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DEPT. OF MINES			
REP. No. 5658/85			

PROJECT NAME: COMSTAFF PROPRIETARY LIMITED

TITLE: FINAL REPORT ON AREAS SURRENDERED TO THE
DEPARTMENT OF MINES TASMANIA (JUNE 1985)

EXPLORATION LICENCE 5/63 AREA 1

ARTHUR RIVER

Diagrams to follow. orsl

AREA NAME/S, STATE 1:250,000 SHEET NO/S & COORDINATES: 1:250 000 sheets K55 03 (Burnie)
K55 05 (Queenstown)

COMMODITY/IES: Cu, Pb, Zn, Ag, Au, Ba

TEXT PAGES NO: 4

PLAN NOS: See List of Plans

TABLE NOS: -

APPENDICES: 4

AUTHOR/S: R W L SHAW, M P EVERETT

DATE: MAY, 1985

OPEN FILE

AUSTRALIAN ANGLO AMERICAN LIMITED

Incorporated in the State of Victoria

LIST OF PLANS

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- ✓ TAS/2/3073/74 Geology

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COMSTAFF PROPRIETARY LIMITED

FINAL REPORT ON AREAS SURRENDERED TO THE
DEPARTMENT OF MINES TASMANIA (JUNE 1985)

EXPLORATION LICENCE 5/63 AREA 1

ARTHUR RIVER

INTRODUCTION

In accordance with the requirements of the Department of Mines, Tasmania, EL 5/63 has been reduced from 364 square kilometres to 125 square kilometres. In this reduction, a substantial section of Area 1 has been shed. The following text and accompanying maps summarise the programmes and results achieved in the area to be relinquished. Details of the work done up to 1979 are already on open file at the Department of Mines. Work done since has included programmes which covered both the areas dropped and retained. These programmes are selectively described in this document in order that the data bank for the dropped area is complete.

SUMMARY OF WORK DONE AND RESULTS ACHIEVED TO 1979

1970/71 Stream sediment sampling in the drainages between Magnet Mine and Bischoff and south to the Corinna Rd was completed. Geological mapping was also carried out in selected drainages. The principal anomalies obtained were from the Magnet Mine - contamination - and from Tinstone Creek. The latter indicated that extensions to the Bischoff system were possible.

The above phase of work was followed by a regional TURAM EM survey conducted by Compagnie Generale de Geophysique. They reported eight anomalous responses and recommended follow up of three, A6, A4 and A1. ^{air?}

The above mentioned anomalies were gridded and subjected to TURAM EM surveys by Layton and Associates. Only grid 4 provided geophysical encouragement and further work was recommended.

The previous stream sediment sampling yielded anomalies in the Tinstone Creek area for Ag, Cu, Zn, Pb, Sn and Ba. The area was gridded and six discrete anomalies were identified from the soil sample results.

Most are related to old workings or extensions to the Mt Bischoff body. Follow up recommendations from the EM survey coincided with the requirements for the soil anomalies.

1972 An exercise to identify the source of an 800 ppm Sn anomaly in Mine Creek (Magnet Creek), including additional stream sediment sampling and dump material sampling, showed that the tin source was not the Mine.

Additional work did not take place in this target area until 1975.

1972/73 A reconnaissance geochemical sampling programme was completed over the central and northern sections of the Arthur River area. The geology was comprehensively reported identifying the regional stratigraphy from the ?lower Cambrian Bischoff sequences of dolomites, shales and cherty sediments through mudstones and greywackes of the Cambrian to ?Permian sediments and Tertiary basalt cover in the NE of the licence. In this context the geochemical results were statistically treated after removal of the highly contaminated results from the samples in the Arthur River. Prominent anomalies for Sn were reported from Deep Gully Creek and from Rollins (nee Horizontal Creek) and Dalco's Creek and follow up was recommended. A number of anomalies for Cu/Zn with some associated Ni were recognised, particularly one in the central western part of the area from "Happy Day Creek". It was considered that at least some of these anomalies are due to higher background levels in Tertiary basalts and basic/ultrabasic intrusives in the Cambrian sequence. The principal thrust of follow up recommendations was to investigate the Deep Gully Creek tin anomalism and secondly to grid the Happy Day Creek anomaly. It should be noted that no sulphide mineralisation was observed other than pyrite.

1973 In the Magnet area, two grids were cut over Turam anomalies A5, and 2, and the A4 grid was re-surveyed. Crone EM and magnetic surveys were carried out. No significant anomalies were produced.

1973/74 This summer season saw the gridding of five geochemical anomalies in the north central part of the licence. They were designated Grids A to E and focus on the Cu/Zn anomalies identified in the 1972/73 regional geochemical stream sediment sampling exercise.

The grids were soil sampled and analysed for Cu, Pb, Zn, Ni and Ba. All lines and access tracks as well as drainages were geologically mapped.

No anomalies indicative of the presence of mineralisation were recorded. Anomalous patterns were derived which were largely lithologically controlled. Grid E however was contoured in such a way that the anomalies did not coincide with the observed geological trends and some further work was recommended to reconcile this discrepancy. The level of geochemical values in the soils, and the geological environment indicated by the mapping did not encourage resolution of this 'academic' point.

1974/75 Two costeans were cut across anomalous portions of grid E. They were mapped and sampled but failed to provide any evidence of mineralisation, or shed any light on the apparent discrepancy between the geochemical and geological trends confusing interpretation of the area.

1975/78 A 5 km long grid was cut over the Magnet-Bischoff 'line' and superceeded the previous smaller grids in the area. This was subjected to geological mapping, soil sampling, ground magnetic and EM surveys. Only one EM anomaly was found which was tested by infill lines and drilled (hole BAB 1). This hole passed through basalt before intersecting basement lithologies. It contained no evidence that the anomaly was a result of mineralisation. During this period, the geology of the Magnet Mine was reviewed and two holes were drilled to test the Magnet Lode at depth (MAG 1, MAG 2). Old workings were intersected and only selvages of the mineralised pipe were recovered.

No further work in the Magnet grid area was recommended.

1980 A programme to investigate the alluvial tin potential of the Arthur River was initiated. Stimulus to do this was provided by the highly anomalous tin values reported from earlier drainage sampling results. The details of the work done, results and conclusions are contained in the appended document:-

✓ "Report on the Arthur River Alluvials EL 5/63 Section 1" GFAW and IGPW 1980". 80-1415

1983/85 In 1983 DIGHEM carried out a survey of the whole of the Arthur area using flight lines with a NW - SE direction. Numerous anomalies were identified and many were recommended for follow up. In the relinquished portion of Arthur River no follow up work was done on any of the anomalies resulting from the DIGHEM survey, apart from background data search of previous work and an assessment of the geological likelihood that they represent accumulations of metal.

The detailed results of the DIGHEM survey for the area relinquished are appended in edited copies of reports by DIGHEM and our company geophysicist. Five anomalies were recommended for further work 2190B, 2200B, 2280B, 2290C and 2400A and B. Our review of each is as follows:-

2190B The anomaly lies within Tertiary basalt terrain. It coincides with a depression in the basalt and may be related to Quarternary alluvium. No geochemical anomalies are recorded in the area and in view of the geology none would be expected. The anomaly was accorded a low priority follow up.

- 2200B Geologically the area is close to the edge of Tertiary basalts where it is in contact with Cambrian aged Waratah River sequence beds. A single weak Sn anomaly is recorded from a north bank tributary of Robinson's Rivulet (35 ppm). Like the previous anomaly a low priority was assigned to the DIGHEM response and work elsewhere in the licence has not changed this ranking.
- 2280B This anomaly plots within a large mass of Tertiary basalt. The anomaly is reported as deep. In this geological context no geochemical response would be anticipated and indeed none is apparent in the results of the 1972 survey. This anomaly had a very low priority ranking for follow up.
- 2290C The anomaly is a linear feature paralleling the contact of the Tertiary basalt with the Cambrian formations to the east. It actually plots within the basalt terrain. Grid E (1973/74) lies immediately east of the anomaly. The stream sediment anomalies which stimulated the cutting and sampling of grid E could well be said to derive from further west than the grid and therefore be related to the DIGHEM anomaly. No follow up of the anomaly was undertaken.
- 2400AB This anomaly lies near the edge of an extensive area of Tertiary basalt cover. It is well west of any geochemical surveys. No follow up has been done.

It is clear that a common theme of Tertiary basalt runs through the list of recommended DIGHEM targets. The basalts are known to generate false anomalies from variations in the nature of the basalt and from gravel aquifers between the flows.

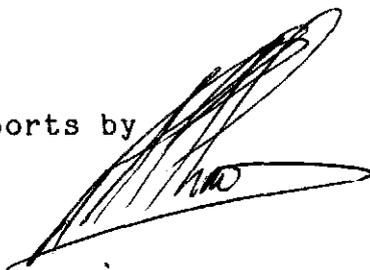
However it is also recognised that in the right geological environment the basalt may mask mineral deposits. It remains to determine a method of screening the anomalies such that drilling through the basalt becomes less of a "wildcat" exercise.

CONCLUSIONS

In the area of Arthur River being surrendered no field work has been done on the DIGHEM anomalies recommended for follow up. They were accorded a lower priority than others, and consequently are being surrendered without input beyond background research.

There has been no recent work on the Magnet area so the data already on open file covers not only the area relinquished but that part around the Magnet Mine which is being retained. There are no new results to add to the work reported from the 1978 season.

Compiled from Comstaff Reports by
R W L SHAW
M P EVERETT
May 1985



DIAMOND DRILL HOLE MAG 1APPENDIX 1REPORT CENTRAL MINERALOGICAL SERVICES PTY. LTD. 76/5/21

By D. Cowan, B.Sc.

T 1681 (254.6m - 254.7m) Altered "variolite"

Hand Specimen: Grey altered ?basalt, K stain negative.

Microscopic: This is a thoroughly altered rock coarsely spherulitic, basic-intermediate rather than acid and thus reasonably termed a variolite.

The most conspicuous feature is the presence of closely packed altered spherulites (up to 1cm diameter) originally consisting of subacicular to feathery feldspar. These features include sporadic randomly orientated laths and hollow crystals of ?pyroxene (now chlorite) and frequent quartz grains which are clearly crystallised chalcedonic microvesicle-fillings (mean diameter is 50 - 70u). The feldspar is completely altered to carbonate-stained sericite. Much of this material is stained with ultra-fine relict-primary flakey hematite.

Textural features indicate rapid cooling. Composition is obscure although essentially basic (at this stage "spilitic"). The rock is then most likely a submarine extrusive phase.

In places the rock is virtually completely altered to fine-grained Fe-stained carbonate. It carries traces of pyrite as anhedral to euhedral particles sized up to 200u.

T 1682 (38.4m - 38.5m) Amygdaloidal "hematite microgabbro"

Hand Specimen: Reddish hematite-stained finely amygdaloidal rock, K stain negative.

Microscopic: This is an unusual rock conceivably related to T 1861 and best termed an amygdaloidal microgabbro.

The rock consists largely of essentially random/slightly felted albitised plagioclase laths (mean 75u) with sporadic phenocrysts (to 750u) and a mesostasis of very fine-grained hematite with disseminated chlorite-filled interstices. Ferromagnesian silicates, and their altered equivalents, are completely absent. Subvoid vesicles (mainly < 1mm, max. 3mm) completely infilled with chlorite, quartz, chalcedony, carbonate and with patchy geothite-hematite are common throughout the rock.

The fabric is vaguely doleritic and although amygdaloidal the rock is medium-grained and considered as most likely intrusive but probably as a relatively minor body. A possible link with 1681 lies in the abundant primary Fe-oxide and simple mineralogy.

Irregular semi-continuous carbonate veins (max. 1.5mm) occur sporadically. These features carry traces of quartz but are devoid of sulphide. Carbonate is a weakly Fe-stained variety probably ferrodolomite.

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PROJECT NAME: COMSTAFF PROPRIETARY LIMITED

TITLE: DIAMOND DRILL HOLE MAG 2

AREA NAME/S, STATE 1:250,000 SHEET NO/S & COORDINATES: Magnet Mine Area,
Burnie Sheet SK 55-3

COMMODITY/IES: Lead, Silver and Zinc

TEXT PAGES NO: 6

PLAN NOS: Nil

TABLE NOS: Nil

APPENDICES: 1 Petrographic Descriptions

AUTHOR/S: D.B. Orr

DATE: June 1976

AUSTRALIAN ANGLO AMERICAN LIMITED

010

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT: COMSTAFF MAGNET MINE

BOREHOLE No. MAG 1 TYPE Diamond Drill CO-ORDINATES See Summary INCLINATION -60° DIRECTION 070° M
 DATE START 8.4.76 DATE FINISH 8.5.76 LOGGED BY E. Keane DRILL Longyear FINAL DEPTH 278m

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS					
FROM	TO						In p.p.m. unless otherwise shown					
							Cu	Pb	Zn	Ag		
0.00	4.80	4.80	0.30		T1770	Weathered and broken rock. Clayey and limonitic.	46	30	120	0.6		
4.80	7.90	3.10	1.40		T1769	As above.	32	30	180	1.8		
7.90	10.90	3.00	0.80		T1768	As above.	58	30	106	1.2		
10.90	13.00	2.10	1.00		T1767	As above.	52	30	100	0.8		
13.00	16.80	3.80	1.30		T1766	As above.	72	34	92	1.2		
16.80	17.45	0.65)	1.25		T1765	As above.	44	36	82	1.4		
17.45	19.30	1.85)		T1764	As above.	98	54	54	2.0			
19.30	20.70	1.40	1.40		T1763	As above. Blackish and sheared.	70	48	76	1.6		
20.70	21.20	0.50)	1.50		T1762	As above. Reddish colour (iron stained) with whitish blebs (elongate, indicative of shearing) of chloritic carbonate material.	62	22	84	1.2		
21.20	22.50	1.30)		T1761	As above.	30	24	84	1.0			
22.50	23.20	0.70)			T1760	As above.	32	30	74	1.2		
23.20	24.10	0.90)	2.00		T1759	As above. Poor recovery.	30	26	88	1.0		
24.10	24.50	0.40)		T1758	As above. Poor recovery.	64	24	90	1.4			
24.50	26.90	1.40)		T1757	As above. Poor recovery.	82	26	88	1.4			
26.90	27.10	0.20)		T1756	As above. Poor recovery.	190	22	86	1.2			
27.10	28.10	1.00)	2.60		T1755	Weathered rock. Pinkish black with irregular blebs and veins of white carbonate material.	140	22	80	1.0		
28.10	30.50	2.40)		T1754	As above.	54	24	72	1.0			
30.50	33.50	3.00	3.00		T1753	Fine grained altered rock. Subrounded ferruginous stained particles (up to 40mm) within a fine grained chloritic matrix. Both cut by veins of carbonate.	150	24	58	1.4		
33.50	35.00	1.50)	4.46		T1752	As above.	26	26	56	1.2		
35.00	38.00	3.00)		T1751	Fine to sand sized grained ferruginous stained rock. Possibly a sediment. For first 1.0m the array of particles resemble a "greywacke", after that gradually becoming more even fine grained. No bedding apparent, but cut by numerous (10%) random carbonate veinlets (from fine to 2mm). Some chloritisation along veinlets.	14	30	60	1.4			
38.00	41.00	3.00	2.95		T1750	As above. <i>Petrology sample T.1682 "Amygdaloidal microgabro"</i>	12	28	74	1.6		
41.00	44.00	3.00	3.00		T1749	As above.	34	30	74	1.6		
44.00	47.90	3.90	3.00		T1748	As above.	42	28	70	1.4		
47.90	50.00	2.10	2.10		T1747	As above. Some carbonate veins increasing to 30mm with good crystal development. At 49.70m a breccia or flow breccia zone. The rock is grey-green, broken with fragments within the carbonate vein. Blebs (up to 5mm) of pyrite.	10	30	68	1.4		
50.00	53.00	3.00	2.80		T1746	Grey green rock, sheared and brecciated. Chloritised and cut by numerous carbonate veinlets (decreasing with depth from 8% to 2%).	40	26	84	1.0	Ca	
53.00	56.00	3.00	3.00		T1745	Basaltic rock, chloritised and cut by carbonate veins (2%). Brecciated in part.	50	36	84	1.2		
56.00	59.00	3.00	3.00		T1744	More even textured basaltic rock. Carbonate veins varying from 40mm (crystal development) to fine threads.	12	28	86	1.4	Ca	

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT:

BOREHOLE No. MAG 1

TYPE.....

CO-ORDINATES.....

INCLINATION.....

DIRECTION.....

DATE
STARTDATE
FINISH

LOGGED BY.....

DRILL.....

FINAL DEPTH.....

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS				
FROM	TO						In p.p.m. unless otherwise shown				
							Cu	Pb	Zn	Ag	Ca
59.00	62.00	3.00	3.00		T1743	As above.	36	30	90	1.2	Ca
62.00	65.00	3.00	3.00		T1742	As above. Sheared/brecciated over first 0.8m	52	32	96	1.8	
65.00	68.30	3.30	3.30		T1741	As above. Chloritised. Sheared over last 0.4m. Last 0.1m carbonate vein with dark, angular inclusions of country rock.	26	28	92	1.4	Ca
68.30	71.30	3.00	3.00		T1740	Broken core, possibly a shear zone. Chloritised.	44	46	140	1.6	
71.30	74.30	3.00	3.00		T1739	Shear zone. 50% a carbonate vein with country rock inclusions.	42	800	1700	2.0	Ca
74.30	78.80	4.50	4.50		T1738	Chloritic, spherulitic basalt. Carbonate veins = 1%.	220	30	64	0.8	
78.80	80.00	1.20	1.20		T1737	As above. Carbonate veins with pinkish tinge.	26	34	70	1.4	
80.00	83.00	3.00	3.00		T1736	As above.	34	28	94	1.0	
83.00	86.00	3.00	3.00		T1735	As above.	16	24	90	1.2	
86.00	89.00	3.00	3.00		T1734	As above. Carbonate veining <1%	32	24	76	1.4	
89.00	92.00	3.00	3.00		T1733	As above.	62	26	74	1.2	
92.00	95.00	3.00	2.70		T1732	As above. Weathered zone over first 2.0m with iron staining and broken core. Carbonate veining = 1%.	32	32	114	1.4	
95.00	98.00	3.00	3.00		T1731	Chloritised spherulitic basalt. Veining <1%.	70	30	92	1.4	
98.00	101.00	3.00	2.90		T1730	As above.	68	22	98	2.0	
101.00	104.00	3.00	3.00		T1729	As above.	20	40	120	1.4	
104.00	106.00	2.00	2.00		T1728	As above.	10	28	108	1.4	Ca
106.00	109.00	3.00	3.00		T1727	As above. Veining 1%.	14	28	106	1.4	Ca
109.00	111.60	2.60	2.60		T1726	As above. Sheared.	250	24	120	1.0	
111.60	115.00	3.40	2.50		T1725	As above. Weathered with iron staining.	100	30	130	1.2	
115.00	118.00	3.00	3.00		T1724	As above. Broken core, weathered iron staining.	50	34	116	1.2	
118.00	119.60	1.60	1.55		T1723	Basalt with shear or flow type structures. Veining 1%.	150	42	88	1.4	
119.60	124.00	4.40	4.30		T1722	Tuff/basalt. Sheared and broken core. Chloritised in part with carbonate veining (<1%).	92	30	102	1.2	
124.00	128.00	4.00	4.00		T1721	Rock type as above. Possibly a flow breccia. Spherulitic basalt in part. One major carbonate vein (=1%).	210	30	190	1.2	
128.00	131.00	3.00	3.00		T1720	Chloritic basalt/tuff.	700	24	96	1.2	
131.00	134.00	3.00	2.90		T1719	As above. Veining <1%	150	28	78	1.4	Ca
134.00	138.95	4.95	4.95		T1718	As above. Veining <1%	160	26	96	1.4	
138.95	140.30	1.35	1.35		T1717	As above. Veining <1%	180	26	98	1.4	
140.30	143.00	2.70	2.35		T1716	As above. Veining <1%	140	28	86	1.0	
143.00	146.00	3.00	3.00		T1715	As above.	88	34	80	1.8	
146.00	150.00	4.00	2.00		T1714	As above. Weathered with iron staining.	70	1350	3100	2.0oz/ton	
150.00	152.00	2.00	0.40		T1713	Basalt. Very broken core. Recovery = 20%	68	26	82	1.0	
152.00	154.75	2.75	1.90		T1712	Basalt. Weathered with iron staining.	30	30	150	0.6	
154.75	157.00	2.25	2.20		T1711	Basalt. Possibly a flow breccia. Carbonate veining = 2%	50	30	96	1.2	Ca
157.00	160.00	3.00	3.00		T1710	As above.	58	28	64	0.8	
160.00	163.20	3.20	2.65		T1709	As above. Weathered vughs within carbonate veins and limonitic lining to surfaces. Veining = 3%.	56	40	70	1.0	
163.20	166.75	3.55	3.10		T1708	Weathered basalt with flow breccias characteristics. Veining = 3%. Sheared over last 0.5m.	30	34	110	0.6	
166.75	169.30	2.55	2.10		T1707	Chloritised basalt. Weathered and altered over last 2.0m	44	34	140	0.8	

012

PROJECT:

BOREHOLE No. MAG 1 TYPE CO-ORDINATES INCLINATION DIRECTION

DATE START DATE FINISH LOGGED BY DRILL FINAL DEPTH

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS					
FROM	TO						In p.p.m. unless otherwise shown					
							Cu	Pb	Zn	Ag		
169.30	172.15	2.85	2.80		T1706	Chloritised basalt. Very broken core (sheared?). Whole core 2%.	42	30	80	1.0		
172.15	174.75	2.60	1.40		T1705	As above. Whole core 10%.	24	26	90	0.8		
174.75	178.80	4.05	3.80		T1704	As above. Brecciated. Whole core = 10%	40	30	82	1.0		
178.80	181.75	2.95	1.65		T1703	As above. Contorted and sheared. Friable.	60	32	120	1.2		
181.75	183.50	1.75	1.30		T1702	As above.	66	30	280	1.6		
183.50	186.50	3.00	2.60		T1701	Basalt, unchloritised spherulitic in part. Friable core. Carbonate veining.	26	30	170	0.6		
186.50	189.00	2.50	2.40		T1700	Basalt. Generally black with minor chloritisation. Veining = 1%.	24	24	106	0.8		
189.00	191.50	2.50	2.50		T1699	As above. Veining = 40%.	44	30	90	1.0	Ca	
191.50	195.50	4.00	4.00		T1698	As above. Chloritised	10	30	70	2.0	Ca	
195.50	197.75	2.25	2.25		T1697	As above. Sheared.	52	116	1400	6.0		
197.75	200.00	2.25	2.25		T1696	Chloritised basalt in flow breccia zone. Carbonate = 10%.	78	220	1500	3.0		
200.00	204.35	4.35	4.05		T1695	As above. Angular to subangular particles of country rock in a paler carbonate/chloritic matrix.	300	34	102	1.4		
204.35	206.00	1.65	1.65		T1694	As above.	30	26	90	0.8		
206.00	208.50	2.50	1.45		T1693	As above.	130	24	98	1.2	Ca	
208.50	210.30	1.80	1.75		T1692	Chloritised spherulitic basalt. Over last 1.0m sheared broken core. Increase in carbonate.	50	50	76	1.2		
210.30	212.70	2.40	2.40		T1691	Chloritised spherulitic basalt in a shear or breccia zone. Carbonate = 20%. Becoming less chloritised.	490	190	270	1.2		
212.70	216.05	3.35	3.15		T1690	Spherulitic basalt sheared. For first 0.4m blebs of chalcopryrite. Becoming more chloritic and sheared, and resembling tuff/basalt.	440	76	116	1.0		
216.05	218.90	2.85	2.85		T1689	Chloritised basalt. Over last 2.0m brecciated zone with 70% carbonate containing angular fragments of country rock.	26	64	116	1.6		
218.90	220.40	1.50	1.50		T1688	Chloritised basalt. Veining = 5%.	44	750	210	5.6		
220.40	223.40	3.00	2.90		T1687	As above. Strongly altered.	40	250	120	3.8		
223.40	225.00	1.60	1.55		T1686	Carbonatised chloritic basalt. Speckled and sheared.	26	30	120	1.0		
225.00	228.20	3.20	3.00		T1685	As above.	24	34	108	1.0	Ca	
228.20	231.30	3.10	3.00		T1684	Chloritised basalt. Carbonate veining = 5%	310	32	120	4.4	Ca	
231.30	234.30	3.00	2.80		T1683	As above.	140	30	90	1.4	Ca	
234.30	237.10	2.80	2.60		T3644	As above.	104	34	108	1.4		
237.10	240.25	3.15	3.15		T3643	As above.	64	30	78	1.6		
240.25	243.50	3.25	3.25		T3642	As above. First 0.85m very sheared and contorted. To 242.60m sheared.	74	26	66	1.6		
243.50	246.00	2.50	2.50		T3641	Chloritised basalt. Last 1.0m very broken core (whole core nil).	40	30	76	1.2		
246.00	247.60	1.60	1.60		T3640	Chloritised basalt. Sheared.	26	30	72	1.0		
247.60	248.60	1.00	1.00	Start split core	T3735	Tuff/basalt. Very altered and sheared. Chloritised. Broken core. Quartz-carbonate veining.	54	30	66	1.2		
248.60	249.60	1.00	1.00	core	T3736	As above.	56	30	70	1.0		
249.60	250.60	1.00	0.90		T3737	As above. At 250.00m dark black ultramafic rock with spherulitic texture. Broken core. Quartz veining.	74	24	78	0.8		
250.60	251.60	1.00	0.90		T3738	Spherulitic ultrabasic rock.	102	20	58	0.8		

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT:

BOREHOLE No. MAG 1 TYPE CO-ORDINATES INCLINATION DIRECTION

DATE START DATE FINISH LOGGED BY DRILL FINAL DEPTH

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS			
FROM	TO						In ppm unless otherwise shown			
							Cu	Pb	Zn	Ag
251.60	252.60	1.00	0.80		T3739	As above with blebs of pyrite.	94	20	76	0.8
252.60	253.60	1.00	0.85		T3740	As above.	62	20	80	1.0
253.60	254.60	1.00	0.90		T3741	As above.	44	20	76	0.6
254.60	255.60	1.00	0.60		T3742	As above. <i>Petrology sample T.1681 "Altered variolite".</i>	1850	24	1800	5.8
255.60	257.00	1.40	0.66		T3743	Sheared and serpentinised tuffaceous ultrabasic rock.	230	36	98	1.0
257.00	258.00	1.00	0.90		T3744	As above.	50	30	92	0.8
258.00	259.00	1.00	0.80		T3745	As above.	250	30	70	2.2
259.00	260.00	1.00	0.92		T3746	Breccia zone with quartz/carbonate veining, containing angular fragments of country rock (sheared, serpentinised ultrabasic). Massive galena and dark sphalerite contained within veins.	58	1.2%	1.3%	3.0oz/ton
260.00	261.00	1.00	0.90		T3751	Serpentinised and sheared ultrabasic with some galena and sphalerite associated with quartz-carbonate veins.	40	750	2600	8.0
261.00	262.00	1.00	0.50		T3747	Quartz carbonate vein. Very broken with masses of galena and sphalerite (becoming browner).	460	6.6%	13.7%	29.5oz/ton
262.00	263.00	1.00	0.13)		-	Broken quartz-carbonate vein.				
263.00	264.00	1.00	0.20)		T3748	As above with associated galena and sphalerite.	60	0.48%	2.2%	1.9oz/ton
264.00	265.00	1.00	0.46		T3749	As above with some inclusions of country rock.	32	0.38%	1.2%	0.9oz/ton
265.00	266.00	1.00	0.55		T3750	Massive sphalerite and galena first 0.2m, followed by sheared serpentinised (chloritised?) ultrabasic.	140	2.10%	5.0%	4.1oz/ton
266.00	267.00	1.00	nil		-	Cavity				
267.00	268.00	1.00	0.32		T3752	Shear zone. Sphalerite and galena associated with quartz carbonates. Speckled green tuffaceous/sediment rock	102	1.00%	2.65%	2.0oz/ton
268.00	269.00	1.00	0.38		T3753	Sheared and broken core. Grey green speckled rock, possibly altered tuffaceous ultrabasic.	28	120	660	2.6
269.00	270.00	1.00	0.90		T3754	Broken and sheared serpentinised ultrabasic. Some blebs sphalerite.	44	200	2200	3.2
270.00	271.00	1.00	1.00		T3755	Black tuffaceous ultrabasic rock cut by fine quartz carbonate veins. Films of pyrite along fracture surfaces.	30	40	120	0.8
271.00	272.00	1.00	1.00		T3756	As above with some flow-type structure.	22	38	120	1.0
272.00	273.00	1.00	1.00		T3757	As above, grading into a fine grained silicified shaley sediment with apparent flow structures. Chloritised in part. Some pyrite blebs.	64	36	150	1.4
273.00	274.60	1.60	1.42		T3758	Fine grained silicified carbonaceous shale. Chloritised in part. Some pyrite. Cut by quartz-carbonate veins.	70	34	140	1.4
274.60	275.00	0.40	0.40		T3759	As above.	140	32	140	1.0
275.00	276.00	1.00	1.00		T3760	As above.	18	30	110	1.6
276.00	277.00	1.00	1.00		T3761	As above.	80	32	112	1.4
277.00	178.00	1.00	1.00		T3762	As above.	96	30	116	1.6
END OF HOLE										

183016

015

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT: CONSTAFF PROPRIETARY LIMITED: MAGNET EAST

BOREHOLE No. AB 1 TYPE Diamond Drill CO-ORDINATES 200E 960N INCLINATION -50° DIRECTION 150°M
 DATE START 25.7.78 DATE FINISH 6.8.78 LOGGED BY D.B. Orr DRILL B.B.S. 1 FINAL DEPTH 187.0m

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS (In ppm)								
FROM	TO						Cu	Pb	Zn	Ni	Sn	Mn			
0						TERTIARY									
0	9.0	9.0	0			Tricone drilling through Tertiary Basalt									
9.0	19.0	10.0	5.0			Fragments iron and manganese stained weathered basalt									
19.0	22.6	3.6	3.6			Fairly solid medium grained Tertiary Basalt									
22.6	25.0	2.4	2.0			Fragments basalt									
25.0	26.0	1.0	1.0	1.0	T7331	Conglomerate, pebbles of rounded basalt to 2cm in grey sandy matrix	52	131	135	170	x		610		
26.0	31.0	5.0	2.5	5.0	T7332	Fragments angular basalt, vesicular in parts	51	48	104	180	5		920		
31.0	31.8	0.8	0.7	0.8	T7333	Poorly sorted grey silt to grit. Core angle 55°	31	22	55	88	x		330		
31.8	38.0	6.2	2.0	6.2	T7334	Pebbles of quartzite, no matrix recovered. Up to boulder size pebbles must be present	15	18	53	53	4		160		
38.0	39.5	1.5	1.4	1.5	T7335	Soft well bedded silty sandstone with carbon layers	29	37	64	73	x		520		
39.5	42.2	2.7	1.7	2.7	T7336	Alternating layers of sandstone and conglomerate. Last 30cm hard and indurated (?boulder).	68	29	305	240	3		1280		
42.2	43.2	1.0	0.7	1.0	T7337	Pebble conglomerate	66	32	475	210	x		4000		
43.2	45.0	1.8	0.8	1.8	T7338	Pink haematitic mudstone. Soft and weathered	50	29	370	200	x		1700		
45.0	49.5	4.5	4.0	4.5	T7339	Predominantly green chloritic grit. Poorly sorted with poor bedding	110	27	835	380	x		785		
						?CAMBRIAN									
49.5	50.5	1.0	0.7	1.0	T7340	Fragments pink mudstone, jointed with minor veins	58	22	200	102	x		310		
50.5	53.0	2.5	1.2	2.5	T7341	Interbedded green and red mudstone	180	22	275	195	x		315		
53.0	56.0	3.0	1.7	3.0	T7342	Grey mottled brown sericitic siltstone	16	28	155	245	x		1460		
56.0	59.0	3.0	0.1	3.0	T7343	Mainly cave quartzite pebbles. One fragment dark greenish black greywacke	152	24	315	635	20		4300		
59.0	61.0	2.0	0.8	2.0	T7344	Red mudstone. Broken fragments	175	1300	590	325	x		1430		
61.0	63.5	2.5	2.0	2.5	T7345	Red, poorly bedded mudstone. Pseudo bedding 55°	44	30	72	88	x		980		
63.5	64.0	0.5	0.5	0.5	T7346	Very broken kaolinised red mottled green greywacke with mudstone matrix	13	62	153	385	x		2700		
64.0	66.5	2.5	2.3	2.5	T7347	Reddish brown marl, oolitic in parts, becoming mainly carbonate over last 50cm	25	31	108	225	x		2950		
66.5	68.0	1.5	1.5	1.5	T7348	Alternating green metasomatised greywacke and red mudstone, grading into each other, with fine stringers of carbonate veins. Both red and green parts are magnetic. There is a development of actinolite? in the green sections and the red sections are marl-like with a reaction to HCl	153	58	235	295	15		2400		
68.0	71.0	3.0	3.0	3.0	T7349	As above	114	30	159	185	10		1640		
71.0	74.5	3.5	3.5	3.5	T7350	Green metasomatised greywacke with actinolite growth	164	84	200	185	8		1500		
74.5	78.0	3.5	3.5	3.5	T7351	Alternating grey, green and red greywackes and mudstone, carbonate veining throughout	74	35	200	131	5		2500		
78.0	82.5	4.5	4.4	4.5	T7352	As above, but carbonate only in veins and vugs	87	33	134	210	x		1300		
82.5	84.5	2.0	2.0	2.0	T7353	Virtually unaltered lithic argillaceous grit? Grey green fragments of argillite cemented with argillite. Chalcopyrite specks in veins with carbonate. Non-magnetic.	58	51	139	170	4		690		
84.5	85.3	0.8	0.7	0.8	T7354	Dark greenish black speckled buff. Texture of serpentinite but no more magnetic than overlying greywackes	86	46	265	700	7		2600		
85.3	86.7	1.4	1.4	1.4	T7355	Grey green argillite, poorly bedded	43	51	280	185	8		1380		
86.7	89.0	2.3	2.3	2.3	T7356	Well bedded with shales and argillites. Core angle 63°	122	81	380	131	5		3250		
89.0	92.0	3.0	3.0	3.0	T7357	As above Core angle 45°	99	69	280	139	4		3800		

183017

APPENDIX 1.

Page 3

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT:

BOREHOLE No. BAB 1 TYPE CO-ORDINATES INCLINATION DIRECTION
 DATE START DATE FINISH LOGGED BY DRILL FINAL DEPTH

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS (in ppm)					
FROM	TO						Cu	Pb	Zn	Ni	Sr	Mn
92.0	95.0	3.0	3.0	3.0	T7358	As above. Core angle 42°	153	158	410	135	x	3650
95.0	98.0	3.0	3.0	3.0	T7359	As above but less shale and minor carbonate stringer veins. Core angle 50°	88	36	235	139	x	3500
98.0	101.0	3.0	3.0	3.0	T7360	Predominantly greenish grey argillite with a few thin shale bands. Core angle 45°	110	46	285	118	5	3100
101.0	104.0	3.0	3.0	3.0	T7361	As above	109	79	710	119	15	3700
104.0	106.0	2.0	2.0	2.0	T7362	As above. Core angle 50°	102	68	360	102	4	3350
106.0	107.8	1.8	1.8	1.8	T7363	Red bedded mudstone with minor coarser grey green greywacke bands and minor carbonate stringer veins. Non-magnetic. Core angle 50°	79	29	220	101	x	1630
107.8	110.0	2.2	2.2	2.2	T7364	Fine grained dark grey greywacke. No bedding. Fairly magnetic	130	33	340	141	3	3350
110.0	113.0	3.0	3.0	3.0	T7365	Alternating red mudstone and greywacke, both magnetic, grading into each other and with an increase in carbonate bands	130	28	235	129	8	2700
113.0	116.0	3.0	3.0	3.0	T7366	As above. Some shearing at 115m with development of chlorite and carbonate.	265	28	225	135	6	2750
116.0	118.1	2.1	2.1	2.1	T7367	Predominantly pink silty mudstone with some coarser grey bands. Minor carbonate bands. No measurable bedding.	170	26	195	131	3	2600
118.1	121.1	3.0	3.0	3.0	T7368	Grey medium grained greywacke with minor carbonate stringers	200	34	180	120	x	1660
121.1	124.5	3.4	3.4	3.4	T7369	Pinkish greywacke with >50% carbonate veining. Trace pyrite	77	27	121	86	x	1410
124.5	126.0	1.5	1.4	1.5	T7370	Pink and grey greywacke. Minor stringer veins	110	58	125	118	5	1390
126.0	128.7	2.7	0.8	2.7	T7371	Fragments talcose material with some pink 'pebbles'. Pebbles show assimilation	104	37	280	113	x	1230
128.7	130.7	2.0	2.0	2.0	T7372	Alternating grey and pink greywacke with minor stringer veins. Last 10cm extensively sheared forming serpentinite?	123	30	164	180	5	3600
130.7	133.0	2.3	2.3	2.3	T7373	Alternating coarse and medium grained unaltered greywacke	117	36	265	325	4	1640
133.0	136.0	3.0	3.0	3.0	T7374	Green pebble greywacke conglomerate	144	32	225	305	6	2500
136.0	138.6	2.6	2.6	2.6	T7375	As above	139	29	280	290	3	2300
138.6	143.1	4.5	4.5	4.5	T7376	Interbedded argillites and shales. Core angle 55°	133	23	220	128	7	2150
143.1	146.3	3.2	3.2	3.2	T7377	Pebble greywacke conglomerate	122	52	295	205	x	2500
146.3	149.0	2.7	2.7	2.7	T7378	Pink siltstone with stringer veins to 10%. Some shearing with the development of chlorite. Sheared sections non-magnetic	130	27	295	132	4	2650
149.0	152.0	3.0	3.0	3.0	T7379	As above	250	30	156	165	3	2700
152.0	155.0	3.0	3.0	3.0	T7380	As above. Thick carbonate associated with chlorite. More assimilation than shearing	125	27	109	116	7	1620
155.0	158.0	3.0	3.0	3.0	T7381	As above, but two 1cm thick bands of pink dolomite which has the appearance of bedding rather than veins	139	27	123	137	5	2250
158.0	162.0	4.0	4.0	4.0	T7382	As above with some breccia development at 161m. Red siltstone fragments in carbonate	159	26	117	128	3	1640
162.0	165.0	3.0	3.0	3.0	T7383	As above. Brecciation at 163.5 to 164m and 164.5 to 165m. This brecciation has development of chlorite and assimilation of carbonate matrix	139	30	190	111	5	2350
165.0	168.0	3.0	3.0	3.0	T7384	As above but no brecciation	92	27	200	114	3	2800
168.0	171.0	3.0	3.0	3.0	T7385	As above	235	24	158	96	x	2050
171.0	174.0	3.0	3.0	3.0	T7386	As above. Last 10cm bedded dolomite?	133	28	200	96	x	3150

DIAMOND DRILL HOLE MAG 2APPENDIX 1REPORT CENTRAL MINERALOGICAL SERVICES PTY. LTD. 76/6/24

By H.W. Fander, M.Sc.

SAMPLES T 3645 - T 3657

All samples were thin sectioned; two polished sections were also prepared where sulphides were seen in the hand specimen.

T 3645 193m
(TS 19066)

This variolitic basalt consists entirely of secondary, deuteric minerals although textures and structures are well preserved and diagnostic.

The variolites (equivalent to spherulites in acid rocks) originally consisted of large, spherical/subspherical composite bodies, of radiating fibrous feldspar and ?pyroxene, with numerous small quartz-filled vesicles. They have been altered by replacement; the plagioclase is replaced by quartz, the pyroxene needles are represented by chlorite and/or carbonate. Thus the dominant deuteric phase is quartz, with subordinate carbonate and chlorite.

Interstitial cusped areas between variolites were occupied by basaltic glass with embedded small phenocrysts; it is now altered to semi-isotropic green chlorite ("palagonite").

T 3646 204m

This rock consists entirely of secondary minerals; relict features are not nearly as distinctive as in T 3645, but the rock was a highly vesicular basalt. In fact this specimen probably represents scoriaceous and vesicular material, on a fairly small scale.

The secondary minerals are quartz, carbonate and pale, magnesian chlorite, as well as minor pyrite. The quartz pseudomorphs, various scoriaceous and vesicular textures, chlorite and carbonate patches are interstitial. There are also crosscutting chlorite-carbonate veins and zones.

Traces of euhedral pyrite occur throughout and are part of the deuteric phase.

019
T 3647 207.2m

A completely altered scoriaceous basalt, with finely disseminated chalcopyrite and pyrite. Primary minerals are absent except for occasional euhedral oxide (?chromite) crystals.

The relict textures are strongly scoriaceous, with deformed vesicles, flow-banding, flow-brecciation, incorporated cognate xenoliths and other features. The minerals are mainly microcrystalline, with pale magnesian chlorite and subordinate quartz.

The chalcopyrite occurs as small grains, aggregates and larger patches, ranging from 5 μ to 300 μ ; it is mainly associated with the carbonate.

Although this rock has been termed a basalt, it will be realised that this is a term of convenience, since the rock is totally altered; the presence of primary ?chromite could suggest an ultramafic rather than a mafic type but there is no other surviving evidence to support this. The same remarks apply to the intersection at 204m.

T 3648 213.7m

As in the intersection above, this rock is totally altered and consists of secondary, deuteric minerals and relict textures; these suggest that the rock was a vesicular basalt although the preservation of small, euhedral, presumably primary chromite crystals could indicate a more ultramafic phase. As before, there is no other evidence (eg. relict textures) to support this, and in the absence of this one can only assume that the original rock was basic/ ultramafic.

The constituents are carbonate, quartz and pale chlorites; quartz and chlorite form composites which are vaguely pseudomorphous after vesicles and scoriaceous material.

Sulphides occur in traces throughout, and include fine chalcopyrite (5 μ - 250 μ), pyrite and isolated grains of zoned sphalerite; the sphalerite is unusual in that it has a yellow core, a thin rim of galena and an outer rim of colourless sphalerite. X

T 3649 221m

Intensively altered, but with clearly defined relict textures which indicate that the rock was a gabbro (or possibly a norite).

020

Chlorite pseudomorphs after coarse pyroxene crystals (up to 2mm across) constitute about 35% of the rock and are randomly distributed and orientated. They are set in a groundmass originally composed of large feldspar (plagioclase) laths, now pseudomorphed by interlocking quartz patches with fine carbonate; the original features (eg. lamellar twinning) are still recognisable, and indicate that plagioclase comprised about 65% of the rock and was coarsely crystalline. Traces of fine pyrite were detected and there are isolated euhedral ?magnetite crystals of primary origin (but chromite was not seen).

Thus the major alteration minerals re quartz and chlorite, with minor carboate. The quartz was introduced, whereas the chlorite could simply be an alteration product (though involving the addition of water); the carbonate too, was at least partly derived from plagioclase. The alteration was metasomatic, and differed from the usual pattern of uralitisation/saussuritisation so common in gabbros.

The fresh rock could have been a norite or a gabbro, depending on the nature of the pyroxene, which can not now be determined.

T 3650 223.6m

Rather similar to the intersection at 221m, this is a totally altered gabbro (-norite); it differs mainly in that it contained less pyroxene, perhaps 20%, and correspondingly more plagioclase.

The pyroxene is represented by chlorite pseudomorphs, and plagioclase laths were replaced by quartz mosaics; small, irregular carbonate patches (?ankerite) are common throughout. Occasional veins of coarsely crystalline carbonate (?dolomite) cut the rock, and there are minor traces of pyrite. A few primary crystals of chromite-magnetite occur, ie. magnetite crystals with chromite cores. Minor traces of pyrite were seen.

The rock was slightly finer grained than T 3649, and could have been a porphyritic microgabbro (pyroxene phenocrysts in a medium-grained groundmass), perhaps approaching the lowercontact of this rock. Thus the coarsest portion would have been T 3649, with scoriaceous, vesicular material (flow top) above. The lower contact would then be somewhere below 223.6m.

T 3651 227m

Evidently this rock represents another flow-top, inferring a different flow than that represented by higher inter-sections.

The rock is completely altered, but textures are well preserved. They show that the rock was scoriaceous-lava or even tuff-lava, strongly flow-banded and flow-brecciated, with many shard-like fragments and drawn out lava streaks.

The present composition is different from the overlying material, ie. the alteration products are significantly different, clearly implying a different primary composition also. The major minerals are quartz, sericite and carbonate, with only very minor chlorite. It is believed that the lava was intermediate rather than basic, quite probably trachytic; the sericite would represent altered alkali feldspar. The rock may be termed a trachytic lava/tuff-lava.

Fine pyrite is present throughout.

T 3652 235.5m

A highly altered intermediate tuff-lava, generally similar to T 3651, but coarser and not as markedly streaky; flow-banding is more interrupted.

The rock consisted of fragmented lava incorporated in lava of the same composition; many of the fragments would have been produced by brecciation during flow, and some may have been pyroclastic.

The main constituents are quartz, "sericite" and carbonate (?ankerite); the sericite is a distinct yellow-green colour and is mostly fine illite. Quartz and sericite form pseudomorphs after various fragmented, vesicular and other lava components, in a flow-banded lower matrix altered to illite/quartz. Carbonate tends to occur as small, irregular patches and as more coarsely crystalline veins; these are younger and possibly of different composition (?dolomite), but have themselves been off-set by later movement.

Fine pyrite occurs sporadically and in traces only.

T 3653 238.5m

Completely altered and weakly mineralised, this rock is very similar to T 3651 and was probably an intermediate tuff-lava; relict features, however, are not well defined, because of extreme alteration and some shearing and carbonate veining. The mineralisation is clearly related to the carbonate veins.

The rock now consists dominantly of fine, streaky carbonate, with intercalated streaks of pale chlorite, sericite and minor quartz. The fabric is finely flow-banded, buckled and folded. Occasional carbonate pseudomorphs after scoriaceous lava are seen. It is clear that carbonate metasomatism was particularly intense in this rock.

Coarsely-crystalline carbonate veins are conspicuous. They contain small patches of pale sphalerite, galena, Chalcopyrite and pyrite. Sphalerite has also been deposited elsewhere, particularly adjacent to veins. The sulphides range in size from 10 μ to 300 μ .

T 3654 244.5m

The bulk of this specimen consists of carbonate, with minor sulphides; there are occasional inclusions of feldspathic material, completely altered but believed to have been albite crystals forming part of this vein material.

The carbonate (?ankerite or similar species) shows crustiform banding and coarse, radiating crystals. The sulphides also tend to be banded, especially the sphalerite which is distinctly related to certain bands in the carbonate. Interstitial areas between carbonate bands consist of randomly orientated sericitised feldspar laths (?albite) with quartz.

The sulphides are mainly sphalerite, as individual crystals up to 1-2mm in size, forming thin layers or bands, and as individuals scattered through the carbonate. Galena is also present, as patches up to 0.8mm, containing minute inclusions of tetrahedrite. Pyrite occurs as euhedral crystals, intergrown with marcasite. Minute crystals of glauco-dot were also tentatively identified; they occur in traces only. X

The mineral assemblage is a fairly typical low-temperature hydrothermal, epigenetic situation; it is believed to be distinct from the pyrite pyrite-chalcopyrite association which is related to deuteric, metasomatic alteration.

023
T 3655 246.4m

A completely altered medium-grained, vesicular igneous rock, weakly mineralised. Interpretation of its origin is based almost entirely on relict textures and is therefore somewhat tentative. However, the evidence suggests that it was a vesicular leuco-dolerite, ie. a dolerite consisting of mainly plagioclase, with subordinate pyroxene. Since a classification of the rock is heavily dependent on the type of plagioclase present, and this can not be determined because of complete alteration, this rock could in fact range from a microsyenite through microdiorite to dolerite in composition and could be a variation on any of these (eg. hawaiite, etc.).

The rock is composed dominantly of random to subradiating laths of sericitised plagioclase, subordinate quartz-sericite-leucoxene (anatase) pseudomorphs after ?pyroxene, conspicuous leucoxenised opaques, and subspherical vesicles filled with secondary minerals.

Secondary, deuteric carbonate is abundant throughout the rock, replacing primary components (feldspar). In addition, a younger phase of coarse vein carbonate occurs; this carries some sphalerite (grains up to 300u, larger patches) and a trace of galena. Occasional carbonate-filled vesicles contain sphalerite and galena.

T 3656 250.6m

This rock consists entirely of "secondary" or hydrothermal minerals; there are no relict textures, and only isolated chromite crystals of possible primary origin. It is thought that this rock mainly or perhaps wholly represents vein-material; it is significantly mineralised.

The main constituents are medium-grained ankerite carbonate, chalcedonic and granular quartz, and streaks of pale green "sericite" (illite-hydromuscovite) and chlorite. Irregular patches of blotchy and colour-zoned sphalerite are conspicuous throughout, and range in size from 10u to 0.5mm, with occasional larger aggregates. Galena is also present but much less common, and there are traces of pyrite.

The rock is stressed and mildly sheared and the components show strain-extinction.

T 3657 260.7m
(TS 19078)

This is sheared, almost schistose rock, composed of secondary minerals, and no relict features have survived except for isolated chromite euhedra. The abundance of chlorite suggests that this was a "basic" rock before alteration, perhaps a basaltic glassy lava.

Some portions of the rock consist of thin, more or less parallel streaks of ultrafine green chlorite, thought to have been basic glass. This material has been brecciated and extensively penetrated and replaced by quartz and carbonate. There are lenses of cherty quartz, interrupted quartz veins and masses of carbonate. The fabric shows strong preferred orientation, though directions vary because of the effect of the streaky lava fragments.

The rock may have been a lava breccia before alteration; some shearing took place subsequently.

SUMMARY

There are two distinct series of rocks, with a break at 223.6m or slightly below. They probably correspond to two different flows, of different composition.

Alteration was intense and total in all rocks, so that no unaltered vestiges have survived and interpretations are necessarily somewhat tentative.

The deuteric alteration affecting the "upper" series was of the pervasive, metasomatic type accompanied by minor chalcopyrite-pyrite. Since the "lower" series is also affected, but seems to be devoid of chalcopyrite, one could conclude that the source of the copper was within the "upper" series itself and did not extend beyond that.

The Zn-Pb mineralisation is quite distinct and is low-temperature hydrothermal assemblage introduced into the "lower" series after the pervasive deuteric alteration. Whether this mineralisation belongs, ultimately, to the same system is not known; it may be (much) younger. There is no obvious reason why it seems to be confined to the "lower" series, even though the two series are undoubtedly closely related (despite their differences).

The copper mineralisation in the "upper" series could be related to a "hydrothermal porphyry" system.

025

DRILLHOLE LOG

Summary Sheet

183026

Page 1 of 6

PROJECT COMSTAFF PROPRIETARY LIMITED	AREA MAGNET MINE AREA	DRILLHOLE TYPE Diamond
CO-ORDS See below	DEC^{LN} -60°	AZIMUTH 71°05' M
DATE COMMENCED 7.5.76	DATE COMPLETED 6.6.76	DRILLED BY Longyear
Non Coring to: 14.7m	HQ Core to: 221.0m	BQ Core to: 284.3m
	NQ Core to: 235.5m	EOH 284.3m
		DRILL RIG Longyear 38
		RL 133.5m above No. 4 Level

SURVEY DATA				Instrument: Eastman Kodak Single Shot			
DEPTH	DECLINATION		AZIMUTH	DEPTH	DECLINATION		AZIMUTH
	Uncorr	Corr			Uncorr	Corr	
50.0m		-63.25°	073.75°M				
115.5m		-64.25°	072.5°M				
205.0m		-64.75°	074.5°M				
284.0m		-64.0°	075.0°M				

ROCK TYPE		MINERALIZATION		
		Style	Grade	Intersection width (Corr)
		Indicated values of ore at 1% combined Pb and Zn:		
0 - 14.7m	No core			
14.7m - 85.6m	Spherulitic basalt	199.0 - 201.0m	0.81% Zn; 165ppm Pb; 0.35% Cu; 10.69gm/tonne Ag x 2.0m DT	
85.6m - 106.5m	Agglomerate			
106.5m - 200.6m	Spherulitic basalt	212.0 - 212.15m	2.40% Zn; 0.19% Pb; 14ppm Cu; 8.40gm/tonne Ag x 0.15m D	
200.6m - 212.0m	Dolerite (microgabbro?)			
212.0m - 270.3m	Ultrabasic lava	232.6 - 242.0m	0.40% Zn; 0.11% Pb; 101ppm Cu; 12.16gm/tonne Ag x 9.4m DT	
270.3m - 284.3m	Sediments	242.0 - 251.5m	3.27% Zn; 0.73% Pb; 107ppm Cu; 84.60gm/tonne Ag x 9.5m DT	
End of hole		251.5 - 255.0m	0.57% Zn; 607ppm Pb; 35ppm Cu; 2.80gm/tonne Ag x 3.5m DT	
		255.0 - 259.8m	6.28% Zn; 0.62% Pb; 228ppm Cu; 44.10gm/tonne Ag x 4.8m D'	
See petrographic descriptions at end of drill log. Thin section descriptions of 'ultrabasics' indicate that they are acid to intermediate. /		242.0 - 259.8m	3.55% Zn; 0.57% Pb; 125ppm Cu; 57.60gm/tonne Ag x 17.8m D'	
		232.6 - 259.8m	2.46% Zn; 0.41% Pb; 117ppm Cu; 41.89gm/tonne Ag x 27.2m D	
The plan position of this borehole is 311.5m on a bearing of 378°45' M from the entrance to the main adit on no. 4 level.		(DT = Drilled thickness)		
		Core recovery: 232.6m - 259.8m	Metres drilled 27.20m	
			Metres recovered 18.85m	
			% recovery 69.30m	
		NB. Core recovery from 232.6m to 238.4m = 23.2% due to stoped area		
		242.0m - 259.8m	Metres drilled 17.80m	
			Metres recovered 14.25m	
			% recovery 80.06m	

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT: COMSTAFF PROPRIETARY LIMITED

BOREHOLE No. MAG 2

TYPE Diamond Drill

CO-ORDINATES See summary

INCLINATION -60°

DIRECTION 378°45'M

DATE START 7.5.76

DATE FINISH 6.6.76

LOGGED BY D. Orr

DRILL Longyear

FINAL DEPTH 284.3m

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS (in ppm unless otherwise shown)			
FROM	TO						Cu	Pb	Zn	Ag
0.00	14.70	14.70	nil		-	Tricone to solid				
14.70	17.70	3.00	1.80		T1771	HQ drilling. Flow top breccia overlying spherulitic basalt. 10cm carbonate band 17.0 - 17.1m.	32	44	160	1.0
17.70	20.00	2.30	1.80		T1772	Weathered spherulitic basalt (flow top breccia 17.1 - 18.0m)	18	28	180	0.6
20.00	22.50	2.50	2.50		T1773	As above.	8	22	180	0.6
22.50	25.50	3.00	3.00		T1774	Spherulitic basalt with minor carbonate bands to 5cm wide	8	24	190	0.6
25.50	29.00	3.50	3.50		T1775	Spherulitic basalt. Flow top breccia ? 25.5 - 26.0m followed by carbonate to 26.4m.	12	32	200	0.8
29.00	30.00	1.00	1.00		T1776	Spherulitic basalt with minor carbonate veins	8	20	210	0.4
30.00	33.00	3.00	2.30		T1777	As above. Some brecciation.	6	24	180	0.6
33.00	36.00	3.00	3.00		T1778	Basalt. Minor spherulites and carbonate veins	6	30	180	0.4
36.00	39.00	3.00	2.90		T1779	As above.	4	20	130	0.6
39.00	41.40	2.40	2.30		T1780	As above. Subparallel carbonate vein 40 - 41m	8	30	120	0.4
41.40	43.80	2.40	2.40		T1781	As above. 10% carbonate veining, mainly subparallel to core axis.	6	30	240	0.6
43.80	46.90	3.10	3.10		T1782	As above. Flow top brecciation to 45m. Only minor carbonate bands.	6	30	180	0.6
46.90	49.90	3.00	3.00		T1783	Brecciated basalt to 49m then fine grained black basalt.	10	28	200	0.8
49.90	52.90	3.00	2.80		T1784	Brecciated with carbonate to 51m then spherulitic basalt.	8	54	210	0.6
52.90	55.30	2.40	2.40		T1785	Spherulitic basalt. <2% carbonate veining.	10	20	120	0.2
55.30	57.30	2.00	2.00		T1786	As above.	14	24	110	0.4
57.30	60.40	3.10	3.10		T1787	As above to 59.2m then flow breccia. 10cm carbonate band 59.4 - 59.5m.	28	22	120	0.6
60.40	63.40	3.00	3.00		T1788	Flow top breccia to 61.5m then spherulitic basalt.	12	26	120	0.4
63.40	67.40	3.00	3.00		T1789	Spherulitic basalt.	104	40	120	0.4
67.40	70.50	3.10	3.00		T1790	As above to 60.5m then flow top breccia.	16	26	120	0.6
70.50	72.00	1.50	1.40		T1791	Flow top breccia to 71.5m then spherulitic basalt.	4	28	98	0.4
72.00	73.60	1.60	1.60		T1792	Flow top breccia.	4	24	120	0.4
73.60	76.60	3.00	3.00		T1793	Flow top breccia to 74m then spherulitic basalt to 75m then flow top breccia to 76.6m.	4	24	100	0.4
76.60	79.50	2.90	2.90		T1794	Spherulitic basalt.	4	30	130	1.8
79.50	82.40	2.90	2.90		T1795	As above to 80m then flow top breccia.	4	24	84	0.8
82.40	85.60	3.20	3.20		T1796	Flow top breccia to 84m then fine grained black basalt.	26	32	120	0.4
85.60	88.70	3.10	3.10		T1797	Green agglomerate with fragments to 5cm carbonate band 86.5m - 87m.	36	52	90	0.4
88.70	91.50	2.80	2.60		T1798	As above. Very clayey and broken 89 - 89.5m	32	28	100	0.6
91.50	94.40	2.90	2.8		T1799	Agglomerate.	20	24	88	0.8
94.40	97.50	3.10	3.00		T1800	As above.	22	20	150	0.6
97.50	99.90	2.40	1.70		T1801	As above. Very shaley over last 0.5m. Broken and clayey.	36	20	96	0.6
99.90	102.30	2.40	1.20		T1802	Bedded, poorly sorted sediment to 100.9m, then carbonate with minor sphalerite to 102m.	24	210	1400	1.0
102.30	106.50	4.20	3.20		T1803	Agglomerate.	48	36	150	0.8
106.50	109.60	3.10	2.00		T1804	Agglomerate to 107m, then black spherulitic basalt to 108m, then clayey sand to 110m.	16	48	280	0.4
109.60	112.70	3.10	3.00		T1805	Black spherulitic basalt with carbonate veins.	16	36	160	1.0
112.70	115.50	2.80	2.70		T1806	As above. Some brecciation and 20% carbonate veining subparallel to core axis.	6	82	290	1.0

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT:

BOREHOLE No. MAG 2 TYPE CO-ORDINATES INCLINATION DIRECTION

DATE START DATE FINISH LOGGED BY DRILL FINAL DEPTH

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS (in ppm unless otherwise shown)			
FROM	TO						Cu	Pb	Zn	Ag
115.5	118.5	3.0	3.0		T1807	Grey to black flow breccia. 10% carbonate as random veining.	18	36	180	1.0
118.5	120.0	1.5	1.5		T1808	As above, but carbonate <5%	14	28	110	0.6
120.0	123.0	3.0	2.7		T1809	Black spherulitic basalt with random 5mm wide carbonate veins forming 15%.	12	40	130	0.4
123.0	126.0	3.0	3.0		T1810	As above. Predominantly carbonate 123.5 - 124.1m.	12	40	120	0.6
126.0	127.5	1.5	1.5		T1811	Black spherulitic basalt, minor carbonate. Flow breccia 126.4 - 126.5m	46	38	120	0.6
127.5	130.6	3.1	3.1		T1812	Fine grained black basalt. Incipient spherulitic development.	14	50	130	0.4
130.6	133.6	3.0	2.9		T1813	Grey sheared basalt to 131.2m, then ankerite vein to 131.4m, then black breccia.	64	70	190	1.0
133.6	136.5	2.9	2.6		T1814	Black breccia which is soft over first 1m and clayey sand only recovered. Minor carbonate.	88	34	110	0.8
136.5	139.6	3.1	3.1		T1815	As above. Some development of spherulites.	120	34	80	0.4
139.6	141.1	1.5	1.5		T1816	As above.	14	30	110	0.4
141.1	145.1	4.0	3.0		T1817	As above to 142m then spherulitic basalt.	360	44	90	0.8
145.1	149.0	3.9	3.2		T1818	Spherulitic basalt. <1% carbonate.	380	30	160	0.8
149.0	152.0	3.0	3.0		T1819	As above.	180	30	120	0.4
152.0	153.5	1.5	1.5		T1820	As above.	106	30	130	0.2
153.5	156.2	2.7	2.7		T1821	As above. Minor pyrite	160	32	110	0.4
156.2	158.9	2.7	2.7		T1822	As above with minor pyrite to 158.5m, then carbonate with traces of sphalerite to 159.2m.	290	60	320	0.8
158.9	161.0	2.1	2.1		T1823	Green breccia with spherulitic basalt 159.5 - 160m.	12	160	3000	1.8
161.0	164.0	3.0	2.9		T1824	Spherulitic basalt with minor brecciation.	8	40	120	0.6
164.0	166.7	2.7	2.7		T1825	Brecciated basalt with minor spherulitic development.	10	36	110	0.8
166.7	169.5	2.8	2.8		T1826	As above.	10	36	130	0.8
169.5	172.5	3.0	3.0		T1827	Green spherulitic basalt alternating with very angular breccia.	6	34	140	0.6
172.5	176.1	3.6	3.6		T1828	As above.	10	34	140	0.8
176.1	179.1	3.0	3.0		T1829	As above.	6	34	120	0.4
179.1	180.6	1.5	1.5		T1830	As above.	8	34	88	0.4
180.6	182.0	1.4	1.3		T1831	Blue grey spherulitic basalt. Spherules to 1cm in size, average 0.5cm	8	28	90	0.8
182.0	183.0	1.0	1.0		T1832	As above.	20	20	86	0.6
183.0	184.0	1.0	1.0		T1833	As above.	8	24	92	0.6
184.0	185.0	1.0	0.7		T1834	Broken fragments spheroidal basalt with clay.	24	30	110	0.6
185.0	186.0	1.0	0.8		T1835	As above, but manganese staining on slickensides surfaces. 1.5cm carbonate band at 186m. Core angle of carbonate vein 45°.	8	30	98	0.6
186.0	187.0	1.0	0.7		T1836	Spheroidal basalt with some talc and minor pyrite and a trace of sphalerite. Thin random carbonate veins.	6	30	130	0.6
187.0	188.0	1.0	0.8		T1837	As above, but less talc and carbonate veins	14	30	130	0.4
188.0	189.0	1.0	1.0		T1838	Broken fragments spheroidal basalt with some carbonate veining.	220	30	96	0.4
189.0	190.0	1.0	1.0		T1839	Spheroidal basalt. Spheroids to 2cm. Some minor brecciation at 189.7 - 189.8m.	8	30	130	0.4
190.0	191.0	1.0	1.0		T1840	Dark grey to black silicified spheroidal basalt. Some brecciation and minor chalcopyrite associated with quartz veining at 190.7 - 190.8m. Quartz veining is more silicification than actual intrusion.	32	28	92	0.6

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT:

BOREHOLE No. MAG 2 TYPE CO-ORDINATES INCLINATION DIRECTION
 DATE START DATE FINISH LOGGED BY DRILL FINAL DEPTH

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS (in ppm unless otherwise shown)			
FROM	TO						Cu	Pb	Zn	Ag
191.0	192.0	1.00	1.0		T1841	Dark blue spheroidal basalt, streaked with talc and carbonate veining	12	30	140	0.8
192.0	193.0	1.0	1.0		T1842	Pale green silicified spheroidal basalt. 5cm thick carbonate vein. 192.45 - 192.5m. Petrological Sample T3645.	8	30	150	0.8
193.0	194.0	1.0	1.0		T1843	As above, but towards 194m the spheroids have only small nucleus of silicified material. Minor pyrite occurs at 193.2m.	24	28	110	0.6
194.0	195.0	1.0	1.0		T1844	Alternating 20cm bands of highly silicified zones with black spheroidal basalt. Minor pyrite in silicified zones.	42	28	90	0.4
195.0	196.0	1.0	1.0		T1845	Flow top breccia ? Altered spherulitic basalt. Spherules separated. Random hairline fractures infilled with manganese or carbonate. Trace sphalerite.	8	30	130	0.8
196.0	197.0	1.00	1.0		T1846	Spheroidal basalt almost completely replaced by silica.	40	28	64	0.8
197.0	198.0	1.0	1.0		T1847	As above, but with blebs of chalcopyrite within interspherule groundmass.	420	24	70	0.4
198.0	198.7	0.7	0.7		T1848	As above. Banded ankerite vein 198.3 - 198.35m.	190	34	120	1.0
198.7	199.0	0.3	0.3		T1849	Banded ankerite and siderite with minor bands sphalerite.	1000	56	130	1.0
199.0	199.7	0.7	0.7		T1850	Silicified spheroidal basalt with stringers and blebs of chalcopyrite.	7500	40	220	2.4
199.7	200.6	0.9	0.9		T1851	Banded ankerite and siderite with sphalerite/galena. Sphalerite is pale honeyblende becoming darker as crystallisation occurred. Chalcopyrite occurs within silicified basalt.	750	300	1.75%	21.0
200.6	201.0	0.4	0.4		T1852	Silicified and brecciated basalt, up to 10% chalcopyrite.	2550	80	550	2.0
201.0	202.3	1.3	1.3		T1853	Medium grained grey basalt. Trace chalcopyrite.	180	22	160	0.6
202.3	203.0	0.7	0.6		T1854	Broken fragments intergrown carbonate and quartz. Minor chalcopyrite and sphalerite.	1000	40	270	1.0
203.0	204.0	1.0	1.0		T1855	Grey medium grained dolerite (?intrusive). Minor carbonate veins to 2mm. Trace pyrite. Petrological sample at 204m. T3646	190	40	210	1.0
204.0	205.0	1.0	1.0		T1856	Medium grained grey dolerite (? intrusive). Minor carbonate veining and a trace disseminated pyrite.	120	40	88	0.2
205.0	206.0	1.0	1.0		T1857	As above.	950	80	1000	1.4
206.0	207.0	1.0	1.0		T1858	As above.	22	42	150	0.4
207.0	208.0	1.0	1.0		T1859	Medium grained pyroxenite? with green chrome mineral Upto 2cm wide carbonate veins form #10% of rock. Petrographic sample at 207.2m - T3647.	230	60	260	1.4
208.0	209.0	1.0	1.0		T1860	As above.	220	48	104	0.8
209.0	210.0	1.0	1.0		T1861	As above.	90	52	140	1.0
210.0	211.0	1.0	1.0		T1862	As above.	60	42	84	0.6
211.0	212.0	1.0	1.0		T1863	As above.	42	50	84	1.2
212.0	212.15	0.15	0.15		T1864	Banded carbonate vein with minor sphalerite.	14	1900	2.40%	8.4
212.15	213.0	0.85	0.85		T1865	Coarse grained carbonatised rock (ultramafic). Thin carbonate veins form 5% of total rock.	58	44	150	0.8
213.0	214.0	1.0	1.0		T1866	As above. Petrological sample T3648 at 213.7m.	210	58	190	1.0
214.0	215.0	1.0	0.95		T1867	As above.	290	44	180	0.4
215.0	216.0	1.0	0.95		T1868	As above.	88	42	160	0.8
216.0	217.0	1.0	0.7		T1869	As above.	26	44	200	1.0
217.0	218.0	1.0	0.5		T1870	As above.	82	58	170	1.0

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183030

APPENDIX I.

Page 5

AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT:

BOREHOLE No. MAG 2 TYPE CO-ORDINATES INCLINATION DIRECTION
 DATE START DATE FINISH LOGGED BY DRILL FINAL DEPTH

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS (in ppm unless otherwise shown)			
FROM	TO						Cu	Pb	Zn	Ag
218.0	219.3	1.3	0.5		T1871	Fragments ultrabasic and carbonate. Some blebs galena and sphalerite. Stoped out zone ?	18	160	800	1.2
219.3	220.0	0.7	0.4		T1872	As above.	40	0.68%	9400	17.0
220.0	221.0	1.0	1.0		T1873	Pale grey dolerite? Thin section T3649 at 221m	48	108	600	1.2
221.0	221.7	0.7	0.65		T1874	Bit changed from HQ to NQ. Rock type as above.	40	56	180	1.0
221.7	223.0	1.3	1.3		T1875	Altered spheroidal ultrabasic.	28	50	190	1.0
223.0	224.0	1.0	1.0		T1876	As above. Petrological sample T3650 at 223.6m.	290	420	800	5.0
224.0	225.0	1.0	0.9		T1877	Highly altered ultrabasic with chrome coloured mineral. Siderite vein at 224.68 - 224.7m containing minor bands of sphalerite.	72	550	2900	8.2
225.0	225.5	0.5	0.5		T1878	As above. 10% carbonate with minor sphalerite.	32	1200	6800	8.8
225.5	226.5	1.0	0.8		T1879	As above.	60	48	280	1.4
226.5	227.8	1.3	1.00		T1880	Very sheared ultramafic. 50% carbonate with sphalerite. Petrological sample T3651 from sheared talc carbonate above 30cm carbonate vein.	36	750	4400	5.4
227.8	229.0	1.2	1.2		T1881	Grey altered ultramafic. <5% carbonate veins.	62	52	140	1.4
229.0	230.0	1.0	1.0		T1882	As above.	80	34	98	1.4
230.0	231.0	1.0	1.0		T1883	As above.	100	38	150	0.8
231.0	232.6	1.6	0.2		T1884	Cavity and fragments of ore as above.	76	850	2600	10.2
232.6	235.5	2.9	0.8		T1885	Reduced from NQ to BQ. Carbonatised ultramafic. Thin section sample from 235.5m - T3652. Very broken core. Timber intersected.	88	700	4400	14.0
235.5	238.4	2.9	0.5		T1886	Very broken. Fragments of carbonatised ultrabasic with carbonate veins containing sphalerite and galena.	44	1400	3400	8.0
238.4	238.8	0.4	0.3		T1887	Fragments of sheared ultramafic. Thin section sample T3653 from 238.5m	24	580	1600	15.0
238.8	239.3	0.5	0.2		T1888	Fragments of carbonate. Minor sphalerite and galena.	32	1300	5800	15.0
239.3	240.0	0.7	0.4		T1889	Sheared ultramafic.	36	2400	5000	18.0
240.0	241.0	1.0	0.7		T1890	Predominantly siderite with bands and disseminations of sphalerite.	44	1750	6600	16.0
241.0	242.0	1.0	0.7		T1891	Alternating 5cm bands black and green sheared ultrabasic. Disseminated and veined sphalerite with few specks of galena.	470	400	1800	8.4
242.0	243.0	1.0	0.4		T1892	Fragments of siderite with thin bands of sphalerite. sphalerite	32	1900	1.2%	18.0
243.0	243.7	0.7	0.7		T1893	Banded siderite with disseminated sphalerite and galena. Some bands,	48	0.33%	1.35%	1.4oz/ton
243.7	244.0	0.3	0.3		T1894	Broken core. Fragments of carbonatised ultrabasic with carbonate. Good bands to 2cm of dark brown sphalerite.	310	0.36%	7.4%	3.90z/ton
244.0	245.0	1.0	1.0		T1895	Banded siderite with minor talc. Disseminated sphalerite and galena.	64	0.59%	2.9%	1.8oz/ton
245.0	246.0	1.0	0.7		T1896	As above, but with bands of sphalerite to 2cm.	210	0.51%	10.1%	2.7oz/ton
246.0	247.5	1.5	1.5		T1897	Pale grey tremolatised ultrabasic with spherules of carbonate. Minor sphalerite. Petrological sample T3655.	40	1450	0.72%	20.0
247.5	248.3	0.8	0.2		T1898	Fragments of carbonatised ultrabasic with disseminated galena and sphalerite.	104	1.25%	2.85%	5.6oz/ton
248.3	249.0	0.7	0.6		T1899	Sheared ultrabasic with random carbonate veins with sphalerite, galena and chalcopryrite.	190	2.65%	5.0%	9.3oz/ton
249.0	249.6	0.6	0.5		T1900	Banded carbonate with sphalerite and galena.	180	3.10%	5.1%	9.2oz/ton
249.6	251.0	1.4	1.2		T3763	Contorted highly altered, sheared and carbonatised ultrabasic. Some crosscutting carbonate veins. Sphalerite and galena is present as disseminations with veins and host rock. Petrographic sample T3656 250.6m.	44	0.21%	1.4%	20.0

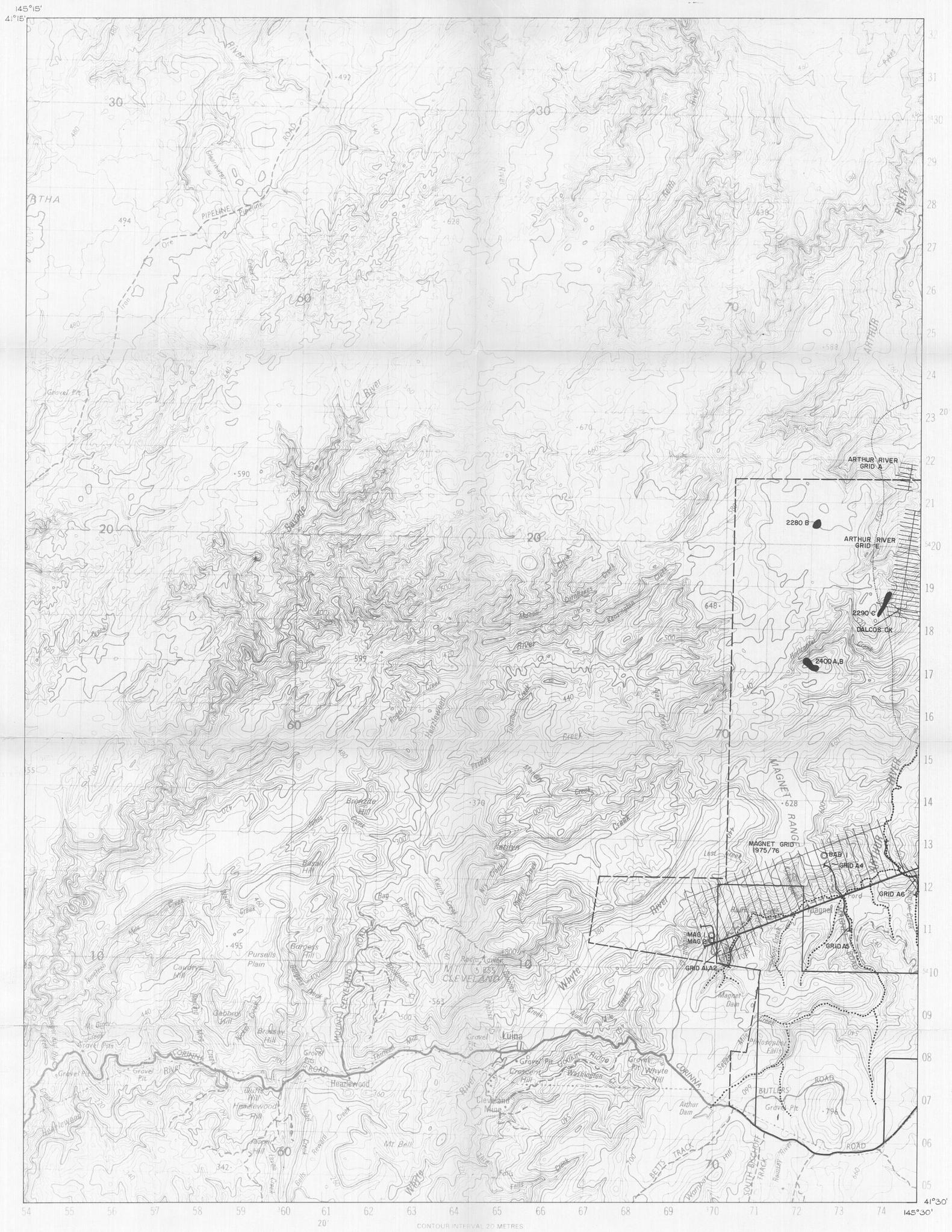
AUSTRALIAN ANGLO AMERICAN LIMITED

PROJECT:

BOREHOLE No. MAG 2 TYPE CO-ORDINATES INCLINATION DIRECTION

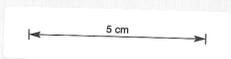
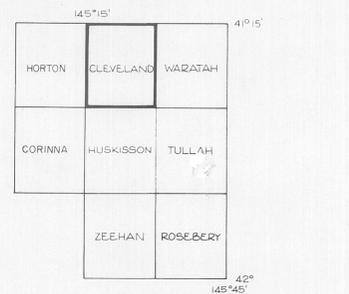
DATE START DATE FINISH LOGGED BY DRILL FINAL DEPTH

DEPTH		DRILLED METRES	REC. METRES	SAMPLE INT.	SAMPLE No.	DESCRIPTION	ASSAY RESULTS (in ppm unless otherwise shown)			
FROM	TO						Cu	Pb	Zn	Ag
251.0	251.5	0.5	0.4		T3764	As above but more sphalerite in bands.	290	0.21%	8.3%	2.0oz/ton
251.5	252.0	0.5	0.5		T3765	Sheared ultramafic as above but only minor carbonate veins. Disseminated galena and sphalerite.	24	1250	3600	4.0
252.0	253.0	1.0	1.0		T3766	As above.	22	530	1800	1.8
253.0	254.0	1.0	1.0		T3767	As above.	42	470	7800	2.0
254.0	255.0	1.0	1.0		T3768	As above.	48	500	8600	4.0
255.0	255.6	0.6	0.6		T3769	As above.	98	0.67%	1.35%	1.3oz/ton
255.6	256.0	0.4	0.3		T3770	Banded carbonate with good brown sphalerite.	48	0.24%	2.20%	8.2
256.0	257.0	1.0	0.95		T3771	As above.	48	0.30%	2.00%	7.0
257.0	258.0	1.0	0.9		T3772	As above.	110	850	5.30%	27.0
258.0	259.0	1.0	1.0		T3773	As above.	570	0.84%	14.50%	2.8oz/ton
259.0	259.8	0.8	0.5		T3774	As above.	360	1.55%	8.30%	3.2oz/ton
259.8	260.7	0.9	0.8		T3775	Sheared ultrabasic. Petrological sample T3657 at 260.7m.	42	1000	4200	7.2
260.7	261.2	0.5	0.5		T3776	As above.	32	90	190	2.4
261.2	263.0	1.8	1.8		T3777	As above.	24	1000	4400	4.8
263.0	264.0	1.0	1.0		T3778	Pale green sheared carbonatised ultrabasic.	36	0.23%	9200	7.0
264.0	265.4	1.4	1.0		T3779	Sheared ultrabasic.	18	520	2800	2.0
265.4	267.2	1.8	1.0		T3780	As above.	18	340	340	1.6
267.2	268.2	1.0	1.0		T3781	As above.	44	42	360	0.8
268.2	269.3	1.1	1.1		T3782	As above.	42	40	250	0.6
269.3	270.3	1.0	1.0		T3783	Black shales and siltstones, poorly sorted. Shearing and brecciation. Minor carbonate veins.	160	34	140	0.4
270.3	271.4	1.1	1.1		T3784	As above.	22	30	190	0.8
271.4	272.5	1.1	1.1		T3785	As above.	40	40	180	0.6
272.5	274.5	2.0	2.0		T3786	As above.	34	50	180	1.0
274.5	275.4	0.9	0.9		T3787	As above.	36	108	190	1.4
275.4	277.0	1.6	1.5		T3788	Greywackes with minor contorted mudstones. Minor carbonate veining.	96	180	400	1.0
277.0	278.0	1.0	1.0		T3789	As above.	84	230	600	3.0
278.0	279.0	1.0	1.0		T3790	As above.	88	40	200	0.6
279.0	280.0	1.0	1.0		T3791	As above.	100	170	380	0.6
280.0	281.0	1.0	0.5		T3792	As above. Sheared black ultrabasic. Some carbonate veins.	20	250	1900	1.2
281.0	282.0	1.0	1.0		T3793	Greywackes with minor carbonate veins.	80	340	580	1.6
282.0	283.0	1.0	1.0		T3794	As above.	48	50	200	0.6
283.0	284.3	1.3	1.3		T3795	As above.	78	68	180	0.6
						End of hole				



LEGEND

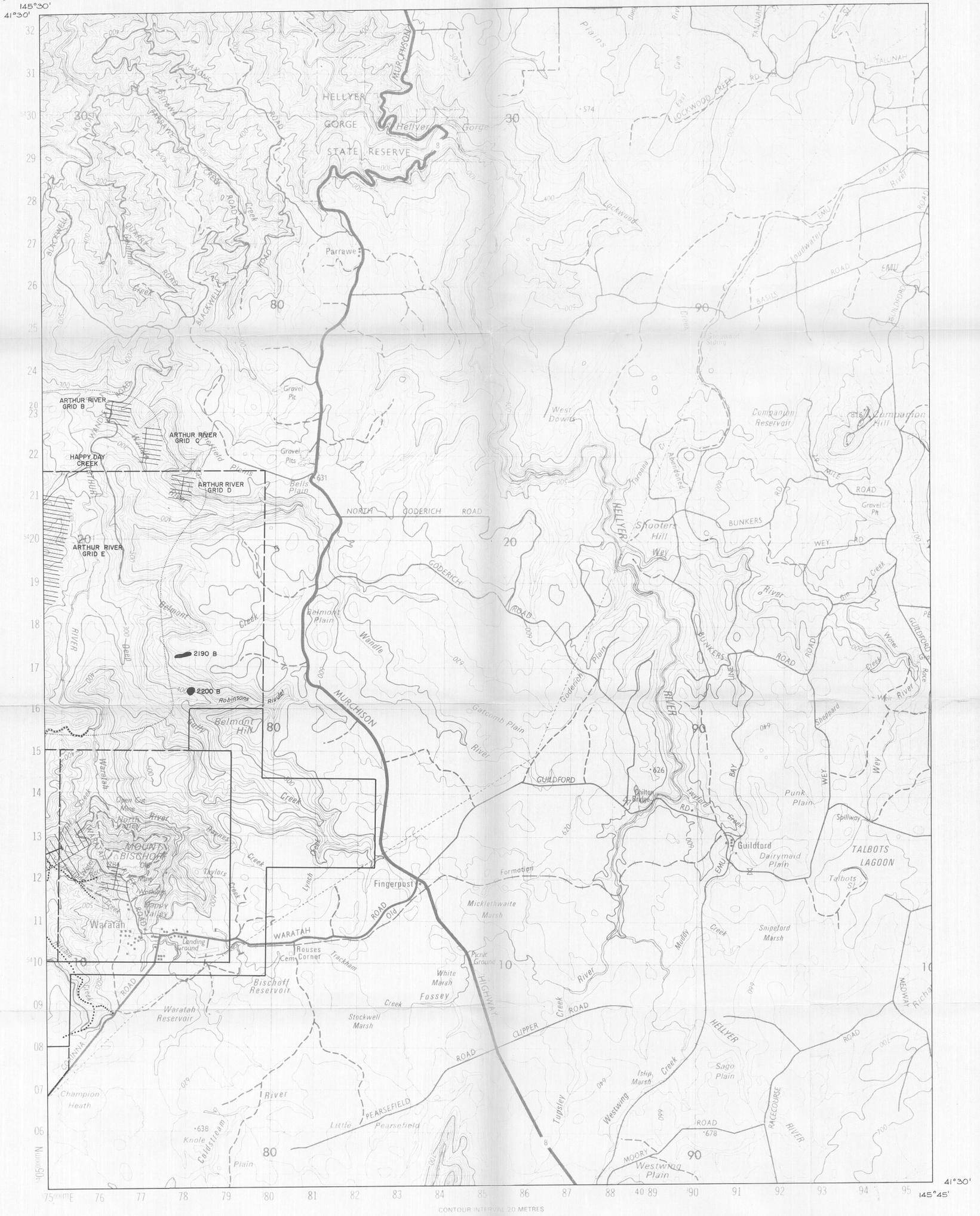
- existing lease boundary
- - - proposed lease boundary
- stream sediment sampling coverage 1970/71
- stream sediment sampling coverage 1972/73
- Turam traverses 1970
- A1, A4, A6 Turam follow-up grids 1971 (Layton & Associates)
- A2, A4, A5 Crone/Magnetics anomalies 1973 (Comstaff)
- A - E grid cutting 1973/74
- ||||| Magnet grid 1975/76
- 2280B Dighem anomalies 1983
- ⊙ BABI diamond drillhole



COMSTAFF PROPRIETARY LIMITED
 183032
 EL 5/63 AREA I - ARTHUR RIVER 000
 PLAN TO ACCOMPANY SURRENDER REPORT
 TAS/2/4237

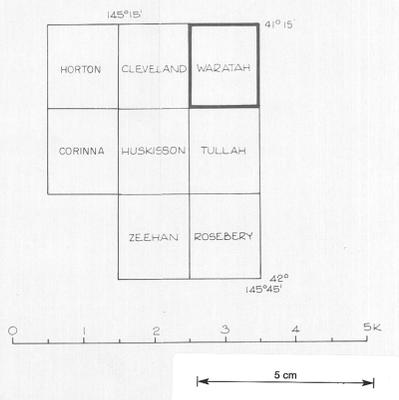
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DATE	BY
15/5/95	JH



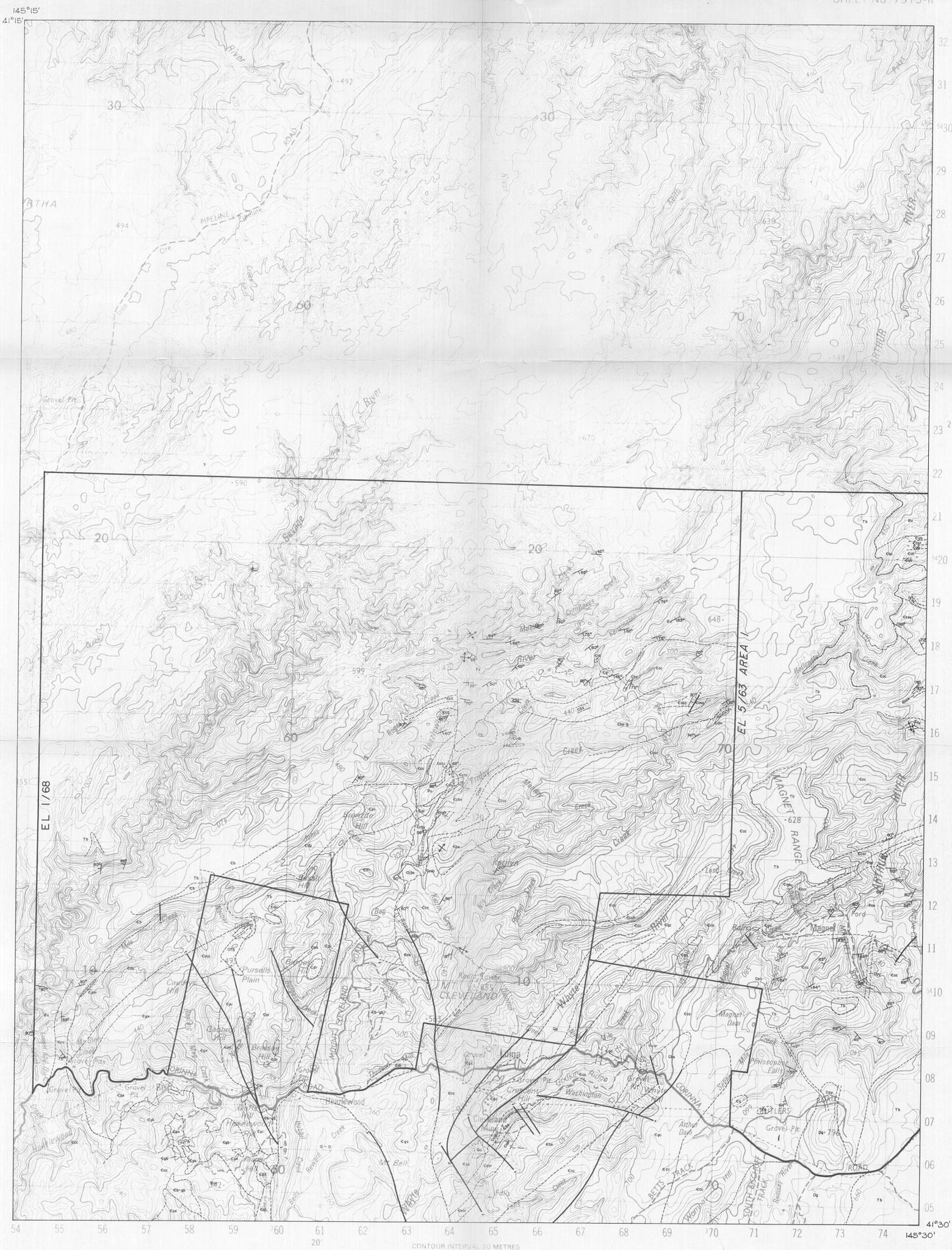
COMSTAFF PROPRIETARY LIMITED
 183033
 EL 5/63 AREA I - ARTHUR RIVER 001
 PLAN TO ACCOMPANY SURRENDER REPORT

183033



55-233

DATE	15/5/85
BY	JH
SCALE	1:50 000
PROJECT	TAS/2/4238



COMSTAFF PROPRIETARY LIMITED

I : 50 000 002

REGIONAL GEOLOGICAL INTERPRETATION

CLEVELAND PLAN

183034

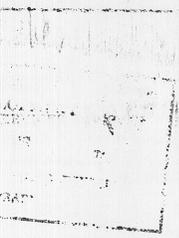
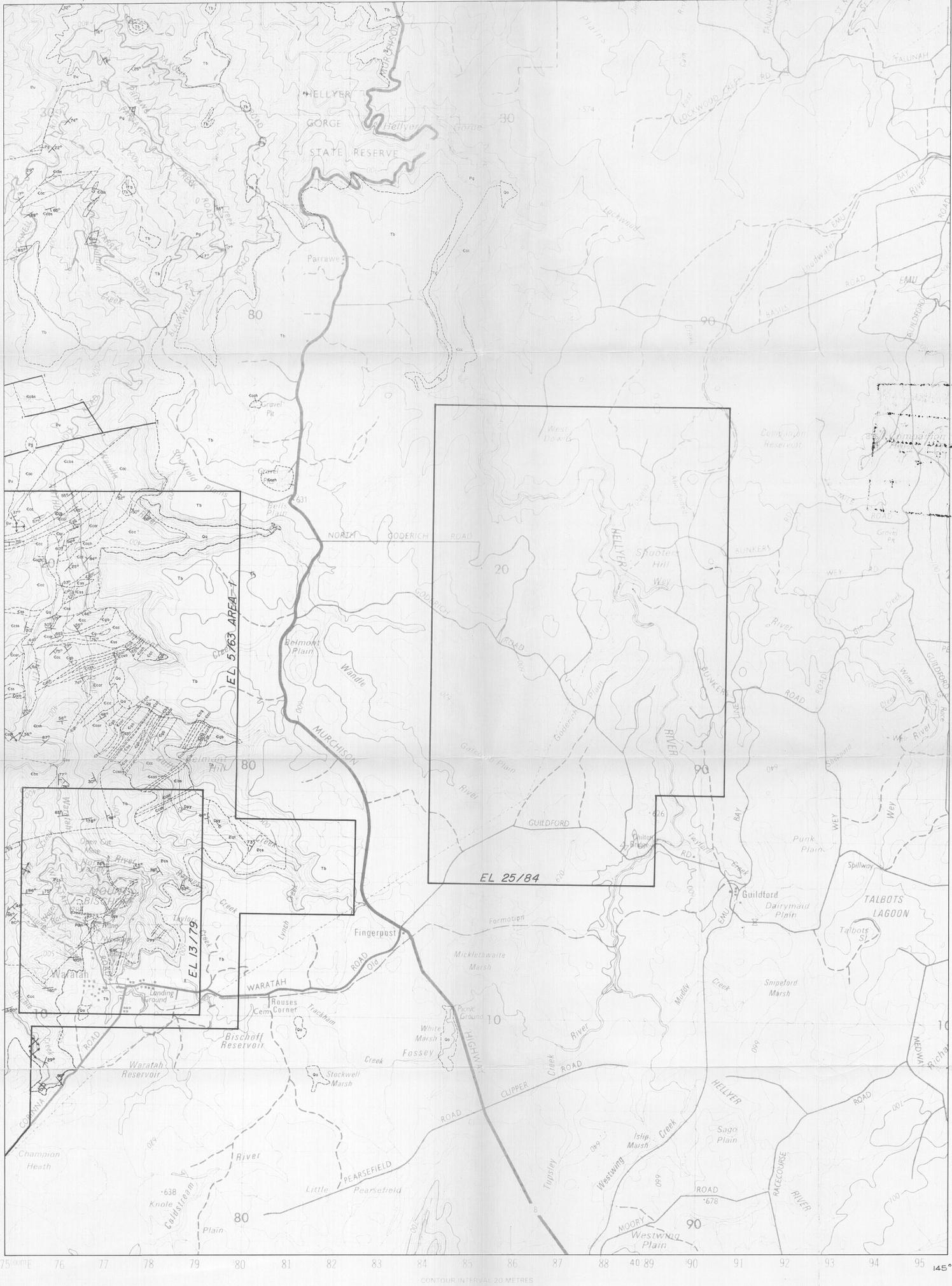
5cm

HORTON TAS/2/3072	CLEVELAND TAS/2/3073	WARATAH TAS/2/3074
CORINNA TAS/2/3075	HUSKISSON TAS/2/3076	TULLAH TAS/2/3077
	ZEEHAN TAS/2/3078	ROSEBERRY TAS/2/3079



COMPTON O.F.P.
GEOMATICS
27/9/82
SCALE 1:50 000
TAS/2/3073

145°30'
41°30'



145

41°30'
145°45'

CONTOUR INTERVAL: 20 METRES

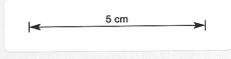
COMSTAFF PROPRIETARY LIMITED
183035

1 : 50 000
REGIONAL GEOLOGICAL INTERPRETATION
WARATAH PLAN

003

COMPILED BY G.F.P.
DRAWN BY G.F.P.
DATE 27/9/82
GEOGRAPHY
AMENDED
SCALE 1 : 50 000
TAS/2/3074

HORTON TAS/2/3072	CLEVELAND TAS/2/3073	WARATAH TAS/2/3074
CORINNA TAS/2/3075	HUSKISSON TAS/2/3076	TULLAH TAS/2/3077
ZEEHAN TAS/2/3078	ROSEBURY TAS/2/3079	



55-2835