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80-1432.

Def	A.O.	CG	CC & M.	D.S. & E.
RECEIVED				Registrar
	19	MAY	1980	E&L
ANSWERED	DEPT. OF MINES			
REF. No.				

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COMMONWEALTH ALUMINIUM CORPORATION LIMITED

E.L. 4/77, HIGHCLERE, TASMANIA

UPDATE REPORT ON INVESTIGATIONS

NORTHERN PART OF LICENCE AREA

**OPEN FILE**

P.W. Askins.  
May, 1980.

1. INTRODUCTION

The report covers all investigations since those reported in: Askins, P.W. (1978) Report on all Investigations to October, 1978, E.L. 4/77 Highclere. Comalco Ltd, Exploration Department, unpublished report.

Work in the southern part of E.L. 4/77 has been reported in Weste, G. (1979) "E.L. 1/76 Guildford and southern part of E.L. 4/77 Highclere, report on all exploration from October, 1978 to December, 1979. Commonwealth Aluminium Corporation Limited unpublished report.

An update and completion report on the Blythe Road area of E.L. 4/77 appears as Askins, (1980), "E.L. 4/77 Tasmania, Completion report, Blythe Road area, Commonwealth Aluminium Corporation Limited, unpublished report.

Investigations have almost entirely been in one area known as the Hanstein grid; only brief reconnaissance work has been done elsewhere.

Fig. 1 shows the locality of the area covered by this report.

## 80 - 1432

## LIST OF PLANS

FIG 1	Location Map
FIG 2	Geoex Aeromagnetics Showing Anomalous Area
FIG 3	
FIG 4	
TAS-79-262	Hanstein Grid Line Slopes
TAS-79-197	Analyses of Magnetic Fractions of Stream Sediment
TAS-79-268	Hanstein Grid Geology
TAS-79-263	Hanstein Grid Proton Precession Magnetics Data
TAS-79-267	Hanstein Grid Proton Precession Magnetics Contours
TAS-79-328	Hanstein Grid Chargeability Profiles
TAS-79-329	Hanstein Grid Resistivity Profiles
TAS-79-387	Vertical Electrical Sounding

2. HANSTEIN GRID

It was thought that the skarn body at Kara North in Tasminex E.L. 17/68 could extend north into E.L. 4/77 just north of Hampshire. Detailed airborne magnetics by Geoex in the Tasminex E.L. overlapped our E.L. by 1 km. This 1 km strip was kindly given to us by Bob Gifford of McIntyre. It shows, Fig. 2, that a small area of 2 x 1 km of modest positive magnetic anomaly on strike with known mineralization occurs in our E.L. at the northern edge of Tasminex E.L. The area is covered by basalt.

It was therefore decided to grid this area and follow this with ground magnetics, I.P. and drilling if warranted.

A grid of about 19 line km was completed under contract. Lines are 100m apart, and area covered is 2.6 km x about 0.8 km. All land holders were notified of our investigations. See figs. 3, 4. Grid line slopes are plotted on TAS-79-262. -

Geological mapping, ground magnetics and gradient array E.I.P. were completed over the grid. The main aeromagnetic anomaly was located but the I.P. data, and an electrical sounding indicates that the source is a slight ridge in basalt, not skarn. No further work is proposed.

Details can be found on the relevant maps, which are:

Geology	-	TAS-79-268
Magnetics Data	-	TAS-79-263
Contours	-	TAS-79-267
I.P. Chargeability Profiles	-	TAS-79-328
I.P. Resistivity Profiles	-	TAS-79-329

Transparencies held.

3. GENERAL RECONNAISSANCE WORK

Reconnaissance of some fluorine and scheelite and magnetic anomalies detected in the previous program was carried out:

One area between the Highclere Iron deposit and the Buckby prospect had a scheelite in pan-concentrate anomaly, but resampling failed to confirm this. The area is covered by basalt. Despite this negative result the area still requires further evaluation.

An aeromagnetic anomaly northeast of the top of the Kingsclere grid was located on ground traverses. Its location would be 100E, 600N. The Kingsclere grid will need to be extended to cover and evaluate this anomaly.

An area near Paddy Sugar Loaf was inspected for the source of a fluorine-scheelite geochem anomaly, but only basalt was found, and resampling did not find scheelite. As for the area above, this area still requires further evaluation.

A piece of dolomitic core from the Buckby Prospect (hole KD 6 at 214.50 metres) was sent to Dr. Max Banks at the University of Tasmania to determine whether it contained microfossils and hence determine its age. The specimen dissolved only slowly - it has unfortunately been too metasomatized and was barren of microfossils.

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4. MAGNETIC FRACTION STREAM SEDIMENT SAMPLING

Analyses of samples RD/T/H/M479 to 494 and 525 to 547 were awaited at the time of writing the previous report (Askins, 1978).

These results are attached, and have been plotted on TAS-78-197, (revised).

One sample, 526, on the St. Josephs River is anomalous for Sn, 25 ppm, but other samples above and below in the same stream are not anomalous. Samples, 488 to 492 all from the same area in or near the Guide River 1.5 km NW of Nolans Hill are anomalous for Pb (50 ppm). The source is unknown.

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090007

Doc. No.	CC	RECORDS OFFICE
RECEIVED	22 MAY 1980	
ANSWER	DEPT OF MINES	
REF. No:	Registrar E & I L	

COMMONWEALTH ALUMINIUM CORPORATION LIMITED

E.L. 4/77, HIGHCLERE, TASMANIA

UPDATE REPORT ON INVESTIGATIONS

NORTHERN PART OF LICENCE AREA

APPENDIX 1

P.W. Askins.  
May, 1980.

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x = not detected at the limits quoted  
 Results in ppm unless otherwise stated. Detection limits in brackets.

Sample	Sn (1)	Cu (1)	Pb (1)	Zn (20)	Hg (0.1)					
M479	1111	11710	11210	11010	101.11	1111	1111	1111	1111	1111
M480	1115	11000	11310	11310	101.13	1111	1111	1111	1111	1111
M481	1112	11710	11310	11010	1111X	1111	1111	1111	1111	1111
482	1113	11510	11310	11510	1111X	1111	1111	1111	1111	1111
483	1117	11810	11510	11510	1111X	1111	1111	1111	1111	1111
484	1112	11410	11310	1170	101.11	1111	1111	1111	1111	1111
485	111X	11010	11110	1200	101.12	1111	1111	1111	1111	1111
486	1113	11810	11310	11010	101.12	1111	1111	1111	1111	1111
487	1111	11710	11310	11010	1111X	1111	1111	1111	1111	1111
488	1112	11810	11510	11010	1111X	1111	1111	1111	1111	1111
489	111X	11010	11510	11510	1111X	1111	1111	1111	1111	1111
490	1112	11810	11510	11010	1111X	1111	1111	1111	1111	1111
491	1113	11810	11510	11010	1111X	1111	1111	1111	1111	1111
492	1114	11710	11510	1170	101.12	1111	1111	1111	1111	1111
494	111X	11710	11110	12010	1111X	1111	1111	1111	1111	1111
525	111X	11010	11110	12010	101.12	1111	1111	1111	1111	1111
526	11215	11010	11110	11010	101.12	1111	1111	1111	1111	1111
527	111X	11010	11110	11510	101.12	1111	1111	1111	1111	1111
528	111X	11810	11110	11510	101.12	1111	1111	1111	1111	1111
529	1113	11010	11210	11510	101.12	1111	1111	1111	1111	1111
530	111X	11810	11115	11510	101.12	1111	1111	1111	1111	1111
531	1112	11810	11110	11510	101.11	1111	1111	1111	1111	1111
532	111X	11710	11115	11010	101.12	1111	1111	1111	1111	1111
533	111X	11810	11110	11810	101.11	1111	1111	1111	1111	1111
M534	1111	11810	11115	11010	101.12	1111	1111	1111	1111	1111

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined by an appropriate accurate analytical technique.



003

146°00'

147°00'

090010

# BASS STRAIT

41°00'

41°00'

Wynyard

BURNIE

DEVONPORT

Bell Bay

LAUNCESTON

HIGHCLERE  
E.L. 4/77

RIANA  
E.L. 8/77

Wilmot

Guildford

Moina

GUILDFORD  
E.L. 1/76

MOINA E.L. 7/74

QUAMBY  
E.L. 17/76

80-1432

COMALCO

TASMANIA

## TENEMENT LOCATION MAP

FIG. 1

5 cm

Compiled: P. A.	Revised: July, 1979	Drawn: M.A.
Date: October, 1978	Scale: 1:500,000	Org No TAS-78-215



010  
95

090012

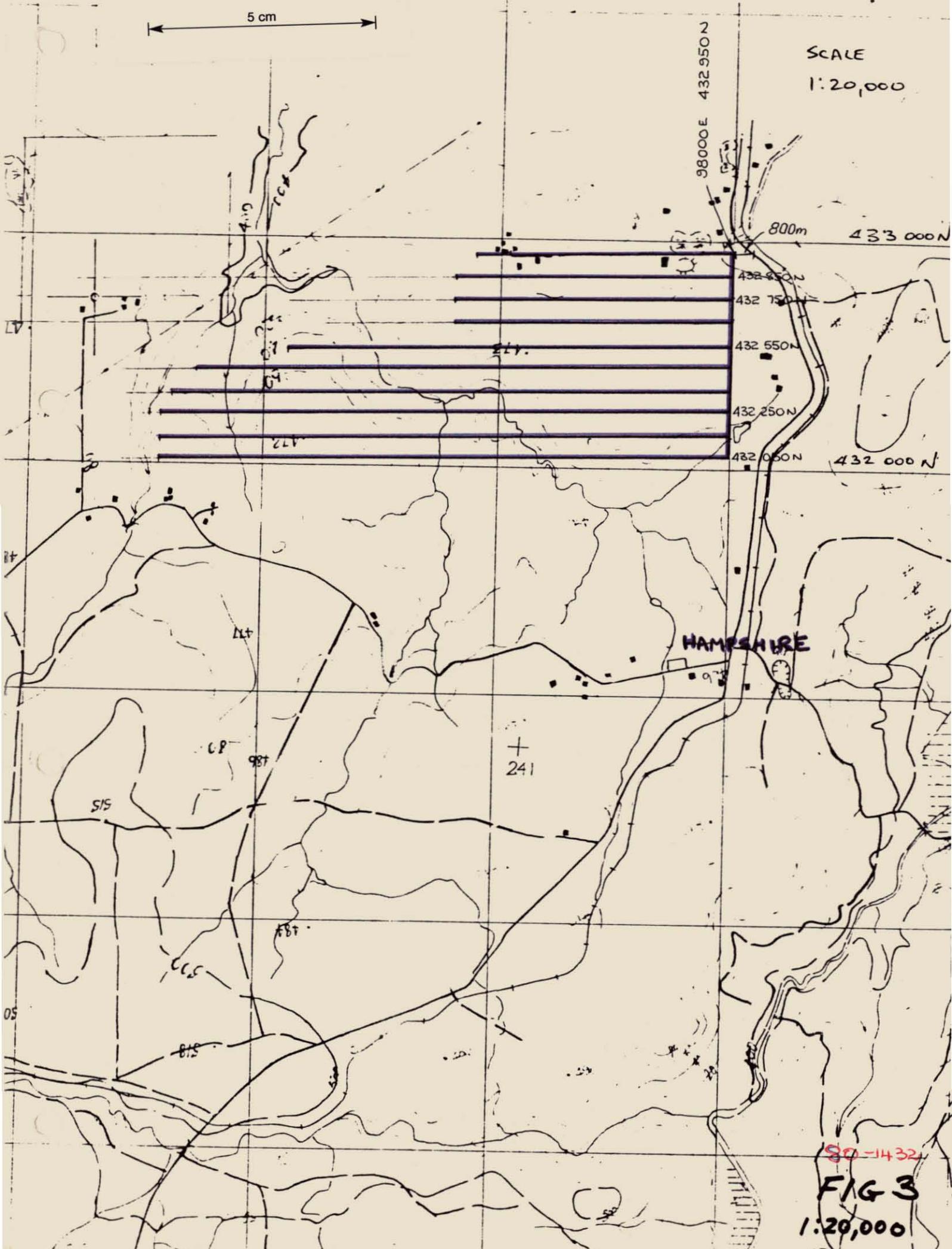
96000E

97000E

98000E

5 cm

SCALE  
1:20,000



HAMPSHIRE

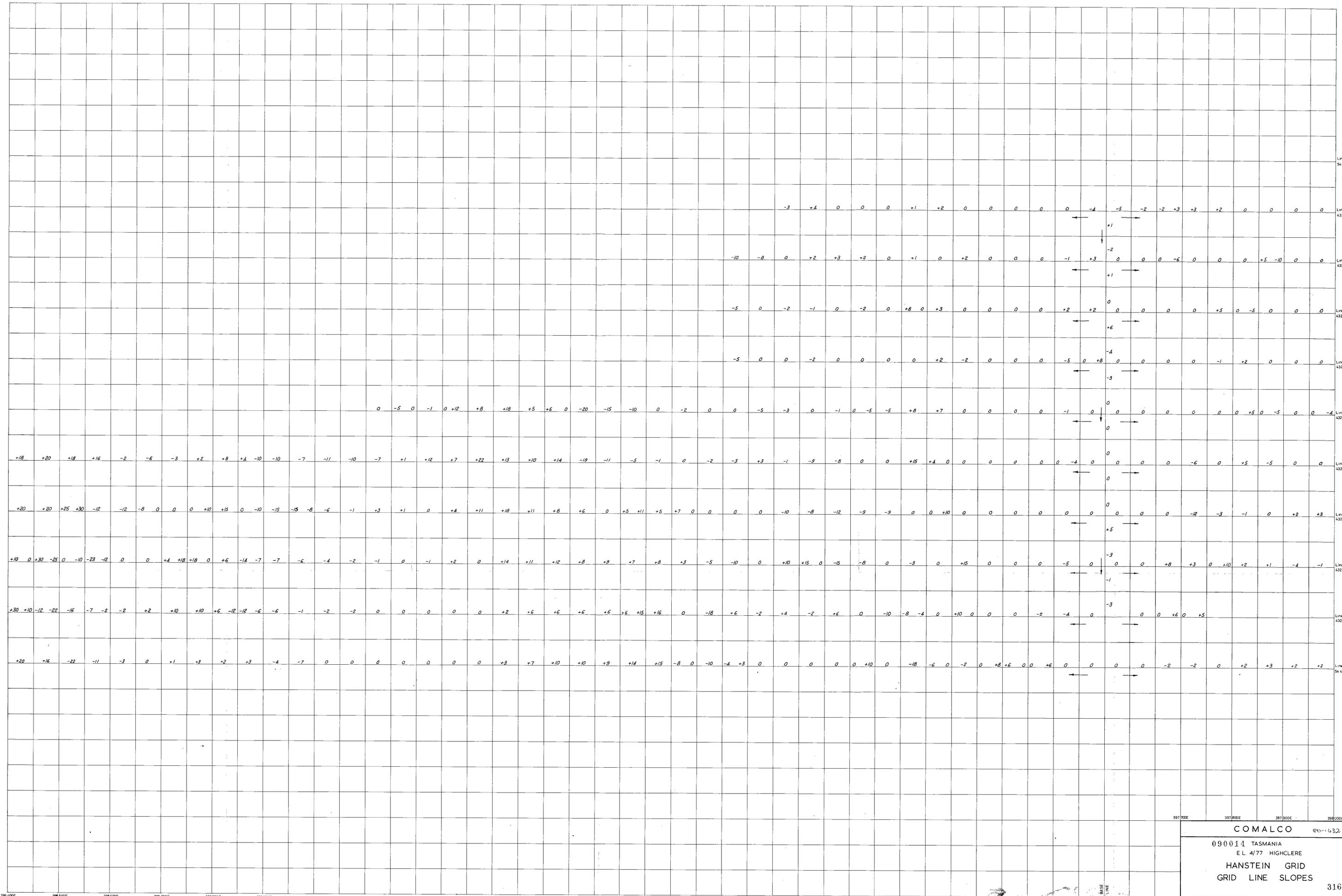
241

SD-1432

FIG 3

1:20,000





COMALCO		FD-432
090014 TASMANIA E L 4/77 HIGHCLERE		
HANSTEIN GRID GRID LINE SLOPES		
		3168
Compiled: O Hedditch	Revised:	Drawn: O Hedditch
Date: April 1979	Scale: 1:2500	Drig No: TAS-79-262

395 400E 395 500E 395 600E 395 700E 395 800E 395 900E 396 000E 396 100E 396 200E 396 300E 396 400E 396 500E 396 600E 396 700E 396 800E 396 900E 397 000E 397 100E 397 200E 397 300E 397 400E 397 500E 397 600E 397 700E 397 800E 397 900E 398 000E

432 050N 432 150N 432 250N 432 350N 432 450N 432 550N 432 650N 432 750N 432 850N 432 950N

Index numbers shown on this tenure map when used in conjunction with the sheet number provides a unique reference to any lot. (e.g. 28/20/4843). Details of Tenure: G = granted lot, P.G. = purchase grant, P. = purchase lot, L.O. = location order, C.I. = certificate issued, S.S. = soldier settlement, S.S.L. = soldier settlement lease, R.A. = residence area, L = lease lot, T.L. = temporary licence, C.L. = crown land, G.R.P. = granted under Real Property Act. Copies of this plan may be obtained from the Lands Dept. or Box 44a G.P.O. Hobart.

CADASTRAL REFERENCE SHEET 20/3943

Index	Map Ref.	Survey Plan	Lot	Area	Name / Purpose	Tenure
1	A10	60/16	-	6.070ha	Diprose, C.A.	P.G.
2	A10	130/2	-	20.26ha	Fremke, M.M.	P.G.
3	A10	74/4	-	42.96ha	Holloway, L.G.A.	P.
4	A10	-	-	4692ha	State Forest Gas. 10.7.63	C.L.
5	A10	39/27	-	37.89ha	Cross, V.	P.G.
6	A10	78/28	-	11.85ha	Cross, V.	P.G.
7	A10	102/6	-	90.60ha	Deantsh, S.S.	S.S.
8	B10	-	-	-	Vacant	C.L.
9	C10	78/20	-	60.20ha	Vacant	C.L.
10	C10	44/25	-	20.20ha	Deacon, J.	P.G.
11	C10	67/15	-	20.90ha	Radford, E.A.	P.G.
12	C9	44/23	-	20.20ha	Deacon, J.	P.G.
13	D9	39/31	-	19.99ha	Curator of Intestate Estates	P.G.
14	D9	319/9	-	8.69ha	Fander, E.M. & T.E.	P.G.
15	C9	36/16	-	19.52ha	Radford, E.A.	P.G.
16	C9	39/25	-	16.64ha	Radford, E.A.	P.G.
17	D9	42/32	-	10.12ha	Docking, W.T.	P.G.
18	D9	39/23	-	21.03ha	Cross, V.	P.G.
19	D9	47/23	-	15.58ha	Cross, V.	P.G.
20	D9	39/23	-	41.32ha	Cross, V.	P.G.
21	D8	45/16	-	58.96ha	Turbull, A.S.	P.G.
22	C9	36/14	-	80.97ha	Turbull, M.E.H.	P.G.
23	C9	29/17	-	26.13ha	Deacon, J.	P.G.
24	C8	36/15	-	18.47ha	Turbull, M.E.H.	P.G.
25	C8	29/16	-	39.72ha	Duffield, S.	P.G.
26	C7	16/44	-	40.47ha	Duffield, S.	P.G.
27	B7	36/12	-	61.66ha	Duffield, S.	P.G.
28	B7	45/16	-	19.87ha	Vacant	C.L.
29	A8	78/25	-	19.83ha	Burns Board & Timber P/L	P.G.
30	A8	78/25	-	44.16ha	Burns Board & Timber P/L	P.G.
31	A8	94/14	-	44.16ha	Vacant	C.L.
32	A7	39/26	-	79.36ha	Dodd, J.	P.G.
33	A7	120/9	-	75.93ha	Reyes, F.R.G.	P.G.
34	A7	50/20	-	19.85ha	Atkinson, J.H.T.	P.G.
35	B7	40/30	-	11.60ha	Dodd, J.	P.G.
36	B7	40/30	-	18.06ha	Dodd, J.	P.G.
37	B7	610/6	-	9.902ha	Dodd, A. (Town Res. Onash)	P.
38	B7	39/19	-	20.79ha	Townsend, A.E. (Town Res. Onash)	P.
39	B7	610/7	-	2.021ha	Townsend, A.E. (Town Res. Onash)	P.
40	C6	113/21	-	60.71ha	Bradshant, C.E.	S.S.
41	C6	47/21	-	61.67ha	Haywood, R.B.	S.S.
42	C6	47/21	-	15.06ha	Deacon, P.T.	P.G.
43	C6	40/28	-	100.83ha	Martin, T.G.	P.G.
44	C6	40/29	-	20.07ha	Deacon, P.T.	P.G.
45	C6	40/27	-	18.28ha	Hobbs, H.V., C.B. & H.R.	P.G.
46	C6	39/28	-	20.17ha	Hobbs, H.V.	P.G.
47	A6	42/30	-	60.33ha	Townsend, T.	P.G.
48	A6	47/22	-	19.95ha	Townsend, E.J.	P.G.
49	A6	44/24	-	81.54ha	Atkinson, H.W.	P.G.
50	B5	47/17	-	52.78ha	Crow, P.A.	P.G.
51	A4	110/18	-	257.5ha	Tewkesbury Potato Station	P.G.
52	B6	39/28	-	80.65ha	Martin, J.	P.G.
53	B6	36/10	-	111.1ha	Smiley, J.E.W.	P.G.
54	C5	40/24	-	39.76ha	Martin, T.G.	P.G.
55	C4	53/2	-	58.58ha	Harris, A.H.	P.G.
56	C3	54/26	-	58.64ha	Harris, A.H.	P.G.
57	D3	54/25	-	60.98ha	Townsend, J.	P.G.
58	C3	50/15	-	60.68ha	Smiley, J.E.W.	P.G.
59	B3	42/24	-	20.22ha	Heid, W.	P.G.
60	B3	43/18	-	42.29ha	Atkinson, C.E.	P.G.
61	A3	47/13	-	62.52ha	Tewkesbury Additional Land	C.L.
62	A3	47/24	-	8.163ha	Heid, W.	P.G.
63	A2	27/14	-	20.19ha	Tewkesbury Potato Station	C.L.
64	A2	60/1	-	81.07ha	Assoc. Forest Holdings Pty. Ltd.	P.G.
65	A2	78/27	-	Part of 97.83ha	Atkinson, C.E.	P.G.
66	C2	44/28	-	40.36ha	Heid, W.	P.G.
67	B2	47/26	-	10.11ha	Heid, W.	P.G.
68	B2	60/9	-	24.02ha	Heid, W.	P.G.
69	B3	42/29	-	128.8ha	Comins, R.A.	P.G.
70	B3	42/28	-	80.97ha	Barber, F.	P.G.
71	B3	47/19	-	80.85ha	Comins, T.S.	P.G.
72	B2	71/25	-	78.45ha	Owen, H.	P.G.
73	B2	47/16	-	60.64ha	Comins, L.S.	P.G.
74	B2	34/26	-	109.7ha	Hobbs, H.V.	P.G.
75	B2	44/28	-	40.33ha	Heid, W.	P.G.
76	P10	105/18	-	36.39ha	Burns Board Timber Pty. Ltd.	P.G.
77	P10	105/18	-	30.33ha	Bligh, R.H.	P.G.
78	C9	104/33	-	63.34ha	Radford, E.A.	P.G.
79	B6	99/23	-	62.78ha	Brewidge, S.H.	S.S.
80	B3	P.2	-	4048ha	V.D.L. Co. Hampshire Hills	P.G.
81	B1	15/28	-	4047ha	Burns, Marden Etc.	S.S.
82	B1	99/24	-	37.28ha	Vacant	C.L.
83	C1	-	-	-	V.D.L. Co. Surrey Hills	P.G.
84	B7	11/2488	32263	4199a2	The Marden Etc. Navy of Burnie	P.G.
86	B6	40/22	-	20.29ha	Townsend, G.	P.G.
87	B2	67/18	-	20.15ha	Heid, W.	P.G.

Element	Range	Anomalous
Sn	5-20ppm	>20ppm
Cu	30-45ppm	>45ppm
Pb	-	>45ppm
Zn	-	>400ppm

KEY: Sample No. Sn, Pb, Cu, Mo, Zn, Bi, Be

ppm, in magnetic fraction of stream sediment. Analyses by Amel semi-quantitative spectrographic, codes A1, A2.

"-" indicates below the limit of detection

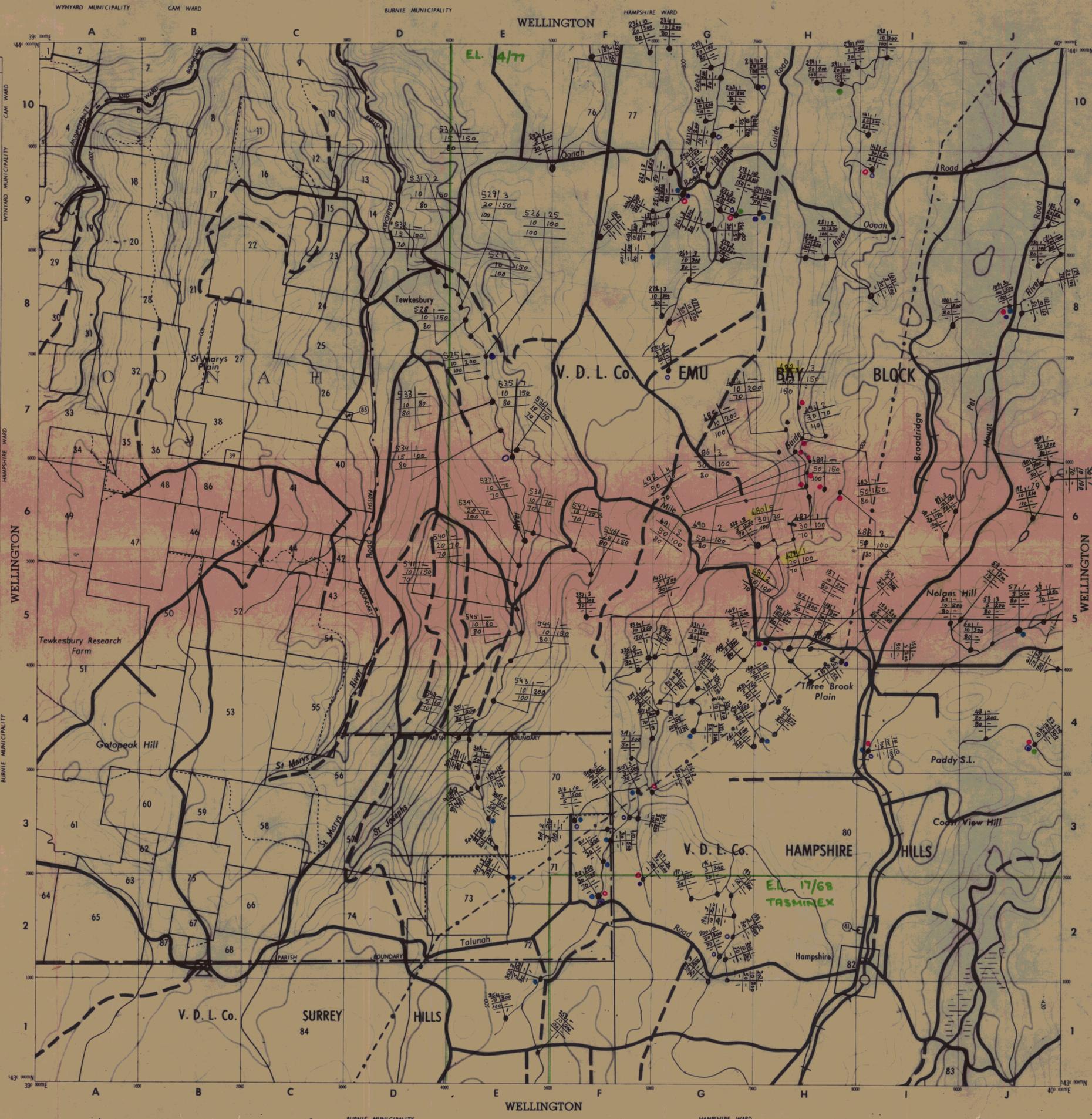
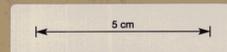
**COMALCO LIMITED** 090015

EL. 4/77 HIGHCLERE, TASMANIA

**ANALYSES OF MAGNETIC FRACTIONS OF STREAM SEDIMENT** 3167

Compiled: R. Durek, R. Pollock | Revised: R.D. - 14-5-80 | 90-1432

Scale: 1:20 000 | Dwg. No.: TAS-78-197



This is a Preliminary Edition prepared to provide advance information on areas in which mapping is in progress. This map is Crown Copyright and may only be reproduced upon written authority from the Surveyor General.

PRODUCTION: Lands Dept. 1975  
 PROJECTION: Transverse Mercator  
 HORIZONTAL DATUM: Australian Geodetic Datum 1966  
 VERTICAL DATUM: Mean Sea Level  
 COMPILED: Based on 1:100 000 Topographical Series and Land District Charts.

**SCALE 1:20 000**  
 Line Scale Factor K for this sheet = 0.99974

**CONTOUR INTERVAL 20 METRES**

**CONVERSION TABLES**

METRES	FEET
100	328
200	656
300	984
400	1312
500	1640
600	1968
700	2296
800	2624
900	2952
1000	3280
1100	3608
1200	3936
1300	4264
1400	4592
1500	4920
1600	5248
1700	5576
1800	5904
1900	6232
2000	6560

THIS IS A METRIC MAP

**BOUNDARY LEGEND**

- Land District
- Municipality
- Parish
- Ward
- Town
- Lessee
- Licence
- State Forest
- Survey
- Miscellaneous

**ROAD CLASSIFICATIONS**

- Principal road and highway
- Secondary road
- Minor road
- Vehicular track
- Reserved road

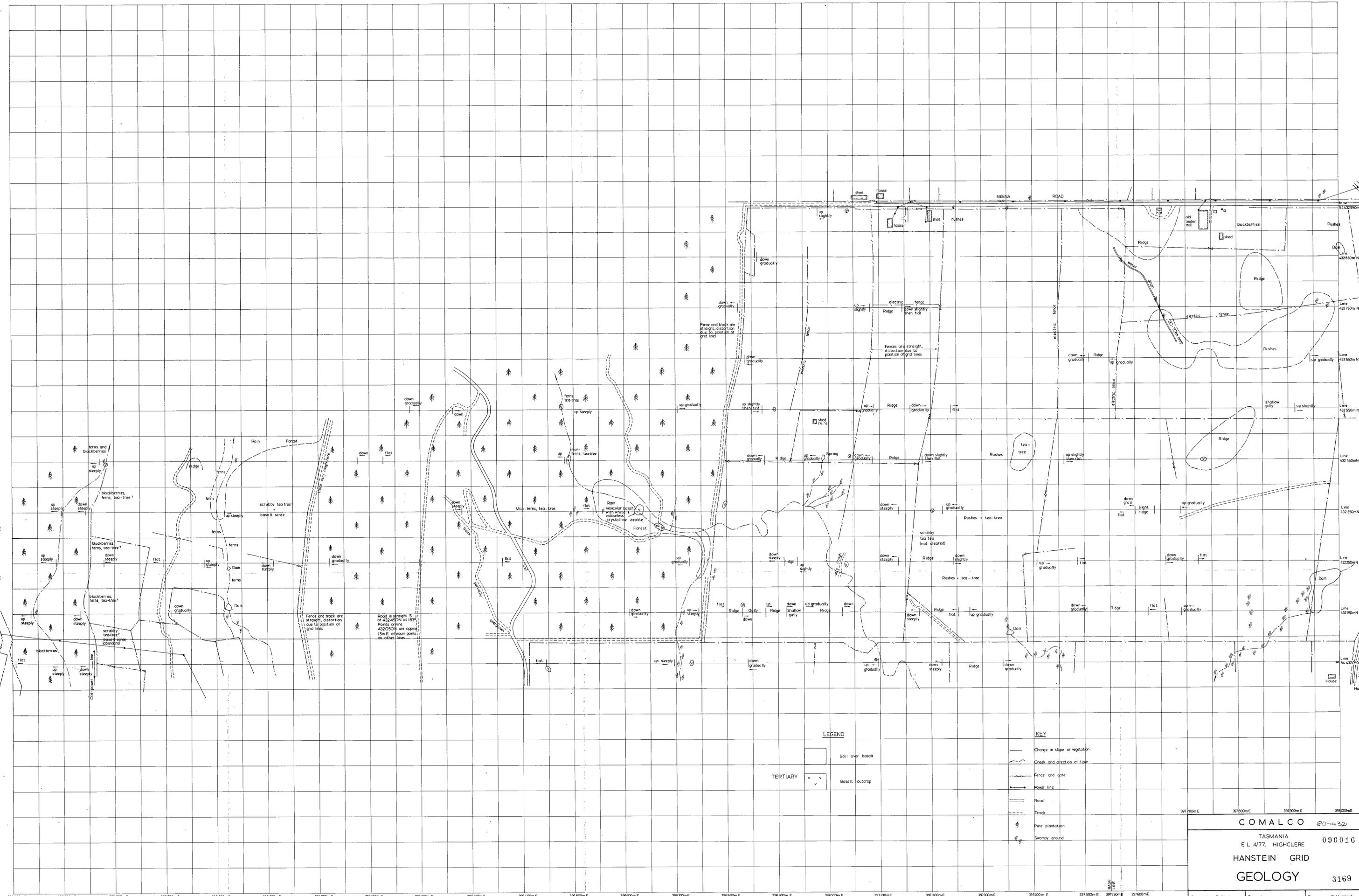
The representation of a road or track on this map is no evidence of the existence of a right of way

**INDEX TO ADJOINING SHEETS.**

3844	3944	4044
3843	3943	4043
3842	3942	4042

**LOCATION DIAGRAM**

Users are requested to notify any error to the Surveyor General, Box 44a, G.P.O. Hobart.



**LEGEND**

TERTIARY

- Soil over basalt
- Basalt outcrop

**KEY**

- Change in slope or vegetation
- Creek and direction of flow
- Fence and gate
- Power line
- Road
- Track
- Pine plantation
- Swampy ground

397 700m E 397 800m E 397 900m E 398 000m E

COMALCO 80-1432

TASMANIA 090016

E L 4/77, HIGHCLERE

HANSTEIN GRID

GEOLOGY 3169

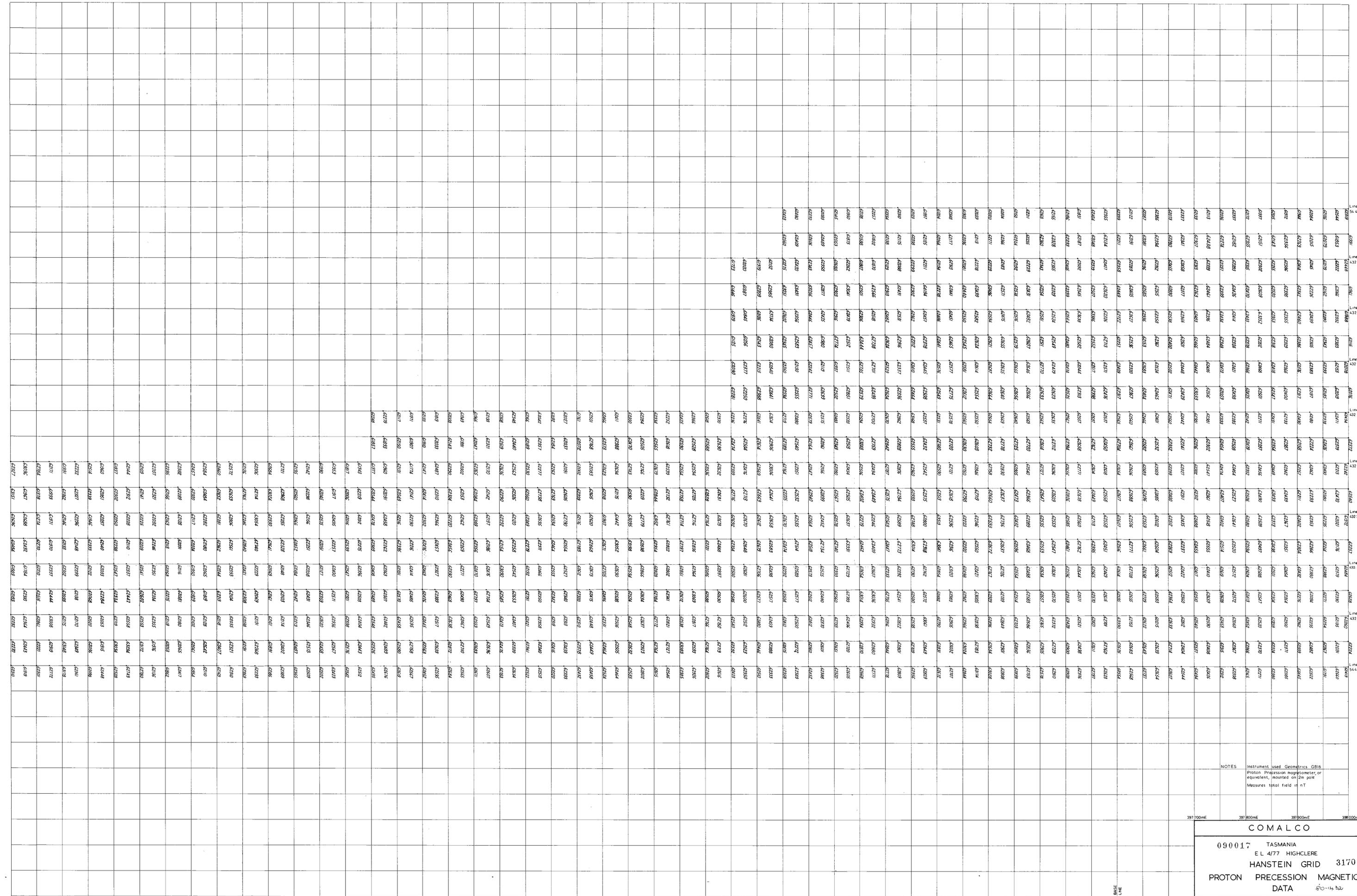
Compiled T Waite Revised Draw O Hedstich

Date May, 1979 Scale 1:2500 Dwg. No. TAS-79-268

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432 500m N 432 550m N 432 600m N 432 650m N 432 700m N 432 750m N 432 800m N 432 850m N 432 900m N 432 950m N

5m



NOTES  
 Instrument used Geometrics G815  
 Proton Precession magnetometer, or  
 equivalent, mounted on 2m pole  
 Measures total field in nT

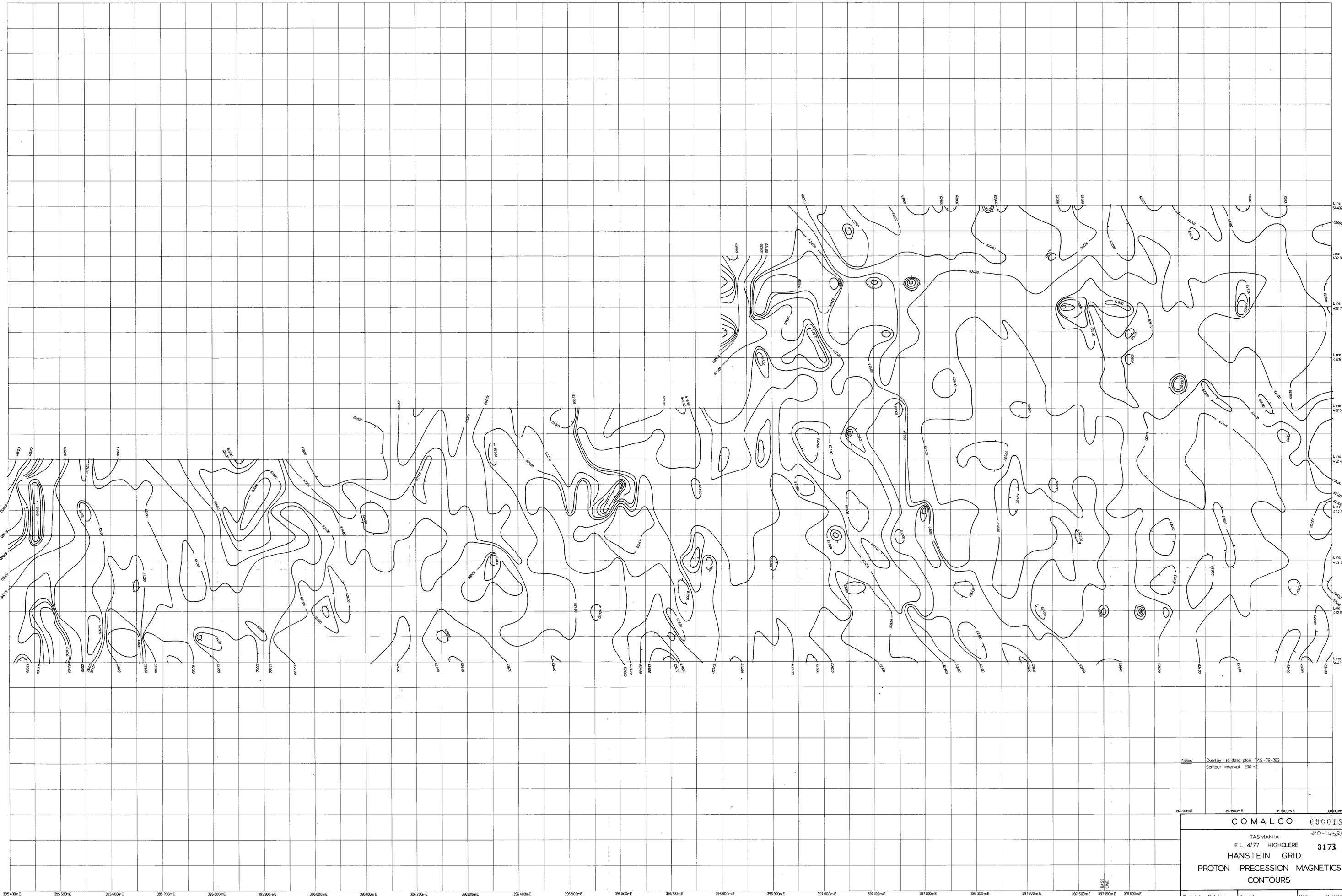
**COMALCO**

090017 TASMANIA  
 E L 4/77 HIGHCLERE  
 HANSTEIN GRID 3170

**PROTON PRECESSION MAGNETICS  
 DATA**

Compiled  Hedditch    Revised  Hedditch  
 Date April 1979    Scale 1:2500    Drg No TAS-79-263





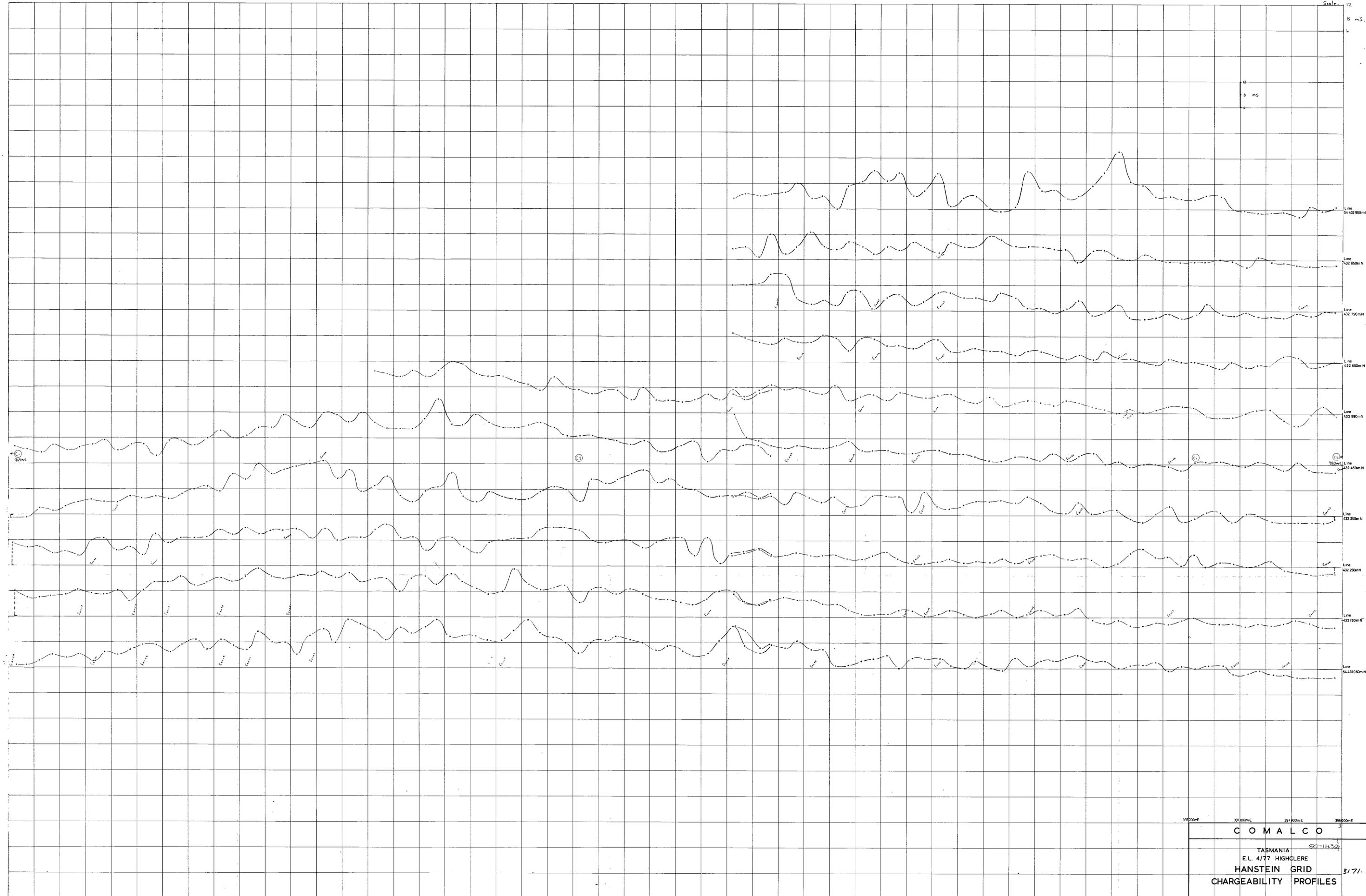
Notes: Overlay to date plan TAS-79-263  
Contour interval 200 m.

COMALCO 090018	
TASMANIA 40-1432	
E.L. 4/77 HIGHCLERE 3173	
HANSTEIN GRID	
PROTON PRECESSION MAGNETICS	
CONTOURS	
Compiled P Askins	Revised
Date May, 1979	Scale 1:2500
Drawn O Hedditch	Dwg No TAS-79-267



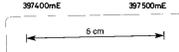
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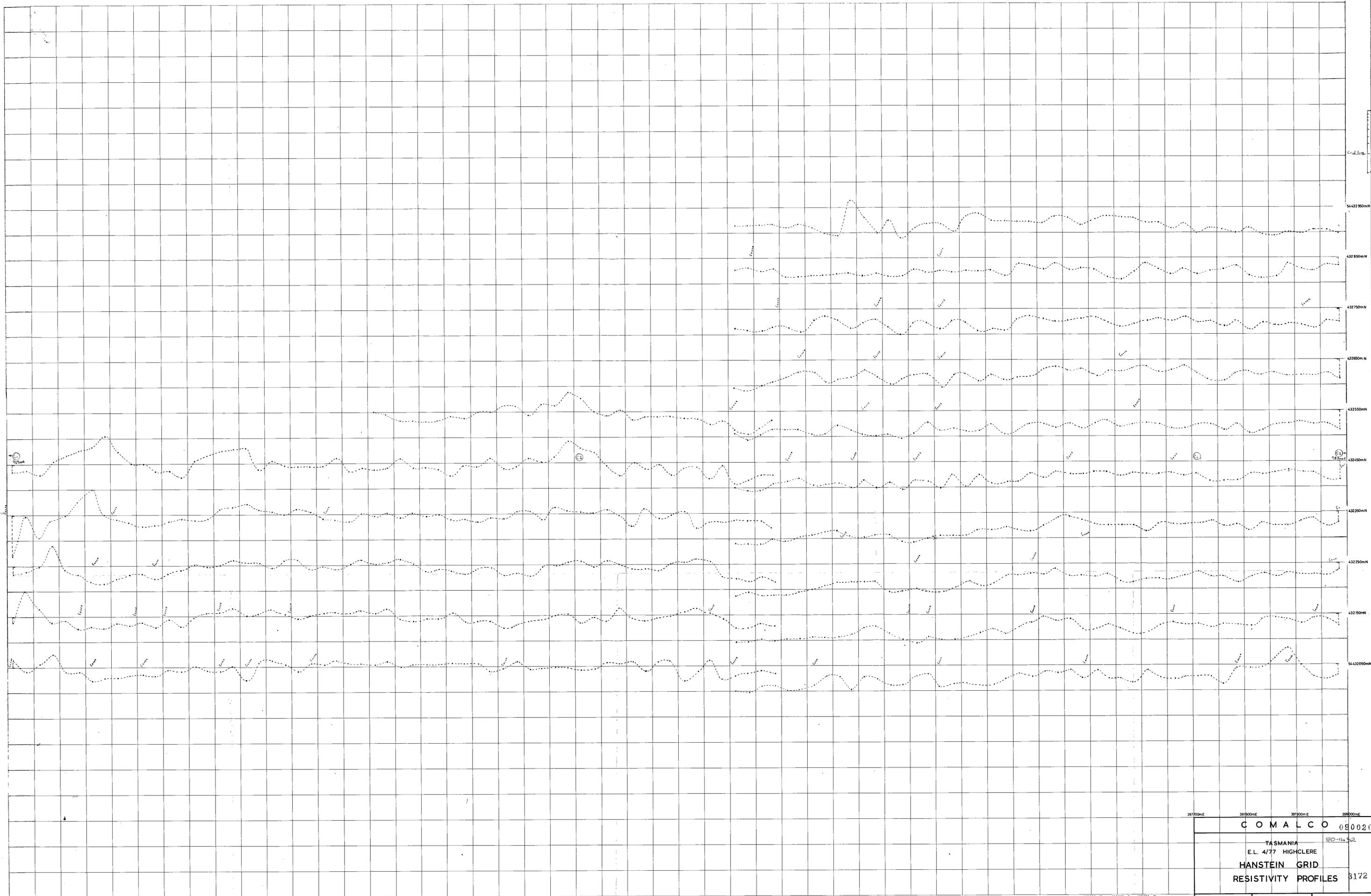
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Line 432050mN



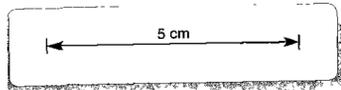
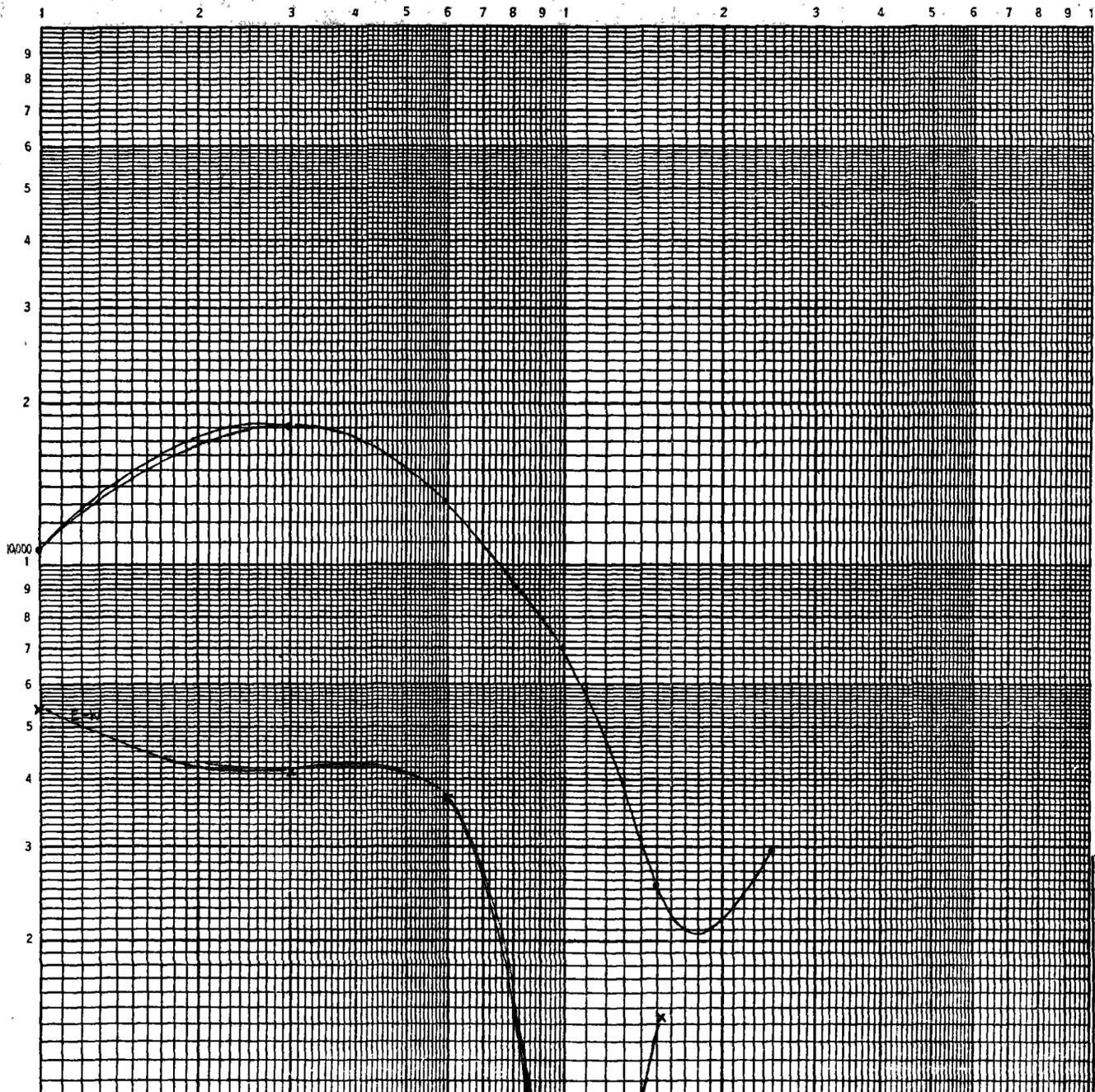
<b>COMALCO</b>			
TASMANIA E.L. 4/77 HIGHCLERE			
<b>HANSTEIN GRID</b>			
<b>CHARGEABILITY PROFILES</b>			
Compiled	G. Shelton	Revised	
Date	Jan 1980	Scale	1:2500
Drawn	G. Shelton	Dwg No	TAS - 79-328

090019





COMALCO 090020	
TASMANIA SO-14-32	
E.L. 4/77 HIGHCLERE	
HANSTEIN GRID	
RESISTIVITY PROFILES 3172	
Compiled G. Shovelton	Revised
Date Jan 1980	Scale 1:2500
Drawn G. Shovelton	Dwg No TAS-79-329



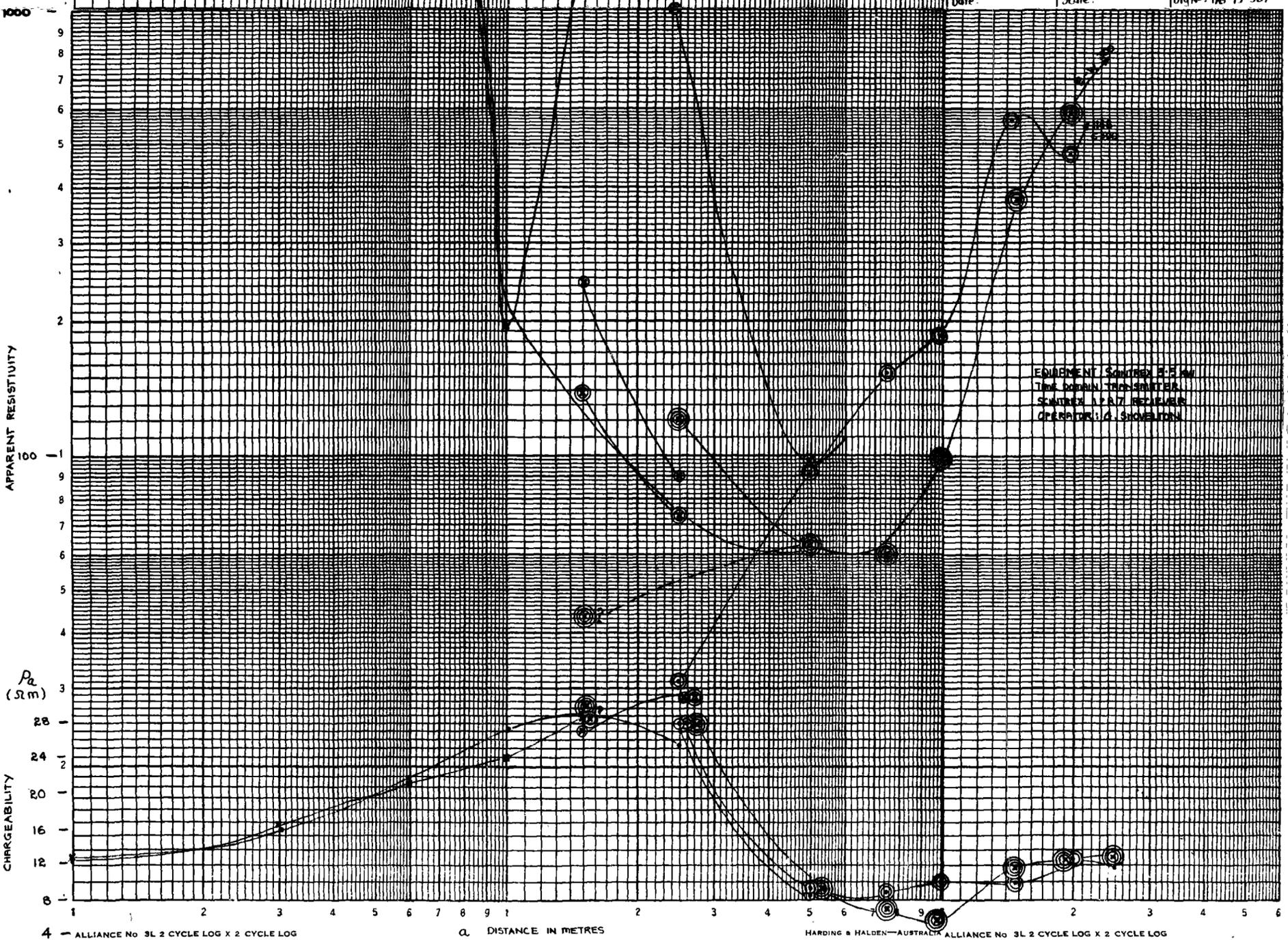
- KEY**
- x = E-W SURVEY
  - o = N-S SURVEY
  - ⊙ b = 0.5m
  - ⊗ b = 1.0m
  - ⊕ b = 2.0m
  - ⊖ b = 4.0m

80-1432 090021

C O M A L C O

TASMANIA 3174  
 EL 4/77 HIGHCLERE  
 VERTICAL ELECTRICAL SOUNDING  
 SCHLUMBERGER EXPANDER  
 (HANSTEINS GRID)

Compiled: G.W. Revised: \_\_\_\_\_  
 Date: \_\_\_\_\_ Scale: \_\_\_\_\_  
 Drawn: M.A. Draw No: TMS 79 387



EQUIPMENT: Schlumberger B-F 4W  
 Time domain TRANSMITTER  
 Schlumberger PA-7 RECEIVER  
 OPERATOR: G. SPOWELL