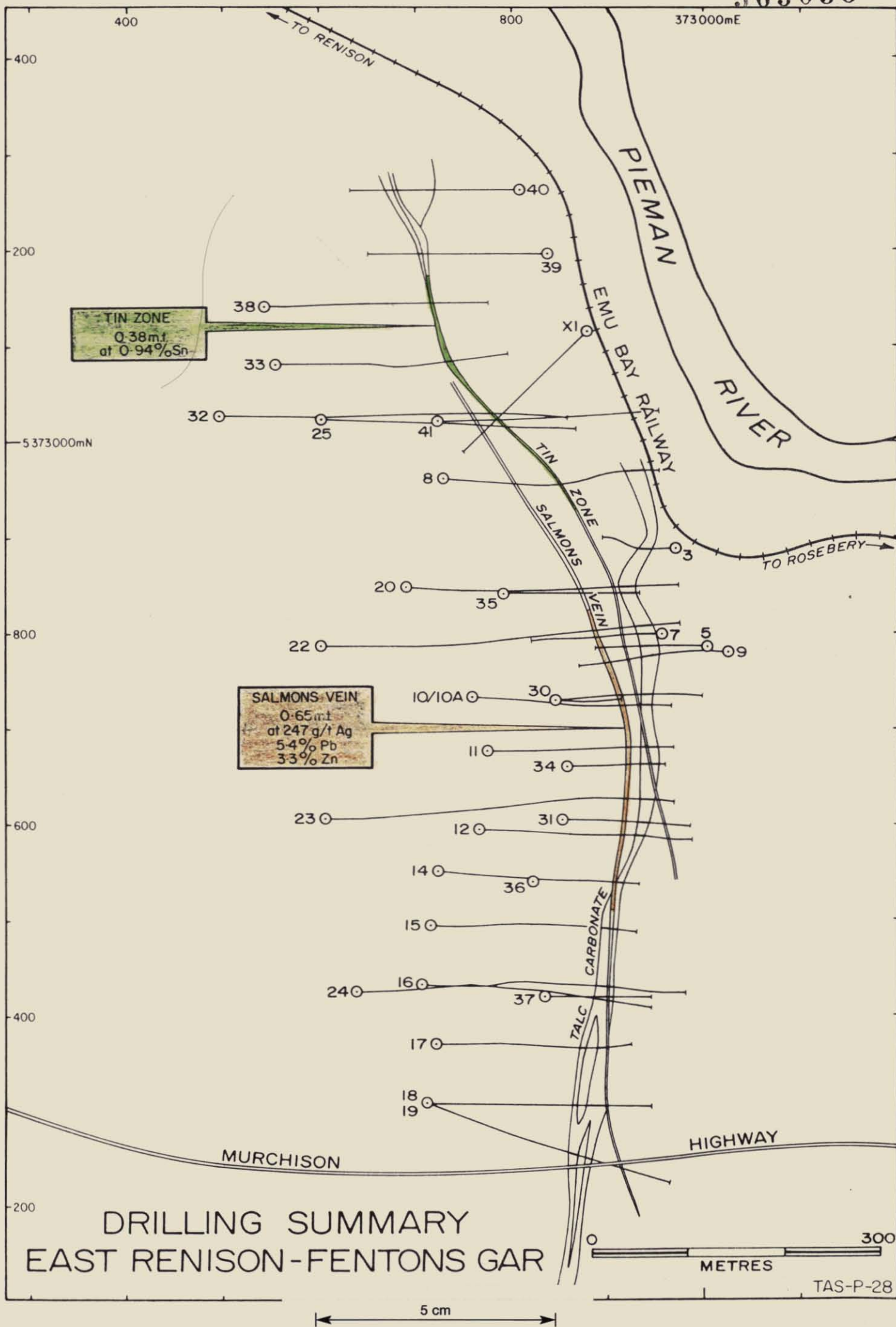
Details of data forming basis of mineralised
resource calculation for Pieman Tin Zone

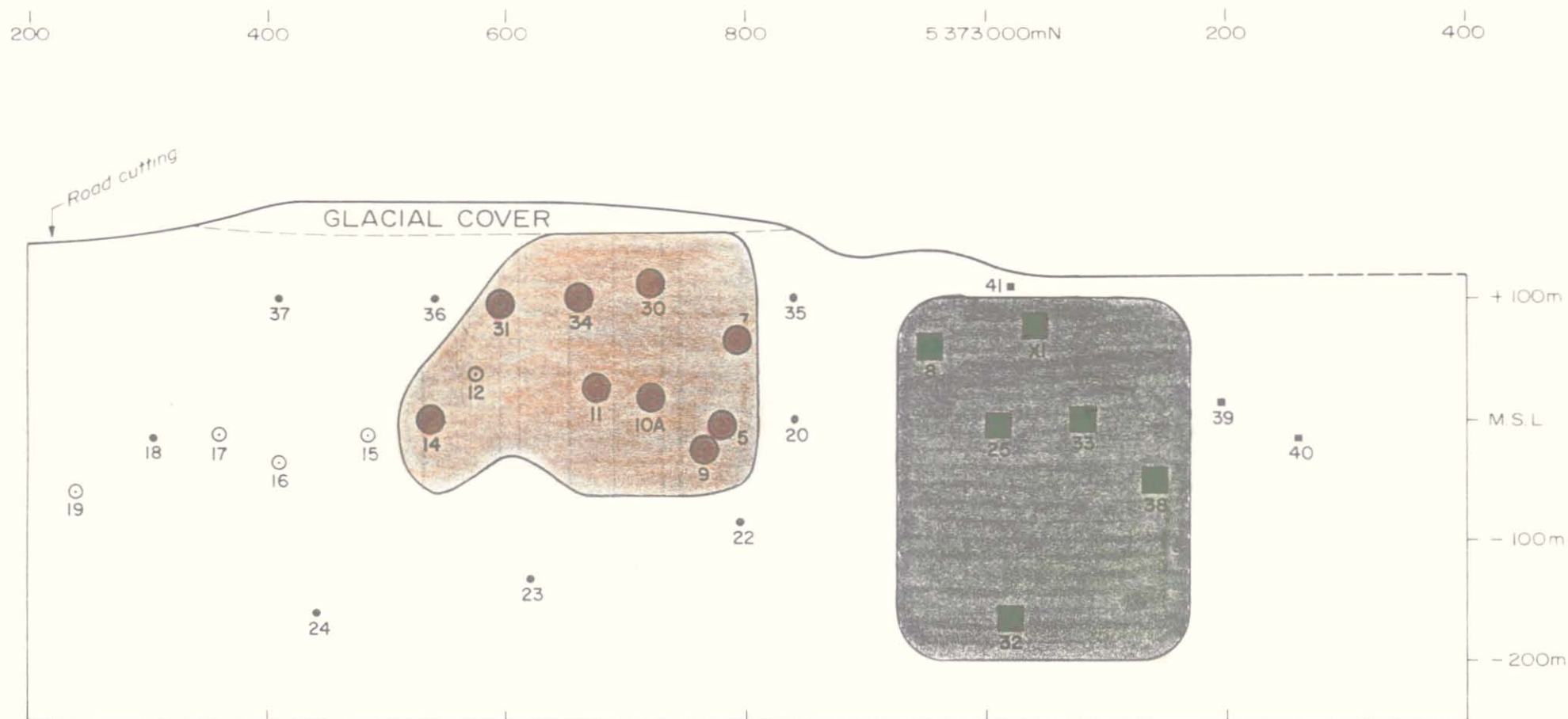
HOLE NO.	CROSS-SECTION	ESTIMATED TRUE WIDTH (m)	Sn (%)	Cu (%)
RBE 8	2 690 N	1.7	0.34	0.28
X1	3 020 N	2.0	0.84	*
RBE 25	3 020 N	1.9	1.14	0.08
RBE 32	3 020 N	1.0	0.46	0.03
RBE 33	3 080 N	3.1	1.56	0.08
RBE 38	3 140 N	1.0	0.36	2.43

* No data



COMSTAFF PTY LTD
EL 5/63 AREA 6 & ML 62M/75
EAST RENISON & GODKIN





SALMONS VEIN

- INTERCEPTS >2m TRUE WIDTH
FACTOR 1 > 35
- INTERCEPTS >1.5m TRUE WIDTH
FACTOR 1 > 20
- OTHER INTERCEPTS

TIN ZONE

- HIGH GRADE
INTERCEPTS
- OTHER INTERCEPTS

5 cm

COMSTAFF PTY LTD

LONGITUDINAL SECTION on 372 875mE
EAST RENISON-FENTONS GAR

TAS-P-29

565056

A P P E N D I X 3

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm %	Zn ppm %	Ag ppm	Cu ppm %	%Sn
	FROM	TO												
RBE 25	222.90	225.10	2.2	1.68	82°E	+21	Sp, Ga	Py, Cp, Aspy	Quartz/carbonate tu sa ?	3.42	2.13	132	0.2	0.03
RBE 8	98.0	101.0	3.0	2.46	85°E	+106	Py, Aspy	Po, Cp	Quartz/carbonate tu sa	0.13	0.41	12.2	0.13	0.04
RBE 20														
RBE 7	81.0	86.0	5.0	3.5	86°E	+67	Ga, Sp,	Cp, Py	Quartz/carbonate ss/tu sa	7.59	2.53	106	0.05	0.01
RBE 5	156.50	-168.10	11.6	4.9	78°W	-5	Ga, Sp	Cp, Aspy	Quartzcarbonate and quartz sh.	13.10	2.48	434	0.06	
RBE 9	191.30	195.6	4.3	3.3	78°W	-26	Ga, Sp,	Py, Cp, Aspy,	Quartz breccia and quartz/carb ss/tu sa.	5.25	2.56	168.8	0.04	0.002
RBE10A	220.00	226.9	6.9	5.1	86°E	+17	Ga, Sp, Py	Cp, Aspy, Po	Breccia zone siderite matrix tu sa.	10.51	3.75	301.5	0.14	0.003
RBE 30	88.40	92.80	4.4	2.97	85°E	+113	Po, Py, Sp GA, Cp	Aspy	Quartz/carb sh.	1.04	3.35	109.7	0.36	NR
RBE 11	209.10	216.60	7.5	5.7	80°W	+28	Sp, Ga, Aspy Po	Py Cp	Vuggy quartz/carb. Massive vein quartz tu sa.	1.10	3.38	29.0	0.09	0.06

SALMON'S LODGE - SIGNIFICANT LEAD, ZINC, SILVER DRILL HOLE INTERCEPTS

565058

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
RBE 12	217.0	221.0	4.07	3.767	82°W?	+25	Sp, Ga, Cp, low overall.	Po	Quartz carb. veins. Mass quartz, Po veins. Mixed seds.	0.79	2.54	15.4	0.08	0.03
RBE 31	114.55	118.0	3.45	2.75	82°W	+98	Sp, Ga	Py	Quartz carb. vein. Stopped by late vein quartz. TC to east.	2.25	1.37	42	0.04	NR
RBE 14	252.8	257.30	4.5	3.45	84°W	+1	Ga, Sp, Po, Aspy, Cp	Po, Py, Aspy Ga, Sp	Mixed quartz carb. and quartz Po Aspy vein W flank TC.	1.98	2.18	413	1.23	0.08
RBE 13	260.40	265.50	5.10	4.07	85°W	-14	Po, Aspy, Sp, Cp	Py	Mixed quartz carb. and quartz Po Aspy vein TC contained.	0.30	1.80	21.0	0.8	0.08
RBE 16	273.35	277.80	4.45	2.86	80°E	-33	Po, Py	Sp, Py, Ga,	Mixed quartz and quartz carb. vein., Semi-massive Po replacing TC.	0.44	2.5	26	0.14	0.14

SALMON'S LODGE - SIGNIFICANT LEAD, ZINC, SILVER DRILL HOLE INTERCEPTS

565059

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
RBE 17	245.80	247.50	1.70	1.44	81°W	-14	Sp, Po	Aspy, Py, Cp, Ga	Mixed quartz and quartz carbonate veins. East flank of TC.	0.49	2.4	28.9	0.12	0.04
HBE 18	249.45	250.05	0.60	0.48	63°W	-20	Po	Sp, Py	Mixed quartz and quartz carbonate veins. East flank of TC.	0.1	0.8	8	0.13	0.02
RBE 19	294.25	296.40	2.15	1.73	85°W	-59	Po, Py, Sp, Ga	Aspy	Mixed quartz and quartz carbonate veins. Sed flanked.	3.14	1.73	57	0.08	0.03

SALMON'S LODGE - SIGNIFICANT LEAD, ZINC, SILVER DRILL HOLE INTERCEPTS

565060

DRILL HOLE NO	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
RBE 17	232.50	233.95	1.45	1.23	81°W	-5	Sp, Ga, Po, Aspy	Aspy, Py, Cp	Multiple mixed veins mainly quartz carb. Gabbro TC contact.	0.29	1.06	13.1	0.03	0.06
RBE 18	235.25	237.13	1.88	1.33	89°E	-10	Po, Aspy	Cp, Py, Ga, Sp	Multiple quartz pyrrhotite veins within TC.	0.47	1.64	31	0.31	0.06
RBE 19	251.70	253.20	1.5	1.18	84°W	-28	Po	Py, Ga, Sp	Multiple quartz pyrrhotite veins replacing TC. Minor Bustamite vein.	0.95	1.84	30.5	0.06	0.11
RBE 21	214.65	215.80	1.15	1.10	78°E	+12	Ga, Sp	Po	Quartz carb. veins on E flank of TC.	3.8	4.96	98	0.07	0.06
RBE 11	253.90	254.70	0.8	-	83°E	-2	Po, Py	Cp	Quartz veins gabbro	20.1	20.1	4.0	0.15	0.34
RBE 12	230.70	233.90	3.20	2.26	80°W	+15	Sp, Ga, Aspy Po, Cp	Py, Po, Cp Aspy, Py	Mixed quartz carb. and quartz Po veins West flank of TC.	0.24	1.16	21.9	1.23	0.11
RBE 31	137.55	139.75	2.20		80°W	+83	Po, Py	Aspy, CP	Pyrrhotite replacement of TC.	0.04	0.12	35	1.48	NR
RBE 14	261.90	262.8	0.90	0.74	77°W	-3	Aspy, Cp, Po		Massive quartz vein within TC.	0.01	0.10	48.5	2.9	0.03
RBE 15	271.30	272.00	0.70	0.56	85°W	-19	Po, Sp, Py		Quartz vein plus minor carb. East flank of TC.	0.05	1.35	5.0	0.03	0.63
RBE 16	271.0	273.35	2.35	2.01	80°W		Po, Py Cp, Aspy, Sp		Quartz/Po veins and aggregates within TC.	0.04	0.22	1.5	0.03	1.3

FENTONS VEIN:- SIGNIFICANT LEAD - ZINC - SILVER DRILL HOLE INTERCEPTS

565061

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	Ag ppm	Cu ppm	%Sn
	FROM	TO												
RBE 15	248.80	249.80	1.00	0.82	82°W	-4	Sp, Po	Ga, Py Cpy	Mixed veins west flank of TC.	1.76	2.78	106	0.10	0.01
RBE 16	246.00	247.00	1.00	0.90	75°W	-13	Ca, Sp, Po	Cp, Aspy, Py	Mixed quartz with quartz/carb. vein on west flank of TC.	1.25	1.7	59	0.32	0.07
RBE 17	219.30	220.7	0.70	0.58	81°W	+5	Po, Py Sp	Ga, Aspy Cp	Mixed veins breccia zone. TC	*	*	*	*	*
RBE 18	218.75	219.91	1.16	0.87	88°E	0	Sp, Ga, Py	Aspy	Mixed quartz carb. and Bustamite veins west flank TC.	0.15	0.29	45	0.01	0.006
RBE 19	234.25	235.0	0.75	0.35	73°E	-20	Sp, Ga	Po, Py	Bustamite vein within TC.	2.91	2.24	50	0.01	0.02
RBE 21	230.50	231.75	1.25	1.17	84°E	+5	Po, Sp	Aspy Ga	Mixed quartz pyrrhotite and quartz carb. west flank of TC.	2.5	1.25	29	0.01	0.01
										0.04	3.50	12	0.12	0.007

GOSSAN VEIN - SIGNIFICANT LEAD, ZINC, SILVER DRILL HOLE INTERCEPTS

* Ground core results.

565062

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
RBE 18	184.45	188.30	3.85	0.80	54°E	+22	Sp, Ga, Py	Aspy	Mixed quartz carb. and bustamite veins. Sed. flanked.	2.67	2.90	70	0.07	0.02
RBE 19	166.0	169.0	3.0	0.52	54°E	+28	Sp, Ga	Aspy, Py	Mixed narrow quartz carb. and bustamite veins. Sed flanked.	3.50*	1.40*	114*	0.05*	0.01*
RBE 21	303.65	305.15	1.50	1.23	83°W	-28	Ga, Sp, Po	Py, Cp	Mixed narrow quartz carb. and bustamite veins. Sed flanked	4.60	3.22	120	0.08	0.02

*Ground core

WESTERN VEIN - SIGNIFICANT LEAD, ZINC, SILVER DRILL HOLE INTERCEPTS

565063

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
RBE 25	247.85	248.60	0.75	0.48	82°E	+7	Cp Aspy	Py, Po, Sp	Quartz and quartz carb sh.	0.14	0.24	130	4.1	0.05
RBE 8	123.0	126.0	3.0	2.12	85°E	+89	Po, Py	Sp, Cp, Ga	Quartz tu sa/ss	0.16	0.85	32.5	0.53	0.02
RBE 20									No significant results					
RBE 7	63.0	73.0	10.0	7.10	83°E	+80	Po, Aspy Py Cp	Ga, Sp	ss/ tu sa	0.07	0.30	10	0.19	0.19
RBE 5 O	126.0	131.95	5.95	4.56	85°E	+20	Po, Aspy	Cp, Py, Sp Ga	Quartz carb. tu sa	?	?	10	0.16	0.003
RBE 9	157.5	161.0	3.6	2.8	85°E	0	Aspy, Po, Cp	Sp, Py, Ga	Quartz veined breccia ss/tu sa.	1.56	2.53	68.3	0.34	0.002
RBE 10A	243.7	246.3	2.6	1.8	87°W	+3	Aspy, Po	Cp, Py	Quartz carb. ss/sh	0.08	0.19	7.5	0.18	0.19
RBE 30	128.35	131.50	2.15	?	87°W	+85	Ga, Sp, Cp	Aspy, Py	Mass. quartz and carbonate tu sa.		No results			
RBE 11	209.10	220.10	1.7	1.3	89°E	+22	Ga, Sp	Py	Quartz stoped quartz carb. vein.	0.93	0.98	40.4	0.01	0.01
RBE 12	254.30	256.10	1.80	1.16	83°W	+1	Sp (low sulphide)	Aspy, Py	Quartz siderite stockwork in Tu sa.	0.22	2.04	16.8	0.01	0.01
RBE 31	153.6		1.00		85°W	+71	Py		No		No results			

COPPER VEIN - SIGNIFICANT LEAD, ZINC, SILVER DRILL HOLE INTERCEPTS

565064

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
RBE 25	268.80	272.05	3.25	1.37	62°E	-5	Po	Py, Cp	Massive vein quartz	0.01	0.03	3.5	0.08	1.14
RBE 8	160.0	163.0	3.00	2.12	84°E	+64	Aspy, Cp	Sp, Ga	Vein quartz and quartz/carb.	0.04	0.15	7.0	0.2	0.34
RBE 20									No significant results.					
RBE 7	10.7	16.5 approx.	Hole collared in vein		80°E	+116	Oxidised	Oxidised	Tc/ss					
RBE 5	82.50	84.70	2.20	1.56	78°W?	+53	Po, Py, Aspy Cp	Sp	Tc			6.3	0.26	0.007
RBE 9	116.20	117.2	1.00	0.65	83°W	+25	Po, Cp, Aspy	Py	Fractured ss/tu sa	0.001	0.28	16.5	2.9	0.09
RBE10A	260.70	262.5	1.80	1.30	82°W	-8	Aspy, Po, Cp	Py	Massive vein quartz within TC.	0.001	0.13	27.0	1.39	0.04
RBE 30	153.60	155.40	1.80	?	82°W	+67	Aspy, Cp	Po, Sp, Py	Quartz/carb. Breccia			No results		
RBE 11	233.60	235.5	1.90	1.30	87°E	+12	Aspy, Py	Cp, Sp	Quartz plus minor carbonate W flank of TC.	0.06	0.18	14.0	0.84	0.32

TIN VEIN - SIGNIFICANT LEAD, ZINC, SILVER DRILL HOLE INTERCEPTS

565065

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
RBE 12	272.75	274.9	2.15	1.86	60° (84° _{OW} Dip)	-10	Po, CP massive	Aspy, Py	Massive milky vein quartz Patches of carbonate.	0.01	0.07	46.8	1.71	0.10
RBE 31	171.40	173.30	1.90		40° (84° _{OW} Dip)	+57	Low Sulphides	Py	Quartz carb. vein-cocks combed tex. Stoped by late quartz vein.	0.55	0.71	81	0.01	NR

TIN VEIN - SIGNIFICANT LEAD, ZINC, SILVER DRILL HOLE INTERCEPTS

565066

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	R L MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
DDH X1	110.64	112.77	1.53	1.25	55°	90	Py, Cp, Aspy		Quartz veined shales.	-	No analyses	-	-	0.84
DDH XI	121.31	122.83	1.52	1.16	50°	87	Cp, Aspy, cassiterite		Quartz veined calcareous siltstones and tuffaceous sandstone.	-	No analyses	-	-	0.38
DDH XI	127.41	130.45	3.04	1.52	30°	84	Cp, Po, Py, trace cassiterite		Quartz veined calcareous siltstones and tuffaceous sandstone.	-	No analyses	-	-	0.4
RBE 25	268.80	272.05	3.25	1.37	25°	-6	Po, Py, Aspy		Massive quartz vein abutting quartz carbonate vein zone along tuffaceous sandstone, gabbro contact.	138	389	9135	889	1.14
RBE 32	179.50	179.70	0.10	0.40										
RBE 3	24.10	25.85	1.75		50°	+82	Po Cp Py		Quartz veined shale.	220	435	290	205	0.41
	31.75	32.85	1.10		50°	+76	Po Aspy Cp		Sulphide stringers in talc carbonate (TC).	50	475	1440	625	1.1
	91.00	92.00	1.00		35°	+24	Cp Aspy Sp		Quartz & quartz carb. veined sediments.	2050	2.91%	460	2075	0.41
RBE 20									No significant results.					
RBE 5	18.00	19.00	1.00		65°	+102	Py		Quartz veined siltstone.	300	380	8800	545	0.18
RBE 7	63.00	65.00	2.00		35°	+80	Py, fluorite		0.6m quartz vein in siltstone.	135	485	800	2650	0.65
RBE 7	67.00	68.00	1.00		50°	+77	Po, Aspy, pycp		Quartz (carb.) veining in black shale.	105	170	3.3%	1850	0.38
RBE 8	160.00	163.00	3.00		40°	+63	Aspy, pypo, cp		1.2m quartz vein in siltstone.	430	1550	1.5%	2850	0.34
RBE 9	154.00	155.00	1.00		20°	0	Po		Massive po and vein quartz + po in TC.	670	2300	1040	1950	0.17
RBE 10A	244.50	245.30	0.80		45°	+ 3	Py, Aspy, Po		Quartz vein with semi massive py and aspy - minor quartz carb. vein material.	570	2000	15.0%	1150	0.25
RBE 30									No results to hand.					
RBE 11	233.60	235.50	1.90		40°	+12	Aspy, Py, Cp		Massive vein quartz + sulphide minor quartz carb. veining Host - TC.	600	1800	28.3%	8400	0.31
RBE 11	253.90	254.70	0.80		40°	- 2	Po Py		Quartz veined TC	20	75	1300	1500	0.34
RBE 11	259.00	259.30	0.30		55°	- 6	Py (trace)		Quartz veined TC gabbro contact.	550	2500	950	1900	1.1%

TIN DRILL HOLE INTERCEPTS - 0.15% SN AND GREATER

565067

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION					
	FROM	TO												
RBE 12	230.70	231.30	0.60		60°	+17	Po, Aspy, Py Sp		Quartz and quartz carb. veining on west flank of TC.	3600	1.3	2700	205	0.25
RBE 12	244.50	244.95	0.45		50°	+ 8	Po, Cp, Py		Quartz sulphide vein within TC.	320	1000	1000	2900	0.15
RBE 31									No results to hand.					
RBE 13	87.8	88.40	0.60		30°		Po Cp Aspy		Quartz sulphide vein in siltstones and sandstone.	25	20	140	540	0.23
RBE 14	254.0	254.5	0.50		50°	+ 2	Po, Cp, Aspy Sp		Mixed quartz and quartz carb. vein zone.	3900	7300	6500	1500	0.16
RBE 14	259.4	260.25	0.85		50°	- 2	Po, Aspy, Cp Sp		Quartz vein stock work on west flank of TC.	710	2050	1.8	260	0.35
RBE 15	260.40	260.90	0.50		? 60°	-11	Po, Aspy, Cp Sp		Mixed quartz and quartz carb. vein zone in TC.	7200	4.25	7000	3250	0.21
RBE 15	263.75	263.90	0.15		?	-13	Po, Aspy, Cp Sp		Mixed quartz and quartz carb. vein zone in TC.	2900	1.55	3400	560	0.26
RBE 15	271.30	272.0	0.70		55°	-18	Po, Aspy, Cp Sp		Mixed quartz and quartz carb. vein zone in TC.	580	1.35	2600	360	0.63
RBE 15	276.35	276.60	0.25		45°	-22	Py, Po, Sp		Quartz vein in tuff sandstone host.	5400	1.7	300	475	0.55
RBE 16	271.00	273.35	2.35		30°	-30	Po, Py, Sp		Quartz po py veined, chlorite altered TC - part of mixed vein system.	400	2200	3500	300	1.3
RBE 17	235.15	235.80	0.65		? 60°	- 6			Quartz po, aspy veins within TC, as above.	230	640	4.8	9500	0.15
RBE 18	241.35	241.87	0.52	? 0.47	55-80°	-13	Po, Sp, Aspy		Mixed quartz and quartz carb. veins on flank of sed. TC contact.	3050	1.1	5000	650	0.27
RBE 19	236.75	237.05	0.3	0.19	40°	-21	Py, Po, Cs?		3 cm quartz vein and minor carb. within TC.	105	6750	480	275	0.21
RBE 21	82.0	85.0	3.0	2.71	65°	+85	Py, Sp		20 cm quartz carb. vein incipiently silicified carb. shale.	143	510	750	87	0.17*
RBE 26	264.65	271.05	6.4	?	?		Po, Py, Sp		Quartz carb. and quartz po veining on west flank of TC.	1%	5100	-	400	0.29

*Ground core result.

565068

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb ppm	Zn ppm	As ppm	Cu ppm	%Sn
	FROM	TO												
RBE 26	429.85	430.40	0.55				Po, Py, Aspy		Mixed quartz and quartz carb. vein zone on west flank of TC.	1075	3325	4700	575	0.0
RBE 27 ○	403.19	404.0	0.81	0.73	65°		Aspy, Cp		40cm massive quartz, carbonate, arsenopyrite vein within. TC	4600	9900	7.1%	5550	0.11
RBE 29	235.45	235.95	0.50	0.35	45°	24	Py, Po		Quartz pyrrhotite vein in horn-felsed tuffaceous sandstone. Carbonated and quartz veined gabbro.	-	65	580	140	0.15
	289.90	290.30	0.40	0.28	45°	-25	Py, Po		" " " "	210	180	1800	230	0.21
	291.60	291.90	0.30	0.21	45°	-25	Py, Po, Cp		" " " "	425	285	9.4%	1.10%	0.66

565069

DRILL HOLE NO.	INTERVAL - METRES		DRILLED WIDTH	TRUE WIDTH	CIA	RSL MSL DATUM	PRINCIPAL SULPHIDES	MINOR SULPHIDES	GANGUE/ASSOCIATION	Pb	Zn	As	Cu	%Sn
	FROM	TO								ppm	ppm	ppm	ppm	
RBE 32	488.60	491.10	2.5	1.25	30°	-165	Po, Py		Mixed massive vein quartz and quartz carbonate veins on gabbro dyke/ sediment contact.	No	results	to	hand.	
RBE 22	486.90	487.85	0.95	0.67	45°		Po, Py fluorite.		Quartz vein zone with massive pyrrhotite - flanked by dolomite? and tuffaceous sandstone.	530	3300	5800	2300	0.22
RBE 23	442.10	444.50	2.40	1.47	38°		Po, Py		Massive quartz vein with minor ankerite within hornfelsed sediments.	7400	1.15	6600	540	0.21
RBE 24									No Tin values in excess of					0.09%

DRILL HOLE TIN INTERCEPTS 0.15% Sn and greater
(at approximately -150 metre Mean Sea Level)

565070

HOLE NO	INTERVAL		DRILLED WIDTH	TRUE WIDTH	CIA	VEIN DIP	MAJOR SULPHIDES	MINOR SULPHIDES	LITHOLOGY AND ASSOCIATION COMMENTS	Pb %	Ag ppm	Zn %	Cu %	Sn ppm	As %
	FROM	TO													
RBE D1	227.30	228.0	0.7	0.22m	19°	-	Py	Ga, Sp	Part of a much longer (224.4-228.0) carbonate quartz vein with a faulted lower contact. Ubiquitous pyrite; - very weak base metal concentrations.	0.69	29	0.84	<0.05	18	<0.001
RBE D1	403.70	408.0	4.3	Broken	Zone	-	Py, Po	Sp	Quartz carbonate vein & stock work zone in fine grained tuffaceous sandstone & siltstone.	<0.02	5	1.61	<0.001	55	<0.03
RBE D1	422.60	427.30	4.7	1.9m	25°	-	Po	Py	Semi-massive to massive replacement of calcareous siltstone and fine grained tuffaceous sandstone by pyrrhotite and a vein phase of quartz, axinite, epidote, tremolite, actinolite and pyrrhotite.	<0.001	-	<0.02	0.13	66	<0.001
RBE D1	854.20	864.54	10.34	6.64m	40°	-	Po	Op	Diopside, vesuvianite, garnet skarn with clots, aggregates and specks of pyrrhotite and trace chalcopyrite.	<0.002	<0.5	<0.02	<0.02	360	<0.02
										N.B. GROUND CORE RESULTS					

WESTERN GAP DEEP (STRATIGRAPHIC) DRILLING

NOTEABLE DRILL HOLE RESULTS RBE D1

565071

HOLE NO	INTERVAL		DRILLED WIDTH	TRUE WIDTH	VEIN CIA	DATUM M.S.L.	MAJOR SULPHIDES	MINOR SULPHIDES	LITHOLOGY AND ASSOCIATION COMMENTS	Pb %	Ag ppm	Zn %	Cu %	Sn ppm	As %
	FROM	TO													
RBE 34	86.95	91.30	4.35	2.79	40	+115	5% Ga Sp	Cp Aspy Po Py	Qtz carbonate veins containing discrete crystals and aggregates of Ga & Sp. Considerable dilution by barren interzones of sediment. SALMONS VEIN.	2.65	122	3.47	0.11	769	1.03
RBE 34	136.00	137.50	1.50	1.06	45	+ 80	40-50% Aspy Py	Cp Ga Sp	Composite zone of massive Qtz, arsenopyrite pyrite (chalcopyrite) replacing talc carbonate. The whole zone stopped by barren late phase vein Qtz to varying degrees. MIX of TIN and FENTONS VEINS?	0.01	50	0.05	1.63	0.57%	15.3
RBE 35	93.9	94.1	0.20	0.17	60	+110	Massive Ga, Sp	-	SALMONS VEIN. Massive Ga, Sp vein with minor quartz. Cutting tuffaceous sandstone.	13.0	910	4.10	0.20	710	0.02
RBE 35	138.3	139.95	1.65	0.94	35	+ 77	Po, Cp	Py	COPPER VEIN. Contact of tuffaceous sandstone and calc pelite with massive Po, quartz vein with minor carbonate TIN VEIN.	0.02	32	0.15	0.76	0.16%	1.46
RBE 35	171.90	172.80	0.90	0.78	50	+ 52	Aspy	Po Cp	TIN VEIN. Quartz-Aspy vein cuts tuffaceous sandstone.	0.007	12	0.06	0.38	550	8.70
RBE 36	104.85	105.20	0.35	0.17	30	+107	Sp Ga	-	SALMONS VEIN. Mixed sediments with 10cm Sp-Ga vein.	2.60	33	2.97	0.02	220	9.12
RBE 36	154.45	158.70	4.25	3.00	45	+ 70	Aspy, Py, Cp	Py	FENTONS VEIN. Talc carbonate replacement by massive quartz-Aspy-Po	0.01	57	0.07	2.59	0.27%	7.36
RBE 36	192.10	192.80	0.70	0.44	40?	+ 43	Py	Cp	COPPER VEIN. Intermixed quartz and quartz-carbonate veining of mixed sediments.	0.22	78	0.64	1.99	1.7%	0.65
RBE 36	203.60	204.00	0.40	0.20	30	+ 38	Aspy, Cp, Py	-	TIN VEIN. Quartz-Py vein in tuffaceous sandstone in contact with shale.	0.008	7	0.02	0.45	1.2%	2.00
RBE 37	65.40?	66.00	0.60	?	35	+110	Aspy, Py	-	SALMONS VEIN? Partially oxidised quartz-Aspy vein stockwork in mixed sediments.	0.90	73	0.18	0.57	620	1.65
RBE 37	97.20	98.70	1.50	0.75	30	+ 56	Aspy, Py, Po	Cp	FENTONS VEIN. Massive quartz vein in talc carbonate.	0.01	36	0.03	0.05	0.18%	16.3%

GAR - FENTONS AREA

Significant drill hole results at approx. 100 R.L. of Salmon's Lode (+ Copper, Tin & Fenton's Veins)

565072

HOLE NO	INTERVAL		DRILLED WIDTH	TRUE WIDTH	VEIN CIA	DATUM M.S.L.	MAJOR SULPHIDES	MINOR SULPHIDES	LITHOLOGY AND ASSOCIATION COMMENTS	Pb %	Ag ppm	Zn %	Cu %	Sn ppm	As %
	FROM	TO													
RBE 33	181.50	184.5	3.00	1.82	37.5	+ 50	Tr Ga Sp Py	-	Weak qtz carbonate vein stock work (core ground only). SALMONS VEIN.	0.11	6	0.70	0.03	186	0.09
RBE 33	204.00	205.25	1.10	0.71	35	+ 30	25% Po Py Aspy	Sp	Massive qtz vein with minor carbonate. COPPER VEIN	0.76	114	0.41	0.54	473	0.31
RBE 33	254.40	259.75	5.35	2.67	30	0	40% Po Py	Sp Ga	Calc. pelites replaced partially or wholly by Po & Py. Central qtz vein system with high Aspy. Traces of Ga & Sp on flanks of vein. TIN VEIN.	0.12	5.6	0.17	0.08	1.56%	0.78
RBE 33	281.00	283.00	2.00			- 18	No apparent sulphides	-	Massive white vein qtz. Barren late stage vein system on associated with TIN VEIN.					No anomalous values	
RBE 38	167.30	169.55	2.25	1.12	30	+ 56	Sp	Ga	SALMONS VEIN. Brecciated and sheared quartz-carbonate vein zone (fault zone).	0.71	60	8.25	0.04	404	0.14
RBE 38	179.20	180.25	1.05	0.60	35	+ 42	Aspy, Py	Sp Cp	COPPER VEIN. Combined massive white quartz vein and quartz-carbonate vein.	0.02	1.47	0.03	0.03	0.80%	0.08
RBE 38	306.40	307.65	1.25	0.62	30	- 60	Cp,Py,Sp	-	TIN VEIN. Quartz veins in talc carbonate shale and altered sediments.	0.01	74	0.14	2.42	0.53%	0.13
RBE 39	157.80	158.30	0.50	0.40	55	+ 6	Py, Po	Op, Aspy	TIN VEIN? Quartz veined talc carbonate	0.001	x	0.21	0.009	0.20%	0.16
RBE 39	222.70	235.40	-	-	25-50	- 40	Py,Aspy,Cp	Sp	Series of narrow (10-30cms) quartz-carbonate and quartz veins in black shale over an interval of 13 m. Probable combination of TIN and COPPER VEINS.					No significant results	
RBE 40	241.75	243.70	1.95	1.38	45	- 60	Aspy,Cp,Sp	Ga	Combination ? of TIN and COPPER VEIN. Mix of massive quartz and quartz carbonate vein in black graphitic shales.	0.27%	104	2.56	2.54	197	7.67

PIEMAN RIVER TIN ZONE AREA

Significant drill hole results of TIN VEIN (+ Salmon's Lode & copper vein)

565073

HOLE NO	INTERVAL		DRILLED WIDTH	TRUE WIDTH	VEIN CIA	DATUM MSL	MAJOR SULPHIDES	MINOR SULPHIDES	LITHOLOGY AND ASSOCIATION COMMENTS	Pb %	Ag ppm	Zn %	Cu %	Sn ppm	As %
	FROM	TO													
RBE 42	186.30	189.70	3.4	2.4	40°	- 15	Py	-	Combination? of tin and copper vein structure on western silicified contact of serpentinite and graphitic shale. Zone comprises pale green & brick red/brown vuggy silicified serpentinite and crazed fragmented white vein quartz with minor pyrite.	0.19	33	1.11	0.03	112	0.06*
RBE 41	57.5	59.1	1.6	.72	27°	+135	No visible sulphides.		Broken oxidised silicified and quartz veined tuffaceous sandstone and siltstone. SALMON'S LODE.	1.34	96	.35	.12	111	.82*
RBE 41	85.05	87	1.95	1.3	42°	+115	Aspy, Cp, Py	Sp, Ga	Massive quartz carbonate vein with aggregates of clots of Aspy, Cp in mixed tuffaceous sandstone & black shale. COPPER VEIN.	0.1	49.4	0.09	0.85	217	1.98
RBE 41	110.3	111.5	1.2	.91	50°	+100	Aspy, Cp	Py	Quartz carbonate arsenopyrite vein. TIN VEIN.	.08	21	.5	.33	2.08	5.45*
RBE 41	123.5	126.4	2.9	2.05	45°	+ 90	Py, Aspy	-	Quartz carbonate stockwork vein zone in mixed sediments. TIN VEIN (offshoot?)	.01	3	.06	.04	.43	.28*
RBE 25	268.8	272.05	3.25	1.37	25°	- 5	Po	Py, Cp	Massive vein quartz abutting gabbro dyke (drilled 1981). TIN VEIN.	.01	-	.03	.08	1.14	3.5
RBE 32	488.9	489.7	.8	.4	30°	-100	No visible sulphides.		Quartz carbonate vein emplaced along sediment gabbro dyke contact as per RBE 25 (drilled 1981). TIN VEIN.	.03	-	.10	.03	.99	.09

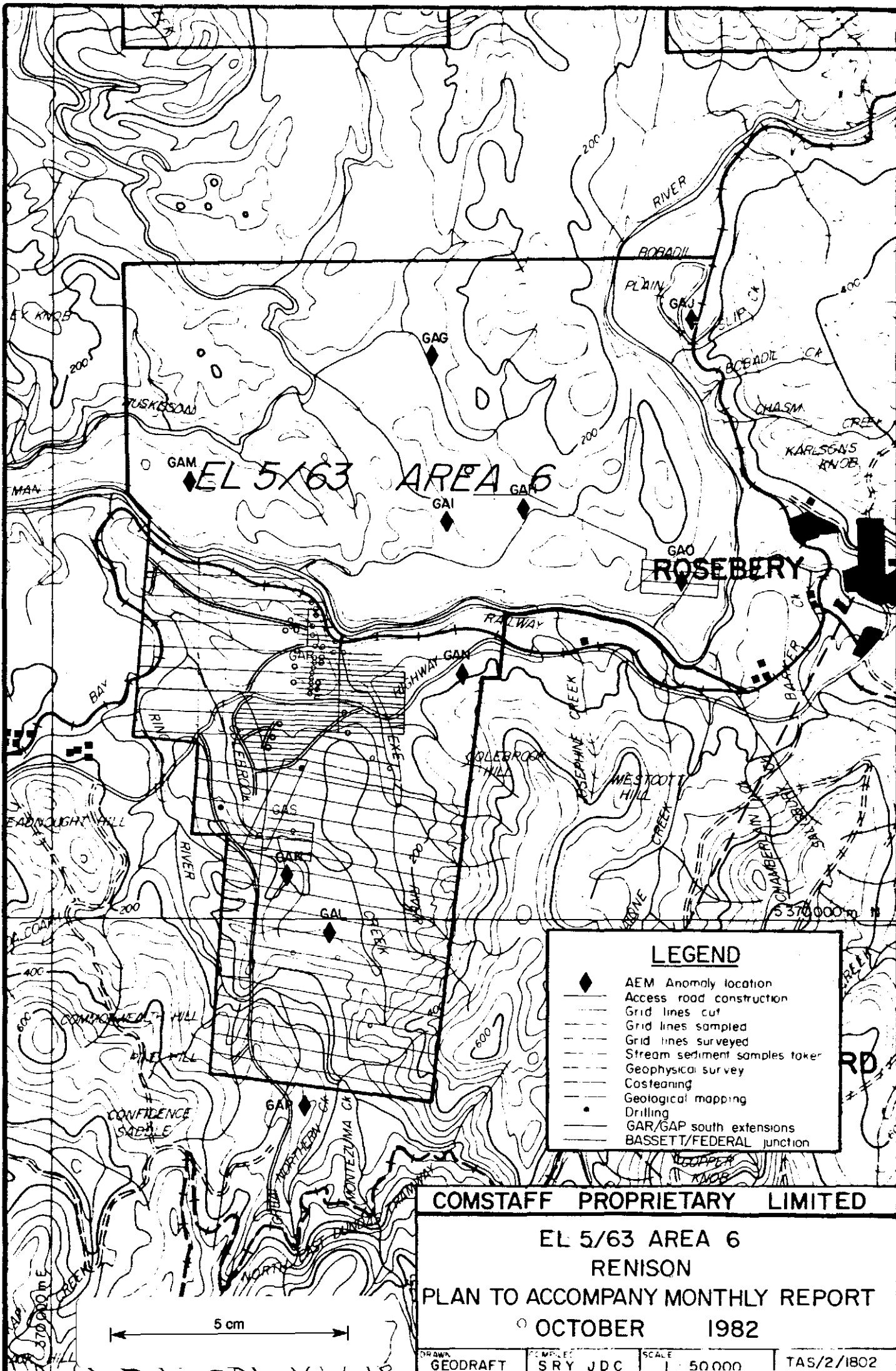
PIEDMONT RIVER TIN ZONE AREA

Significant drill hole results of TIN VEIN (+ Salmon's Lode & copper vein)

* NB Ground Core results.

565074

565075



LL HOLE NO.	GRID AREA	CO- EAST	CO- NORTH	RL	DI- MUTH MN	INC- LIN- ATION	END OF HOLE METRES	CONED METRES	METRES	MET.	S DATE	DATE	NUMBER DRILLING	METRES DAY AV	NO. OF DAYS	REMARKS
RBE 1*	GAR SOUTH	373496.1	5371606.7	150.3			184.90									Exe work- ings
RBE 2*	GAP	372323.0	5370777.0	?	240°	-50	318.50	0-19.2	120.0		20/11/78	4/12/78				)
RBE 3*	GAR NORTH	373105.0	5372905.0	105.7	257.5°	-50°	134.0	0- 5.7	50.60	134.0	26/10/79	2/11/79	8	16.75		) Holes
RBE 4*	GAS	372612.0	5371060.0	± 290	240°	-60°	94.0	0-4.0	52.0							) drilled
RBE 5*	GAR NORTH	373045.0	5372795.0	115.49	257.5°	-45°	173	0- 5	108.50	173.0	3/11/79	12/11/79	10	17.3		) prior to
RBE 6*	GAP	373169.29	5369952.67	220.68	VERTICAL	0	125.70	0-20	125.70	-	8/5/80					) 1980
RBE 7	GAR NORTH	372956.0	5372794.7	127.1	258°	-45°	193.5	0- 5	193.5		15/ 5/80	28/ 5/80	4	13.82		
RBE 8	GAR NORTH	372729.5	5372957.7	176.5	78°	-45°	307.0	0-27	156.0	307	29/ 5/80	14/ 6/80	17	18.05		
RBE 9	GAR NORTH	373025.0	5372775.0	110.0	258°	-47°	219.0	0- 1	90.0	219	15/ 6/80	30/ 6/80	16	13.68	2	Drill Pad tight
RBE 10	GAR NORTH	372755.0	5372730.0	175.0	78°	-45°	228.0	0-51	228.0		1/ 7/80	15/ 7/80	15	15.2	3	Fishing for casing
RBE 10A	GAR NORTH	372755.0	5372730	175.0	78°	-45°	295.5	0-54.7	295.0		16/ 7/80	28/ 7/80	13	22.69		
RBE 11	GAR NORTH	372774.6	5372672.6	177.1	78°	-45°	274.5	0-49.0	274.5		29/ 7/80	12/ 8/80	15	18.3		
RBE 12	GAR NORTH	372766.4	5372591.0	179.1	78°	-45°	303.5	0-69.0	117.0	303.5	13/ 8/80	6/ 9/80	25	12.14	2	Mechanical casing pull- ed from 10A
RBE 13*	GAR SOUTH	373318.1	5371.664.7	200.8	216°	-70°	151.8	0-2.6	54.0	151.8	18/ 8/80	25/ 8/80	8	18.97		Exe work- ings Parry rig
RBE 14	GAR NORTH	372723.3	5372547.0	178.2	78°	-45°	291.5	0-45	93.0	291.5	7/ 9/80	22/ 9/80	16	18.21		
RBE 15	GAR NORTH	372723.3	5372486.9	174.5	78°	-45°	303.8	0-39	95.8	303.8	23/ 9/80	6/10/80	14	21.70		
RBE 16	GAR NORTH	372706.5	5372426.8	159.4	78°	-45°	364.0	0-30	90.0	364.0	7/10/80	28/10/80	22	16.54		
RBE 17	GAR NORTH	372722.8	5372366.9	159.1	78°	-45°	283.5	0-30	78.0	283.5	29/10/80	13/11/80	16	17.71		
TOTALS RBE 7-17 from 15/5/80-13/11/80							3063.8						183	16.74	7	

* NB Holes RBE 1-6 and 13 excluded from calculation

DIAMOND DRILLING AND DRILL RATE SUMMARY MAY - MID NOVEMBER 1980

TABLE 1

565076

HOLE	GRID	EAST	NORTH	RL	MUTH	LIN- ON	HOLE M	CONED M	NQ METRES	BQ METRES	START DATE	END DATE	DAYS PULLING	PER DAY AV	DELAY DAYS	COMMENTS
RBE 18	GAR NORTH	372713.0	5372307.1	147.9	78°	-42°	313.0	0-18	60.0	313.0	14/11/80	29/11/80	16	19.56		
RBE 19	GAR NORTH	372713.0	5372307.1	147.9	99° 12.5 101.5	-45°	365.0	0-15	60.0	365.0	30/11/80	16/12/80	17	20.27		Christmas break
RBE 20	GAR NORTH	372689.6	5372843.1	175.2	78°	-45°	391.0	0-57.0	108.0	391.0	12/ 1/81	6/ 2/81	26	15.03	4	Pulling cas- ing RBE 11 19
RBE 21	GAR SOUTH	373037.2	5372127.1	144.0	288° 281°	-45°	361.0	0-51.0	92.60	361.0	7/ 2/81	9/ 3/81	31	11.64	4	No bulldozer Rig to God- kin,
RBE 22	GAR NORTH	372600.0	5372780.6	176.6	77°	-45°	500.2	0-42.3	146.80	500.2	30/ 3/81	24/ 4/81	26	19.23		Rig returned from Godkin
RBE 23	GAR NORTH	372604.5	5372600.5	173.7	75°	-46°	502.0	0-51.3	122.70	502.0	25/ 4/81	22/ 5/81	28	17.92		
RBE 24	GAR NORTH	372638.5	5372420.5	147.5	77.5°	-47°	475.0	0-27.2	64.0	475.0	23/ 5/81	26/ 6/81	35	13.57	3	3 days sick
RBE 25	GAR NORTH	372600.1	5373018.9	177.9	78°	-45°	356.40	0-21.0	75.0	356.40	27/ 6/81	15/ 7/81	19	18.75	1	Pull casing from RBE 20
RBE 26	GAR SOUTH	372614.5	5372000.4	154.0	78°	-45°	340.30	0-18.0	53.90	340.30	16/ 7/81	29/ 7/81	14	24.30		
RBE 27	GAR SOUTH	372457.3	5371697.4	155.6	78°	-45°	436.40	0-18.0	87.10	436.40	30/ 7/81	31/ 8/81	33	13.22	10	6 fishing casing 4 do- zers bogged
RBE 28	GAR SOUTH	372469.8	5371833.5	163.5	78°	-45°	481.0	0-12.0	92.90	481.0	1/ 9/81	25/ 9/81	25	19.24		Shift drilling re- cord of 72m
RBE 29	GAR SOUTH	373199.4	5371898.8	180.32	78°	-45°	394.0	0-15	131.70	394.0	26/ 9/81	25/10/81	30	13.13		Exe workings
RBE 30	GAR NORTH	372844.6	5372725.2	175.46	78°	-45°	209.20	0-30	92.80	209.20	23/10/81	1/11/81	10	20.92		2nd rig shallow holes
RBE 31	GAR NORTH	372851.6	5372599.5	180.0	78°	-45°	186.90	0-48	108.0	186.90	2/11/81	11/11/81	10	18.69		2nd rig re- linquished
RBE 32	GAR NORTH	372493.4	5373022.0	176.56	78°	-45°	520.0	0-36	212.60	520.0	26/10/81	17/11/81	23	22.60		Rig trans- ferred to Godkin
TOTAL RBE 18-32 from 14/11/80-17/11/81							5435.3						325	16.77	22	
XI *	GAR NORTH	372878.1	5373111.5	110.2	213°	-10°	185.47		5.72	185.47	SEP '66	DEC '66				Drilled from Railway Line

* NB Holes RBE 30,31 & XI excluded from calculations

DRILL HOLE NO.	GRID AREA	COLLAR CO-ORDINATES		R.L.	AZIMUTH	DEC-LIN-ATION	END OF HOLE METRES	DRILLING DETAILS				START DATE	END DATE	DRILLING DAYS	METRES PER DAY AVERAGE	NO. DELAY DAYS	GENERAL COMMENTS
		EAST	NORTH					TRICONED METRES	HQ METRES	NQ METRES	BQ METRES						
RBE 33	GAR (PRT 2)	372581.8	5373081.1	177.7	78°M	-45°	331.50	21.0	-	56.7	253.8	23.4.82	4.5.82	11.5	28.8		
RBE 34	GAR FENTONS	372856.85	5372663.39	177.6	78°M	-45°	153.60	14.0	-	139.6	-	4.5.82	12.5.82	8.5	18.0		
RBE 34A	GAR FENTONS	372856.85	5372663.39	177.6	78°M	-46°	(144.90)	-	-	48.0	-	13.5.82	17.5.82	4.5	10.6		* WEDGE CUT 96.90-144.90 = 48m.
RBE 35	GAR FENTONS	372794.4	5372842.1	173.9	78°	-45°	203.80	22.5	-	181.3	-	17.5.82	25.5.82	8.5	23.9		
RBE 36	GAR FENTONS	342825.4	5372542.7	179.47	48°	-45°	225.0	46.4	-	178.6	-	26.5.82	4.6.82	10	22.5		
RBE 37	GAR FENTONS	372846.63	5372424.77	179.51	78°	-45°	158.30	64.5	-	93.8	-	5.6.82	10.6.82	5.5	28.7		
RBE 38	GAR (PRT 2)	372543.9	5373144.0	176.0	78°	-45°	328.00	60.5	-	267.5	-	10.6.82	27.6.82	16.5	19.8		
RBE 39	GAR (PRT 2)	372818.7	5373197.2	123.0	258°	-45°	238.00	7.5	-	230.5	-	29.6.82	11.7.82	12.5	19.0	1	Change of drill pad location - access preparation.
RBE 40	GAR (PRT 2)	372810.5	5373257.7	119.1	258°	-45°	268.60	35.5	-	233.1	-	11.7.82	25.7.82	14.5	18.5		
RBE 41	GAR (PRT 2)	372724.46	5373020.96	177.8	78°	-45°	317.20	27.5	-	287.9	-	26.7.82	13.8.82	19	16.6		
RBE 42	GAR (PRT 2)	372724.8	5373319.8	117.6	258°	-45°	257.00	42.5	-	214.5	-	14.8.82	29.8.82	16	16.0		
RBE 43	GAP (S.EXT)	372290.0*	5370900*	168.5*	258°	-45°	418.00	10.5	-	407.5	-	30.8.82	20.9.82	22	19.0		
RBE 44	GAP (S.EXT)	372534.3	5371462.5	164.8	258°	-45°	515.40	36.0	-	216.0	263.4	21.9.82	28.10.82	38	11.9		5 double shifts
RBE 45	GAP/GAT	371650 *	5371730*	175 *	292°	-45°	334.00	21.0	-	198.4	114.6	29.10.82	9.11.82	12	16.7		8 double shifts
13 HOLES	←	TOTALS					3796.4	409.4	NIL	2755.2	631.8	23.4.82	9.11.82	200	17.82	1	
RBE D1	GAP WEST (DEEP DRILLING)	371697.3	5371158.7	179.7	203°	-85°	1098.6	36.0	192.0	671.0	199.6	15.8.82	22.10.82	61	10.3	8	Cementing; Wedging; setting up.
RBE D2	EXE PTY (DEEP DRILLING)	373561.7*	5371735.9*	153.8*	265°	-65°	ongoing (294.30)	15.0	89.10	294.3	-	6.11.82		(15)	12.2	3	Ongoing - at 294.30 as of 20.11.82.

DIAMOND DRILLING AND DRILL RATE SUMMARY 23.4.82 - 9.11.82

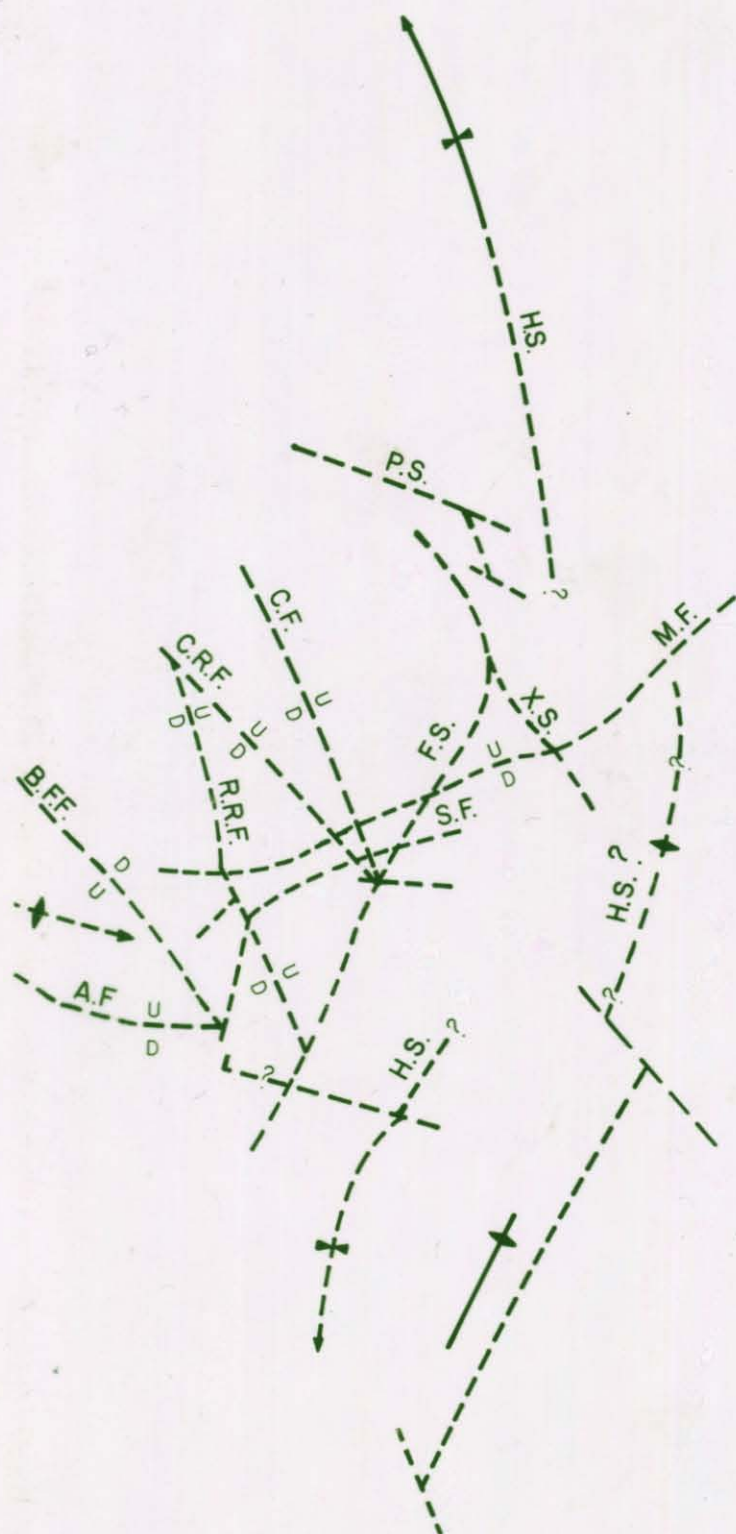
TABLE 1.

* Provisional

265078

H.S. Huskisson Syncline.
 F.S. Fenton's Structure.
 X.S. Exe River Structure.
 B.F.F. Bassett Federal Fault.
 A.F. Argent Fault.
 M.F. Mawson Fault.
 R.R.F. Ring River Fault.
 C.R.F. Cole-Ring Fault.
 C.F. Cole Brook Fault.
 S.F. Stanley Fault.

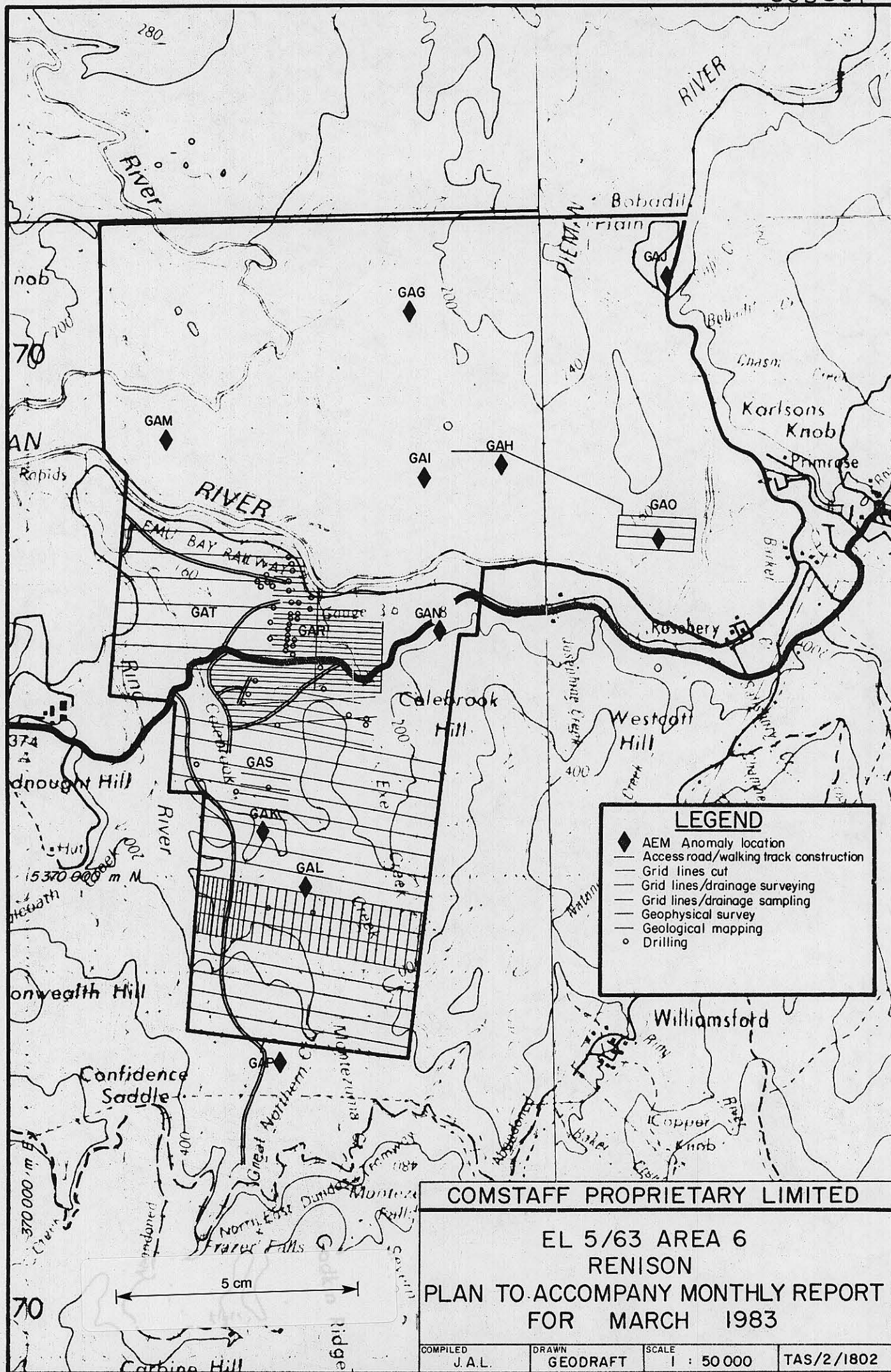
U : upthrown D : downthrown

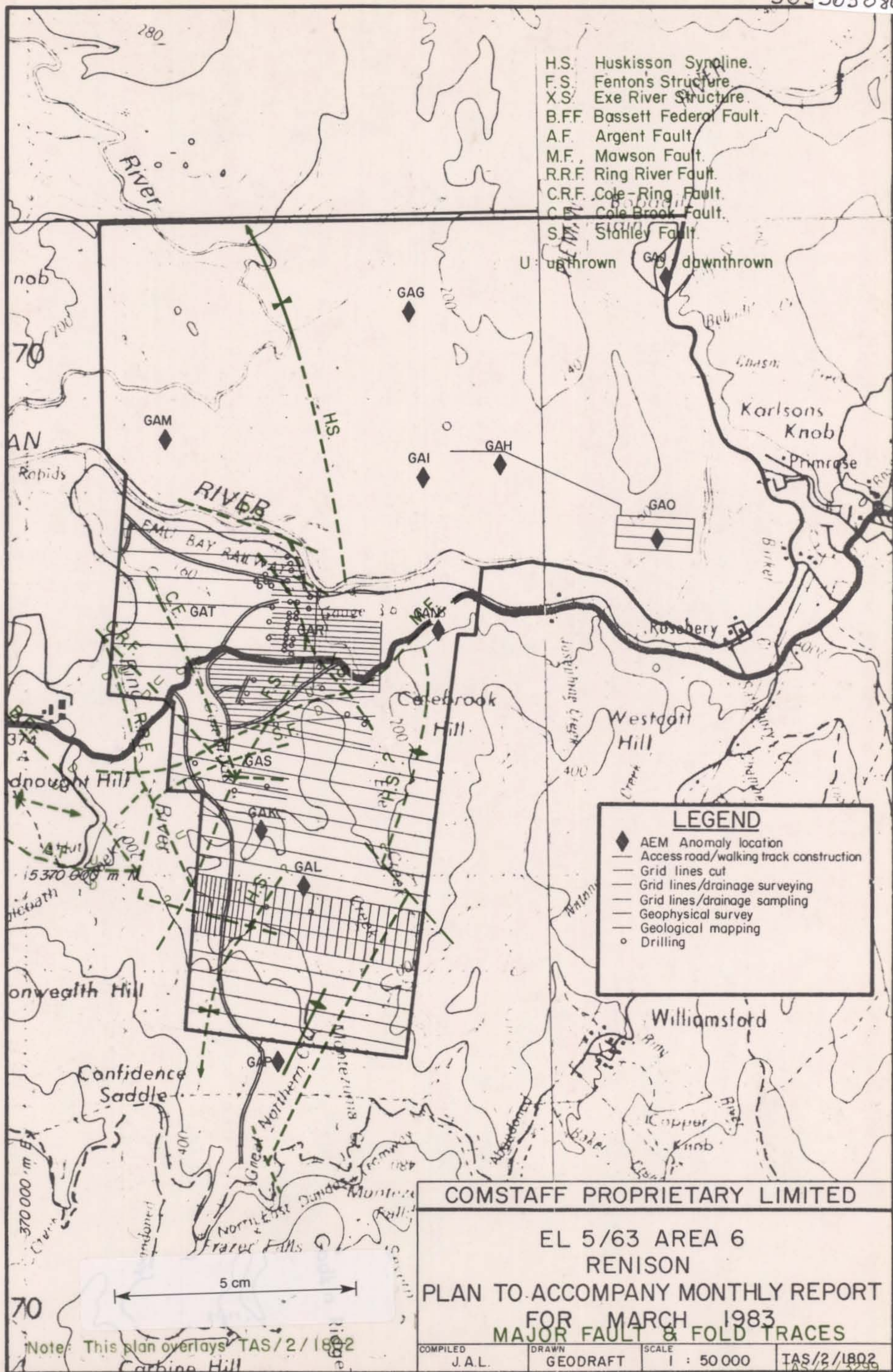


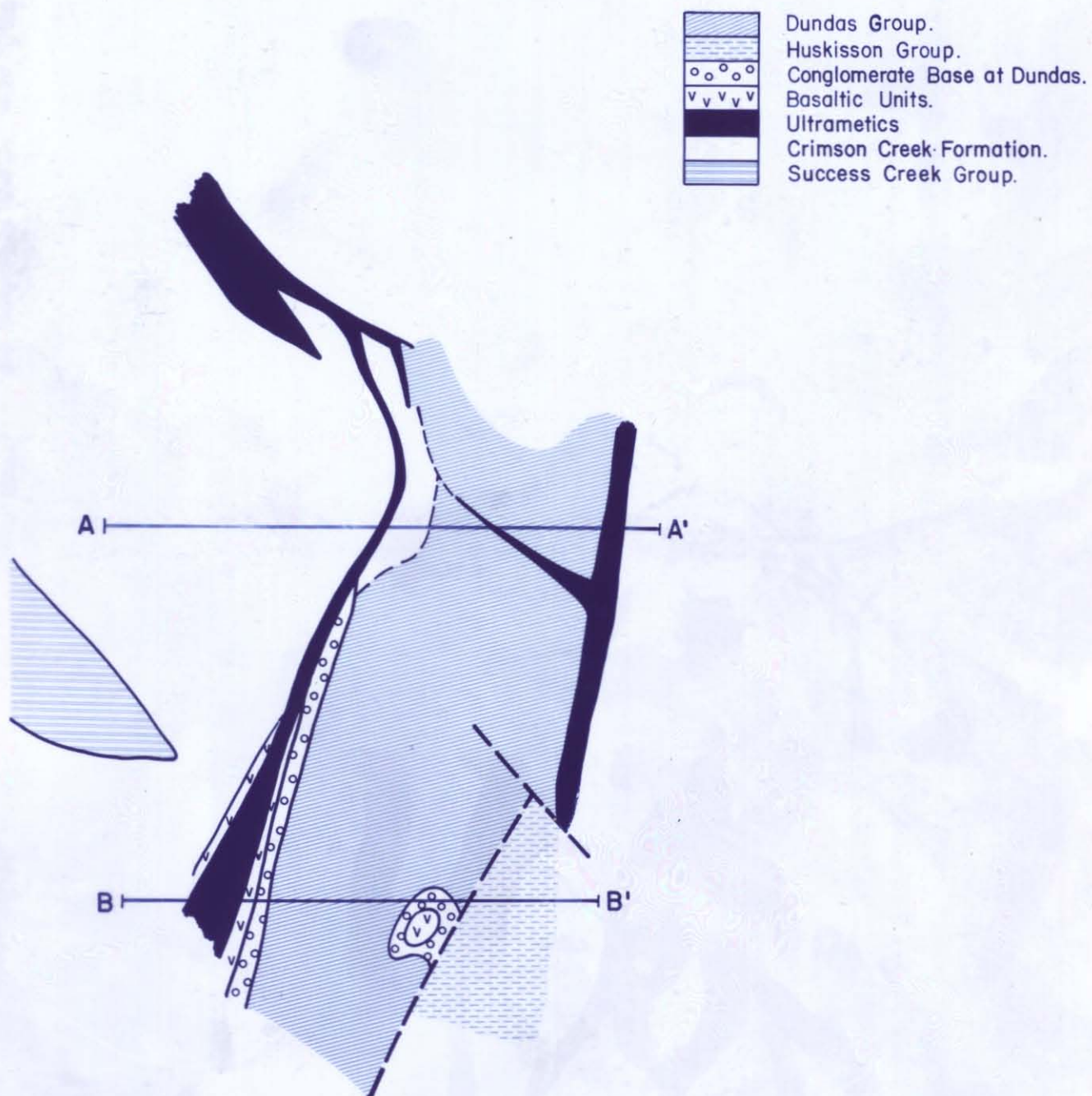
Note: This plan overlays TAS/2/1802

MAJOR FAULT & FOLD TRACES

TAS/2/3299

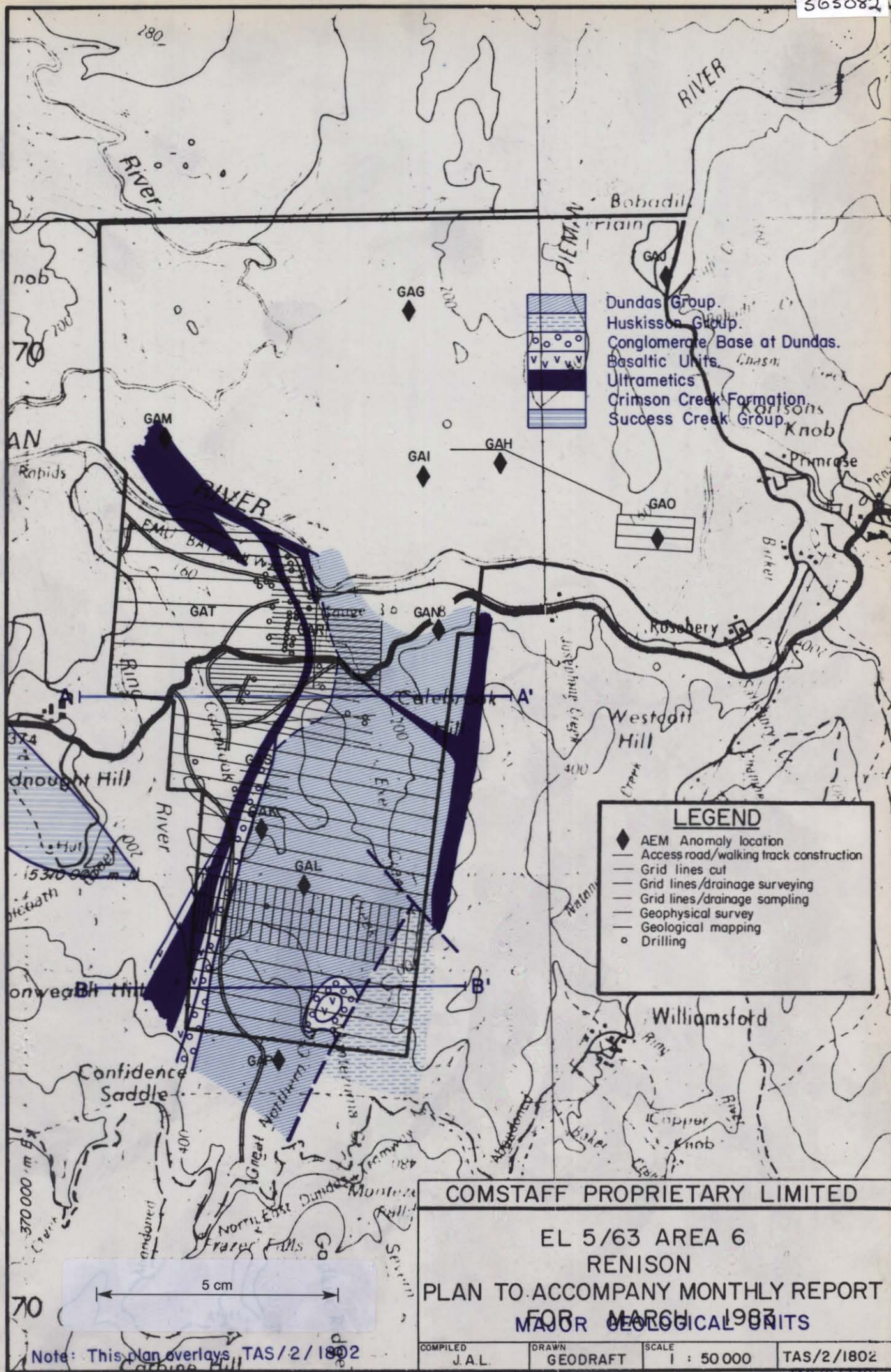






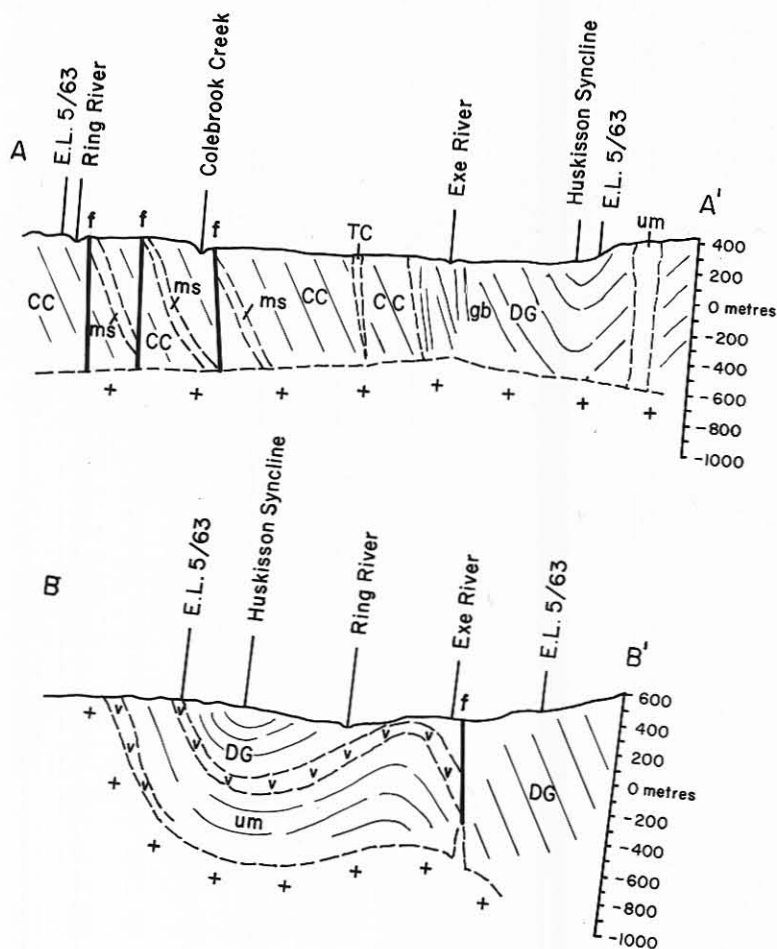
MAJOR GEOLOGICAL UNITS

Note: This plan overlays TAS/2/1802



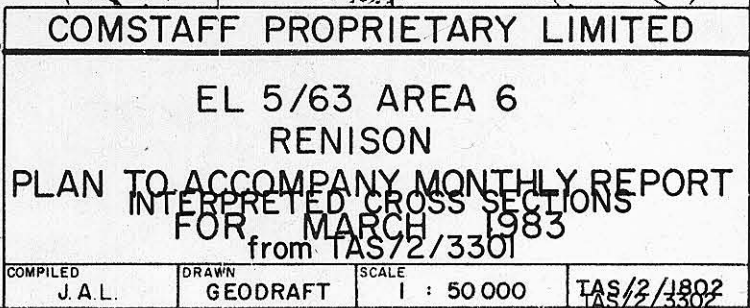
565084

- CC Crimson Creek Formation
- ms Magnetic sandstone
- TC Talc carbonate
- DG Dundas Group
- gb Gabbro
- um Ultramafics
- v Basalt



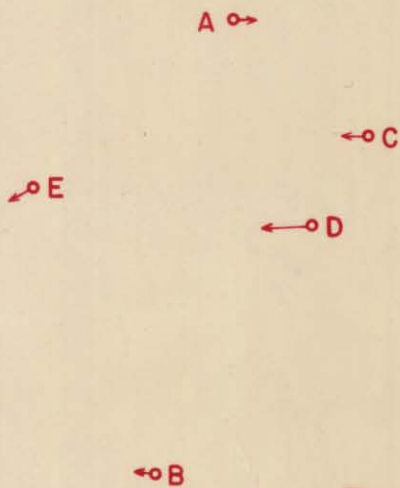
Note : This plan overlays TAS/2/3301

INTERPRETED CROSS SECTIONS
from TAS/2/3301



- ←○ A D.D.H. Pieman Tin Zone.
- ←○ B D.D.H. Western GAP.
- ←○ C D.D.H. Northern Exe River.
- ←○ D D.D.H. GAR South Deep Drilling.
- ←○ E D.D.H. South East GAP

 South East GAP fill in lines.

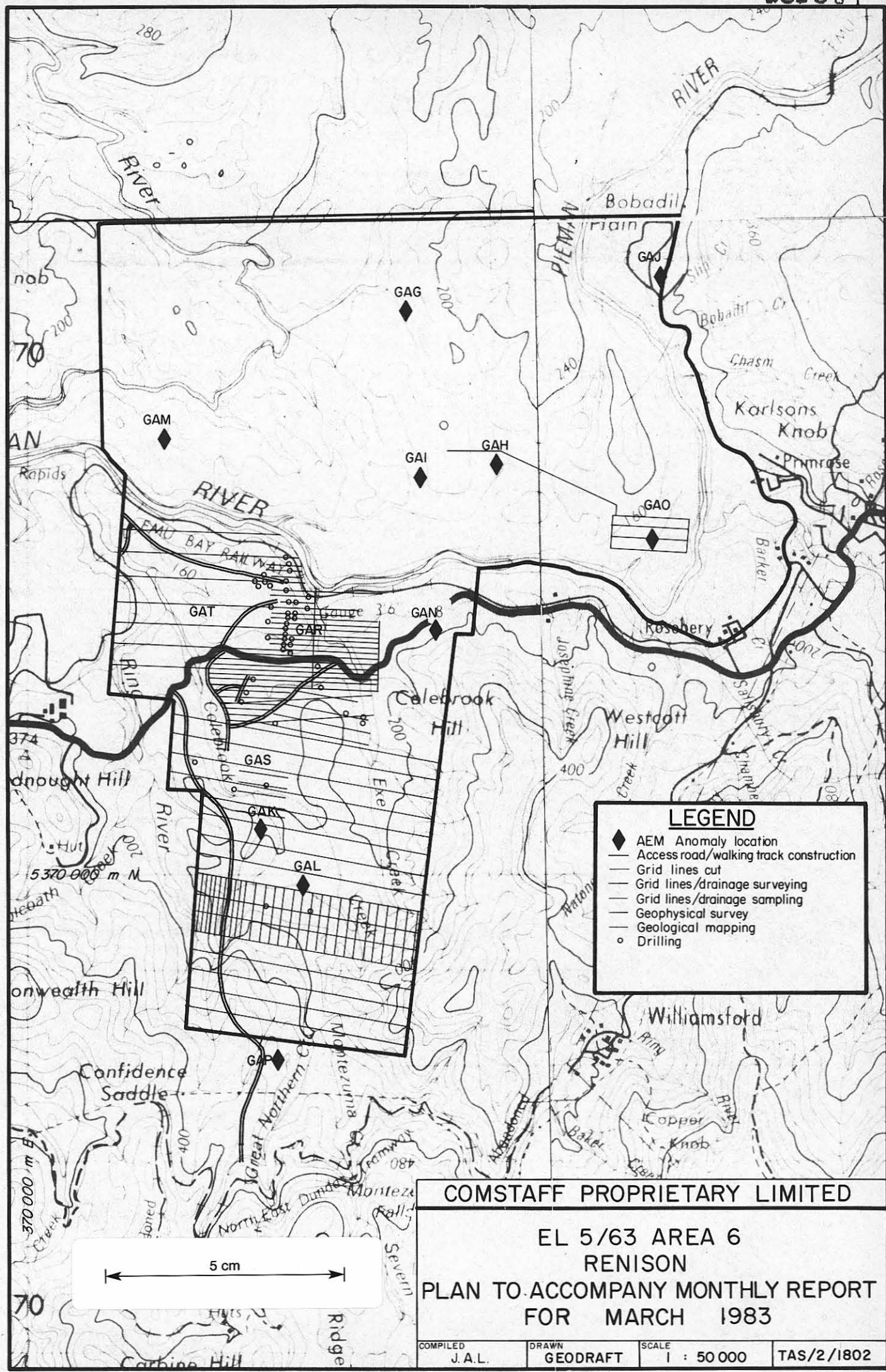


DRILLING

Note: This plan overlays TAS/2/1802

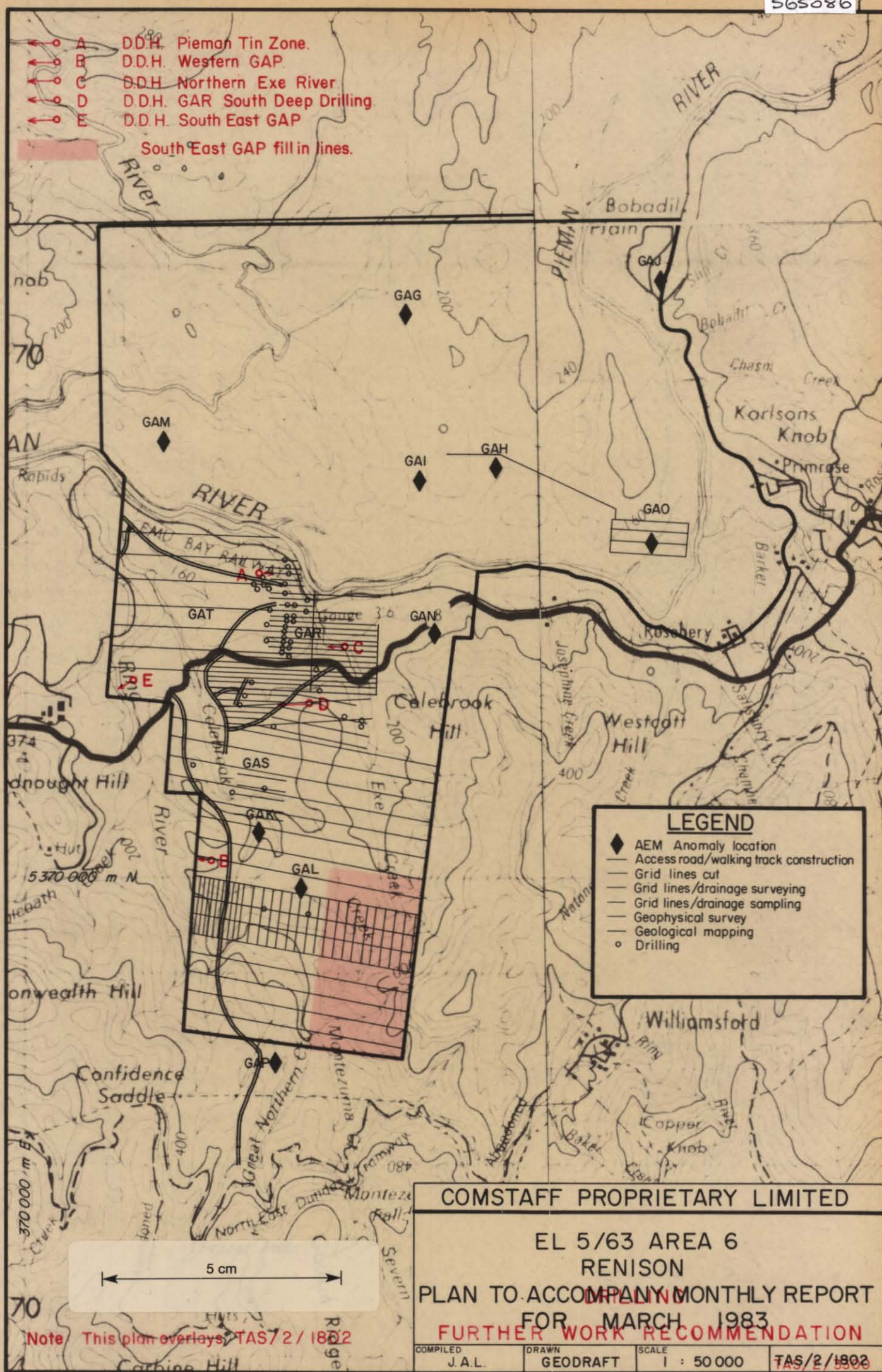
FURTHER WORK RECOMMENDATION

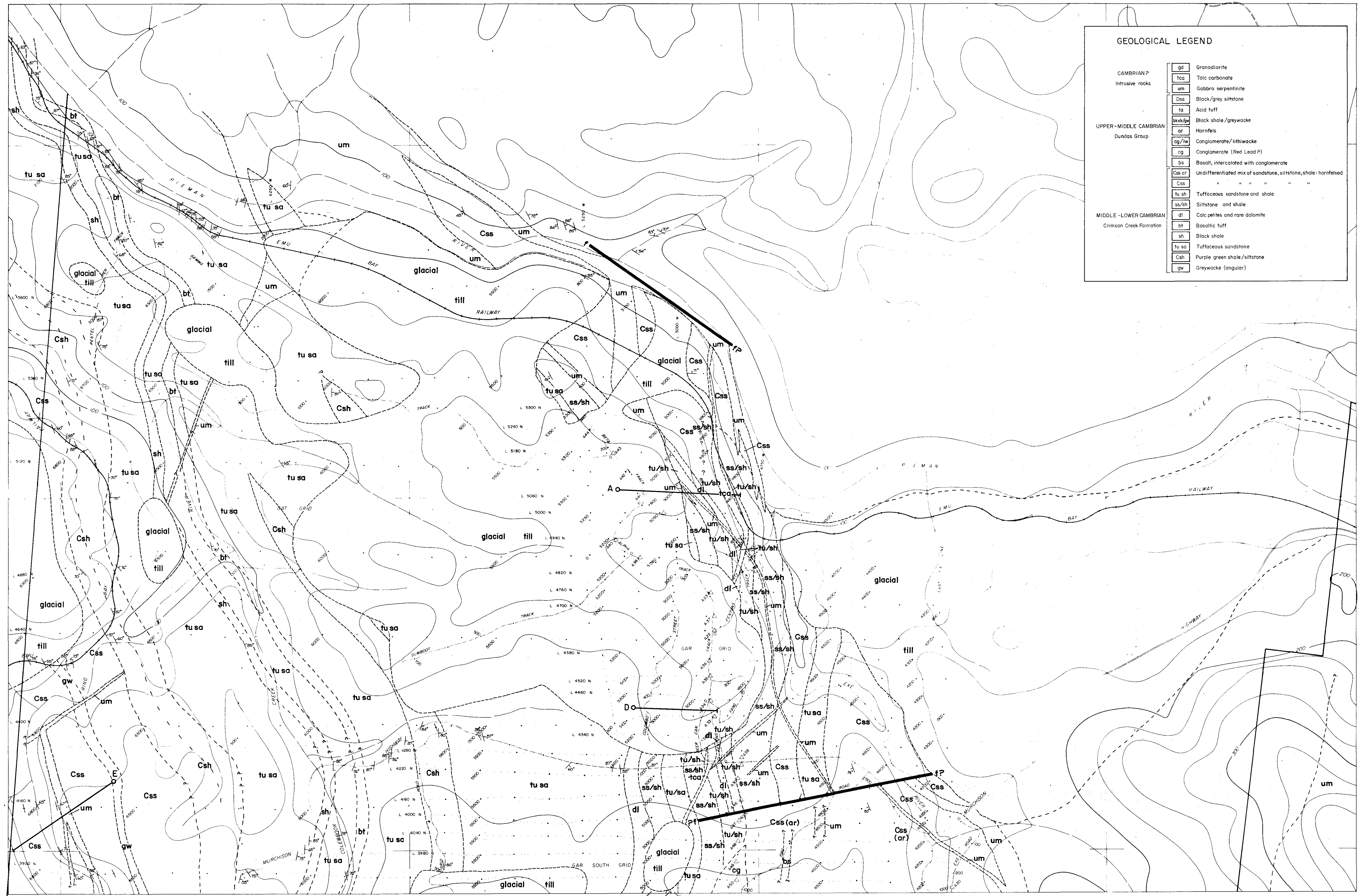
TAS/2/3300



- ←○ A D.D.H. Pieman Tin Zone.
- ←○ B D.D.H. Western GAP.
- ←○ C D.D.H. Northern Exe River
- ←○ D D.D.H. GAR South Deep Drilling
- ←○ E D.D.H. South East GAP

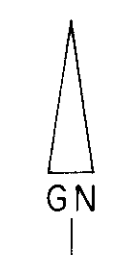
South East GAP fill in lines.





GEOLOGICAL LEGEND	
CAMBRIAN P Intrusive rocks	gd Granodiorite
	tca Talc carbonate
	um Gabbro serpentinite
	Dss Black/grey siltstone
	ta Acid tuff
UPPER-MIDDLE CAMBRIAN Dundas Group	bksh/gw Black shale/greywacke
	ar Hornfels
	cg/lw Conglomerate/lithiowacke
	cg Conglomerate (Red Lead P)
	bs Basalt, intercalated with conglomerate
	Css or Undifferentiated mix of sandstone, siltstone, shale: hornfelsed
	Css
MIDDLE-LOWER CAMBRIAN Crimson Creek Formation	tu sh Tuffaceous sandstone and shale
	ss/sh Siltstone and shale
	dl Calc pelites and rare dolomite
	bt Basaltic tuff
	sh Black shale
	tu sa Tuffaceous sandstone
	Csh Purple green shale/siltstone
	gw Greywacke (angular)

TAS/2/3308
TAS/2/3309



COMSTAFF PROPRIETARY LIMITED

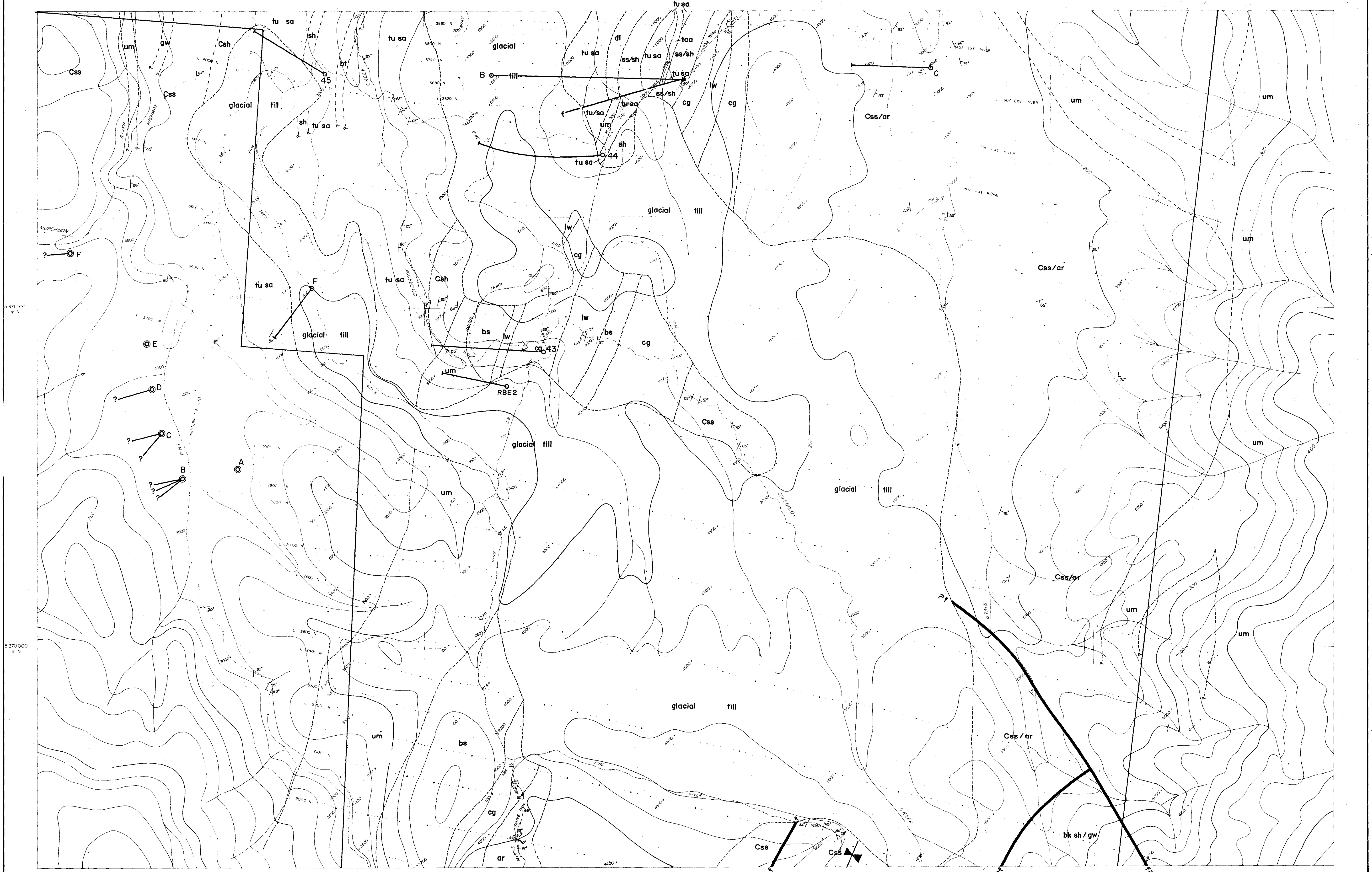
SOUTHERN PORTION EL5/63 AREA 6 : M.L. 62M /75

GEOLOGICAL INTERPRETATION

83-1946

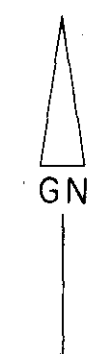
5 cm

COMPILED	GFP/JDC
DRAWN	DATE 1/82
AMENDED	
SCALE	1 : 5000
PLAN NO.	TAS/2/3306



TAS/2/3306
TAS/2/3309

For legend see
TAS/2/3306



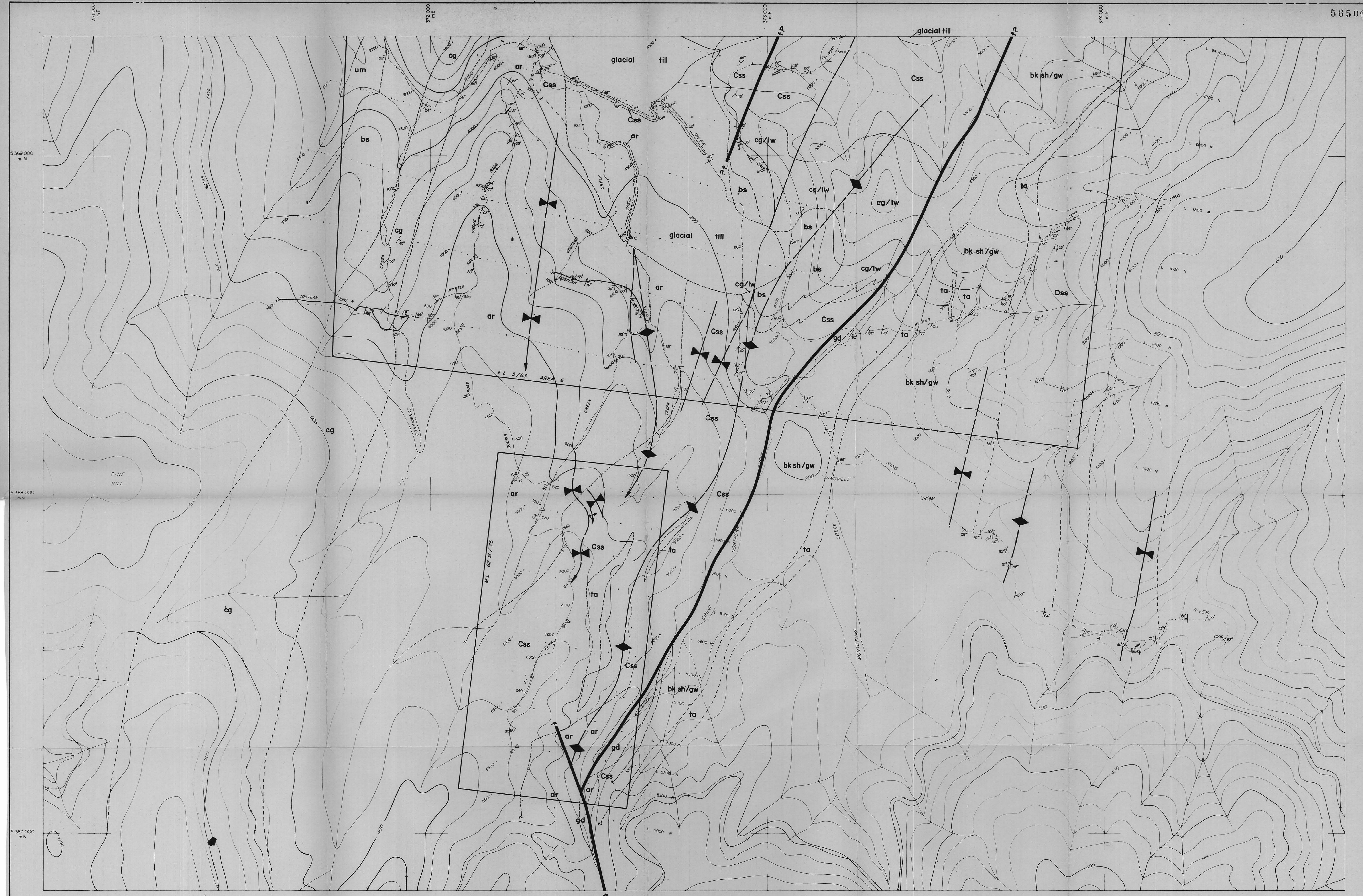
COMSTAFF PROPRIETARY LIMITED

SOUTHERN PORTION EL 5/63 AREA 6 : ML 62M/75

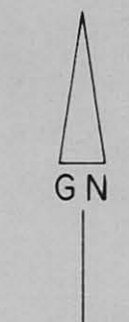
GEOLOGICAL INTERPRETATION

83-1986

COMPILED		GFP/JDC	
DRAWN	HR	DATE	1/8/
AMENDED			
SCALE			
1 : 5000			
PLAN No			
TAS/2/3308			



TAS/2/3306
TAS/2/3308
For legend see
TAS/2/3306



COMSTAFF PROPRIETARY LIMITED

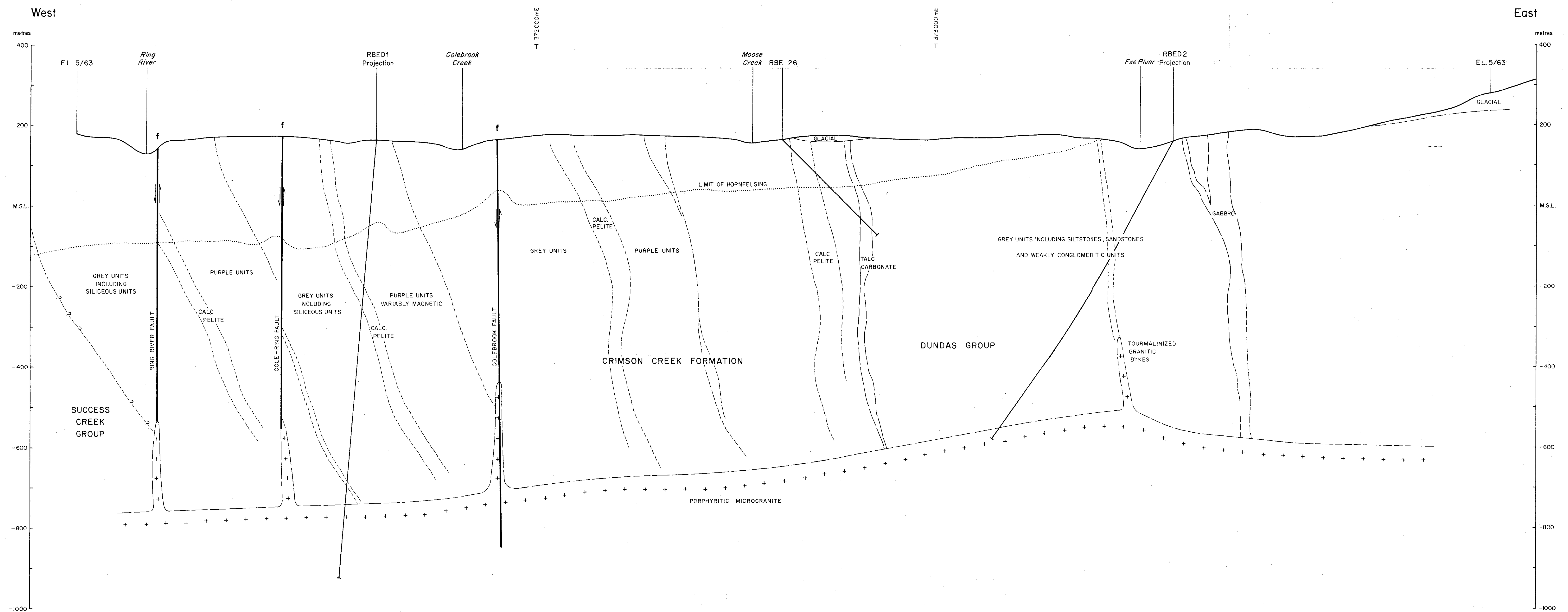
SOUTHERN PORTION EL 5/63 AREA 6 : ML 62M/75

GEOLOGICAL INTERPRETATION

83-1986

5 cm

COMPILED	GFP/JDC
DRAWN	HR
DATE	1/82
AMENDED	
SCALE	1 : 5000
PLAN No	TAS/2/3309



COMSTAFF PROPRIETARY LIMITED

LEASE No.	
AREA	
AMENDMENTS	
1	8
2	9
3	10
4	11
5	12
6	13
7	14

E.L. 5/63 - AREA 6
EAST RENISON
GEOLOGICAL CROSS SECTION
Approximately 5372000mN

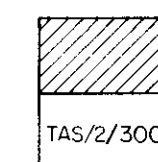
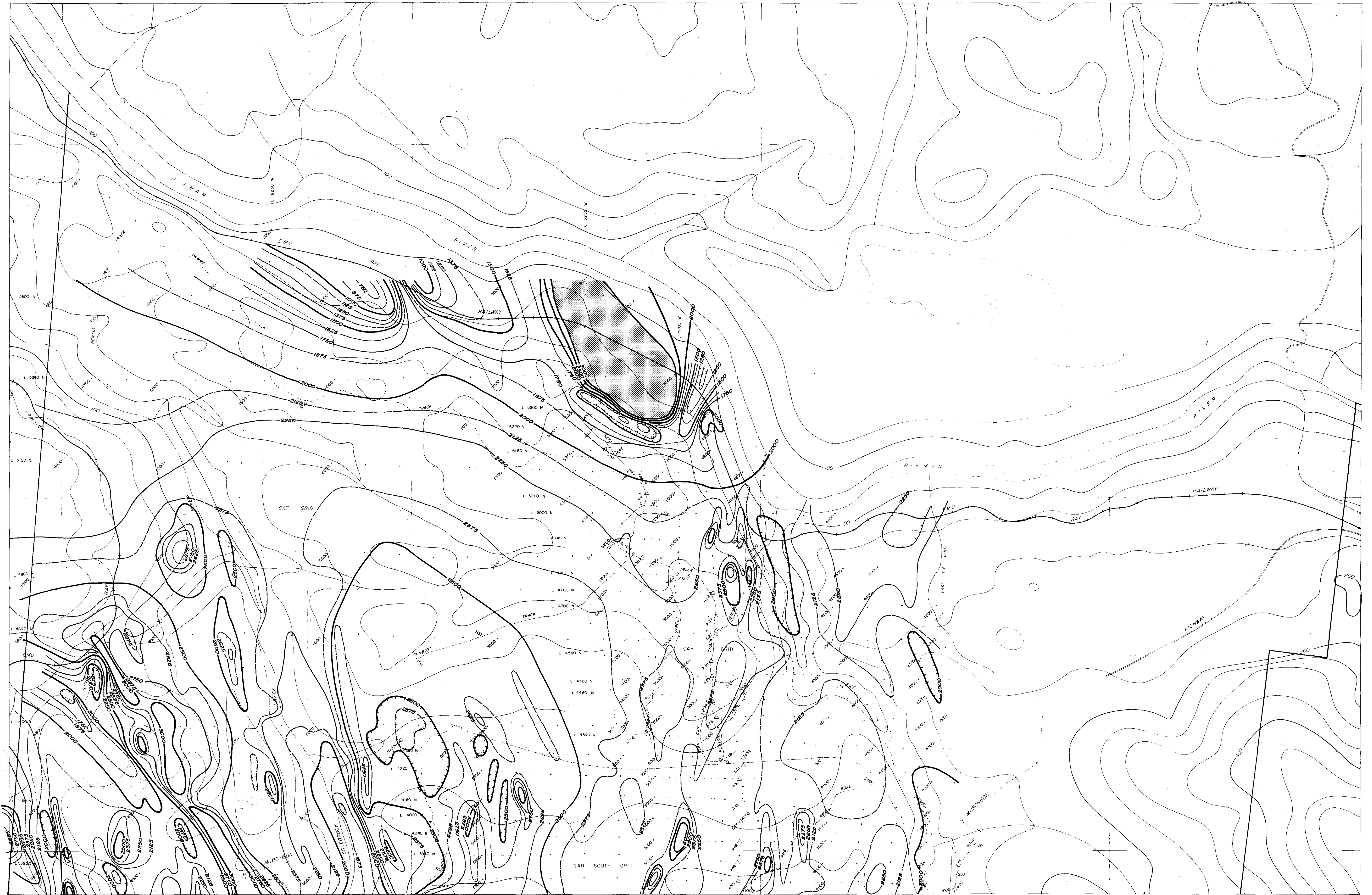
83-1986

COMPILED	J.A.C.
DRAWN	
DATE	5/85
SCALE	1 : 5000
REF. NO.	TAS/2/3304

5 374 000
m N

5 373 000
m N

5 372 000
m N



NB Most contours over 3000m
have been omitted to improve clarity.



COMSTAFF PROPRIETARY LIMITED

SOUTHERN PORTION EL5/63 AREA 6 : M.L. 62M /75

MAGNETIC ANOMALIES

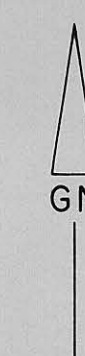
5 cm

COMPILED	DBT
DRAWN	HR
DATE	10/82
AMENDED	
SCALE	1 : 5000
PLAN NO.	TAS/2/3100



TAS/2/30

NB Most contours over 3000nT have been omitted to improve clarity.



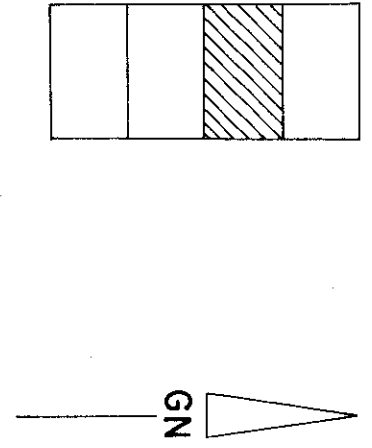
SOUTHERN PORTION EL 5/63 AREA 6 : ML 62M/75

MAGNETIC ANOMALIES



COMPILED		DBT	
DRAWN		HR	DATE 10/82
AMENDED			
SCALE			
1 : 5000			
PLAN No			
TAS/2/3101			

371,000 m E
372,000 m E
373,000 m E
374,000 m E
565,000 m N



COMSTAFF PROPRIETARY LIMITED
RENISON GRID - GAP
GEOCHEMICAL GRID, AUGER SAMPLING
COPPER RESULTS in ppm
JULY 1983
JULY 1983
JAS/2/3368
JAS/2/3368
SCALE 1:5000
JAS/2/3368



371,000
m E

372,000
m E

373,000
m E

374,000
m E

565098



5 cm

COMSTAFF PROPRIETARY LIMITED

RENISON GRID - GAT

GEOCHEMICAL GRID, AUGER SAMPLING

ZINC RESULTS in ppm

SCALE 1:5000
TAS/2/3371

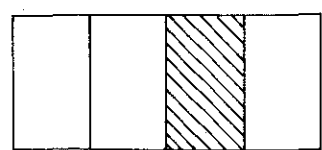
371,000
m E

372,000
m E

373,000
m E

374,000
m E

565099



GN

COMSTAFF PROPRIETARY LIMITED

REINSON GRID - GAP

GEOCHEMICAL GRID, AUGER SAMPLING

ZINC RESULTS in ppm

SCALE 1:5000
TAS/2/3372

371,000
m E

372,000
m E

373,000
m E

374,000
m E

5374,000
m N



COMSTAFF PROPRIETARY LIMITED
RENISON GRID - GAT
GEOCHEMICAL GRID, AUGER SAMPLING
ARSENIC RESULTS in ppm

SCALE
1:5000
DATE
9/2/83
TAS/2/3373

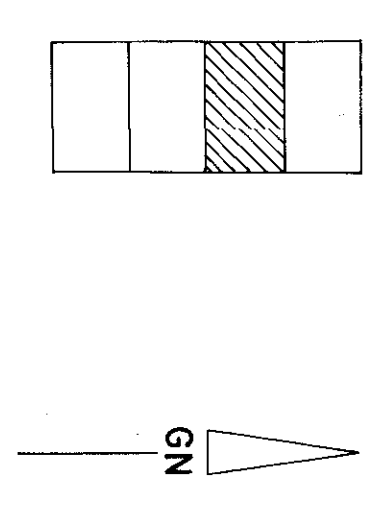
371,000
m E

372,000
m E

373,000
m E

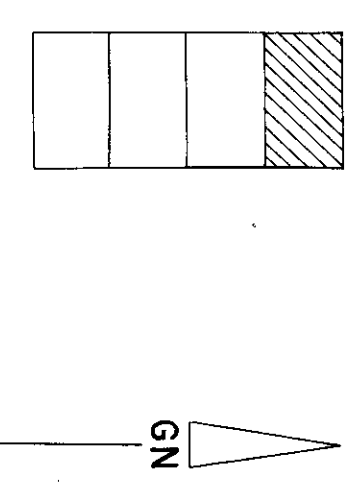
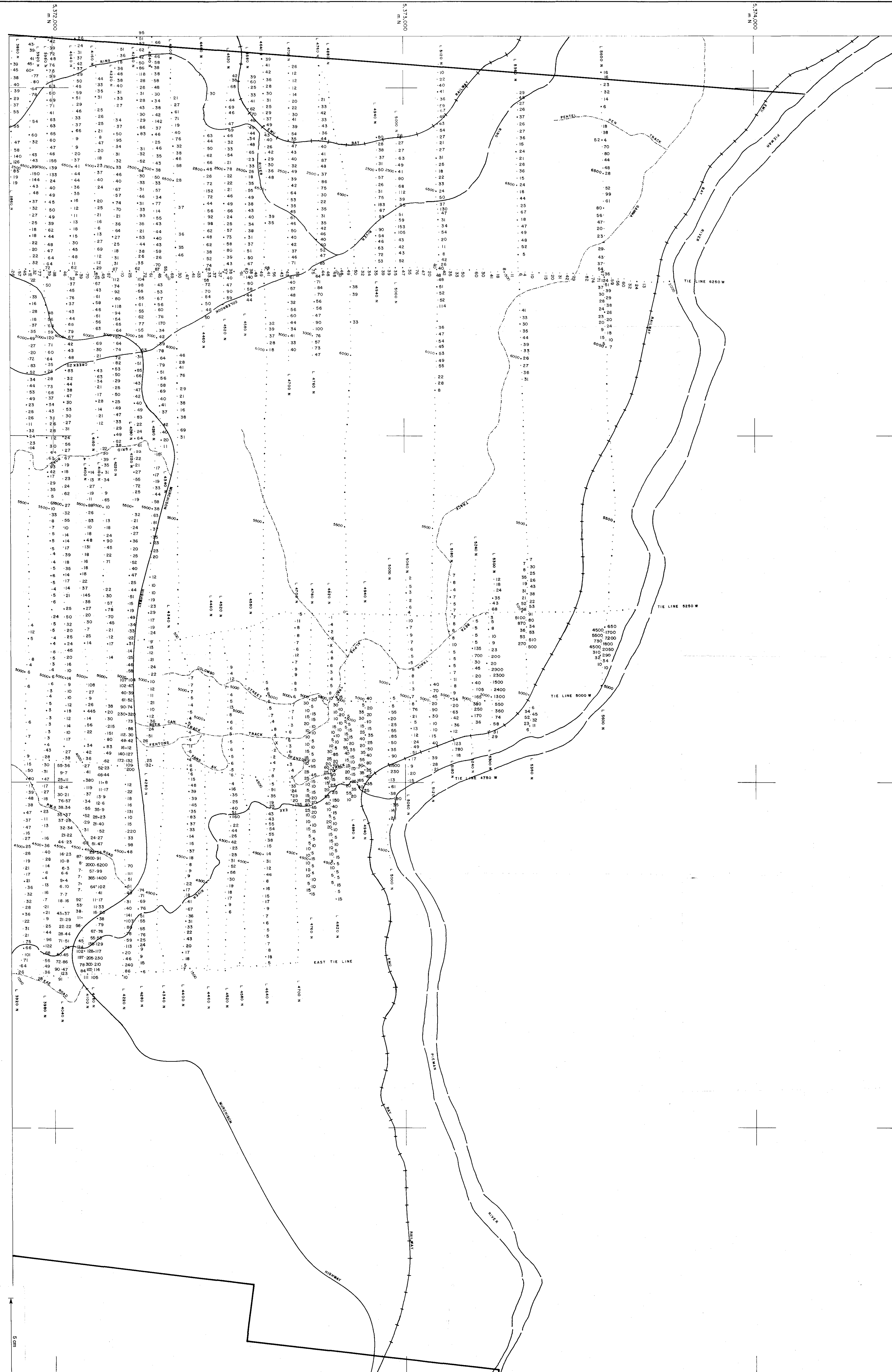
374,000
m E

563101



COMSTAFF PROPRIETARY LIMITED
REINSON GRID - GAP
GEOCHEMICAL GRID, AUGER SAMPLING
ARSENIC RESULTS in ppm
SCALE 1:5000
DATE 1/2/83
DRAWN BY JAS/2/3374

371,000 m E
372,000 m E
373,000 m E
374,000 m E
565102



COMSTAFF PROPRIETARY LIMITED
RENISON GRID - GAT
GEOCHEMICAL GRID, AUGER SAMPLING
NICKEL RESULTS in ppm
SCALE 1 : 5000
DATE 9/2/83
TAS/2/3375

371,000
m E372,000
m E373,000
m E374,000
m E

565 03



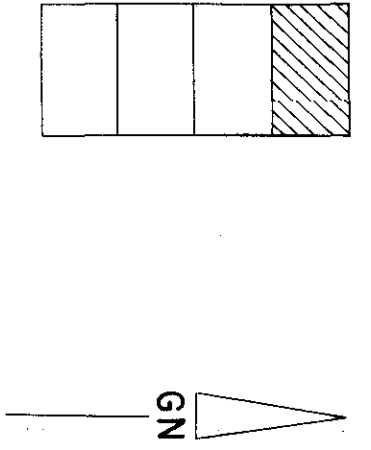
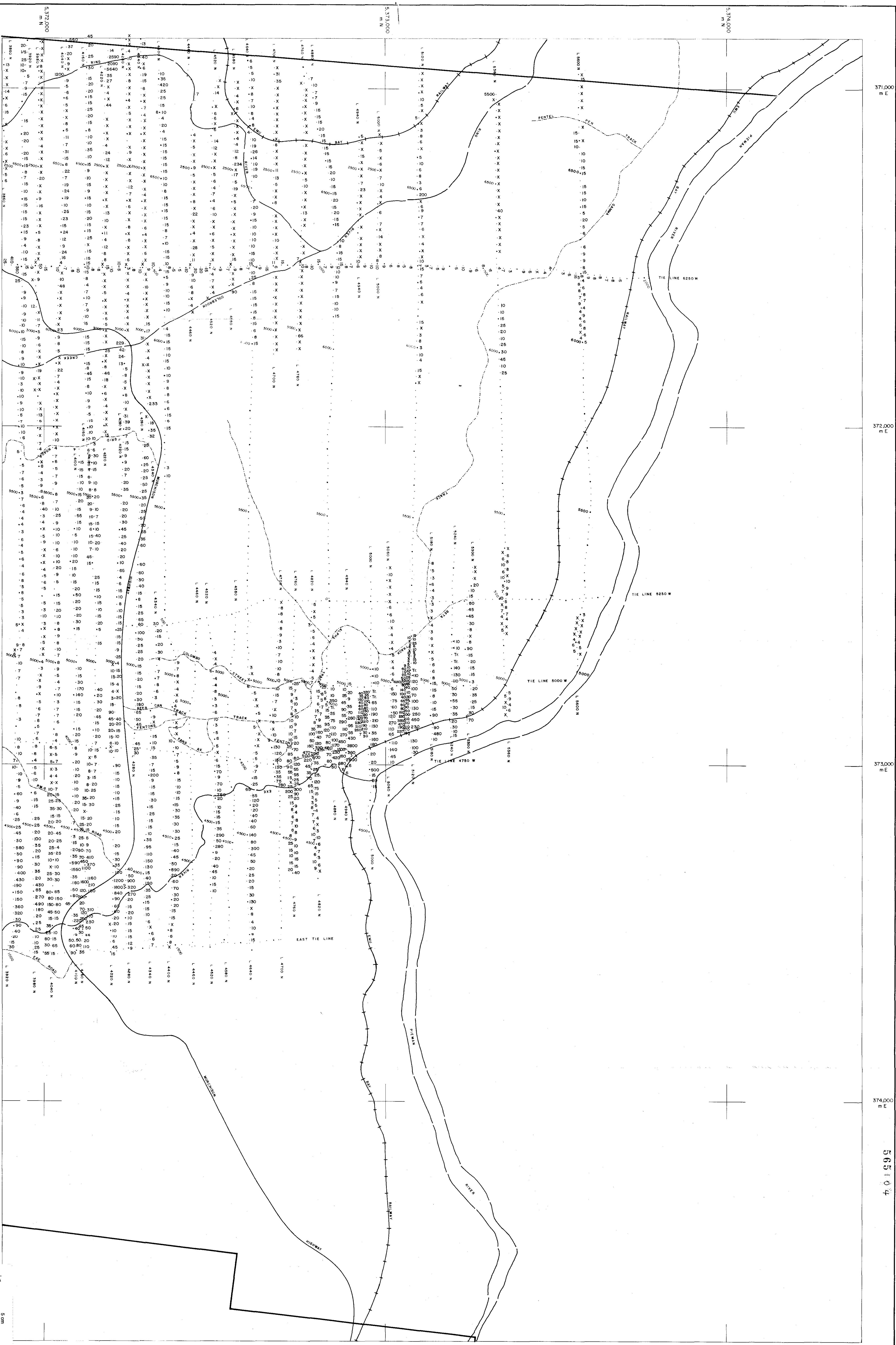
COMSTAFF PROPRIETARY LIMITED

REINSON GRID - GAP

GEOCHEMICAL GRID, AUGER SAMPLING

NICKEL RESULTS in ppm

COMSTAFF
GEOGRAPHICAL REID
DATE
9/2/83
SCALE
1:5000
TS/2/3376



COMSTAFF PROPRIETARY LIMITED

REINSON GRID - GAT

GEOCHEMICAL GRID, AUGER SAMPLING

TIN RESULTS in ppm

SCALE 1:5000

TAS/2/3377

