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	DEPT. OF MINES
FILE No	6659/84

GEOPEKO  
A DIVISION OF PEKO-WALLSEND OPERATIONS LIMITED

ANNUAL REPORT ON E.L. 57/83

MT DONALDSON  
TASMANIA

J. PEMBERTON  
MAY, 1984

**OPEN FILE**

84-2153

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1.	AEROMAGNETICS AND PROSPECT MAP
2.	PROSPECT AND RECONNAISSANCE GRID MAP



1. INTRODUCTION

The Mt Donaldson E.L. covers an area of 29sq km south west of Savage River in Western Tasmania. Access to the south east is by logging tracks across the Savage River with the rest of the area being restricted to helicopters.

Two magnetic anomalies were followed up using a tin skarn model of pyrrhotite/magnetite replacement mineralization. The area falls on the western boundary of the Arthur Lineament and is composed of Precambrian metasediments bounded by major fault structures.

2. MAGNETIC FOLLOW UP AT DON 1

Don 1 was a discrete moderate anomaly in heavy rainforest and rugged topography. The aeromagnetics are displayed on Plan 1 and the reconnaissance grid on Plan 2. C-Horizon auger samples were taken over the peak of the anomaly on line OON (see Figure 1).

The results from both the magnetics and soil sampling were disappointing (see Appendix 1). Outcrop over the peak of the anomaly was sampled:-

KR 11190 - OON 225E - Felsic Amphibolite

KR 11191 - OON 100E - Magnetite bearing siltstone

The anomaly was therefore attributed to these two source rocks.

3. MAGNETIC FOLLOW UP AT DON 2

Don 2 was a complex moderate anomaly in semi-open country. Two lines were cut and read for magnetics with line 10200N being power augered (see profiles on Figure 2 and soil sample locations). Rock samples collected were:-

KR 11172	- 10 000N	10 000E	- green siltstone
KR 11173	- 10 000N	9 720E	- magnetite bearing siltstone
KR 11186	- 10 200N	9 470E	- magnetite bearing siltstone
KR 11187	- 10 200N	9 480E	- magnetite bearing siltstone
KR 11188	- 10 200N	9 520E	- magnetite bearing siltstone
KR 11189	- 10 200N	9 700E	- magnetite bearing siltstone

The auger results were below background and the anomaly was considered explained by the abundant disseminated magnetite in outcrop.

4.

CONCLUSION

No encouragement was obtained from the follow up of these two anomalies. Any further work would concentrate on a regional approach with panned concentrate sampling and mapping.

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APPENDIX 1

C-HORIZON SOIL SAMPLE RESULTS

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Office & Laboratory  
32 Shand Street  
Stafford, Q. 4053  
PO Box 66,  
Everton Park, Q. 4053  
Phone: (07) 352 5577  
Telex: ALSEV 42344

Client: **GEOPEKO LIMITED,**  
Address: **P.O. BOX 598**  
**DEVONPORT, TAS. 7310**

Page 1 of 12

Batch Number: C100

Contact: **MR. J. PEMBERTON**

No. of Samples: 171  
Date Received: 15/03/84  
Date Completed: 23/03/84

Order No. **K 859, KP 3380** Sample Type: **SOIL**

SAMPLE NUMBER	Element Unit Method	Cu ppm G001	Pb ppm G001	Zn ppm G001	Ag ppm G001	Fe % G001
TS 24801		<2	10	15	<1	0.35
TS 24802		<2	10	5	<1	0.17
TS 24803		<2	10	10	<1	1.58
TS 24804		<2	10	15	<1	2.68
TS 24805		<2	10	15	<1	2.18
TS 24806		<2	10	15	1	2.41
TS 24807		5	20	30	1	3.20
TS 24808		<2	15	190	1	6.09
TS 24809		<2	5	30	<1	1.57
TS 24810		<2	5	45	<1	2.57
TS 24811		<2	10	60	<1	2.22
TS 24812		<2	15	75	1	1.92
TS 24813		<2	10	70	<1	3.02
TS 24814		<2	10	50	<1	1.97
TS 24815		<2	10	70	<1	2.56
TS 24816		<2	10	45	<1	3.02
TS 24817		<2	15	60	<1	2.06
TS 24818		5	55	20	1	3.15
TS 24819		5	20	60	1	5.68
TS 24820		<2	15	35	<1	1.79
TS 24821		<2	15	40	<1	1.65
TS 24822		<2	15	35	<1	2.23
TS 24823		<2	20	65	<1	3.15
TS 24824		<2	20	20	<1	1.44
TS 24825		<2	20	40	1	3.11
TS 24826		<2	20	55	<1	2.54
TS 24827		<2	15	80	1	3.24
TS 24828		<2	20	65	1	3.36
TS 24829		<2	20	65	1	2.80
TS 24830		<2	15	50	1	3.84
Detection Limit:		2	5	2	1	0.01

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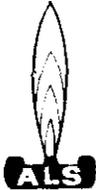
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Office & Laboratory

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Stafford, Q. 4053

PO Box 66,  
Everton Park, Q. 4053

Phone: (07) 352 5577  
Telex: ALSEV 42344

Client: **GEOPEKO LIMITED,**  
Address: **P.O. BOX 598**  
**DEVONPORT,**

TAS. 7310

Page 2 of 12

Batch Number: C100

Contact: **MR. J. PEMBERTON**

No. of Samples: 171  
Date Received: 15/03/84  
Date Completed: 23/03/84

Order No. **K 859, KP 3380**

Sample Type: **SOIL**

SAMPLE NUMBER	Element Unit Method	Sn	W	Ba		
		ppm XRF 1A	ppm XRF 1A	ppm XRF 1A		
TS 24801		<5	30	450		
TS 24802		<5	30	450		
TS 24803		<5	10	860		
TS 24804		<5	10	970		
TS 24805		<5	10	880		
TS 24806		<5	20	620		
TS 24807		<5	10	680		
TS 24808		<5	10	310		
TS 24809		<5	10	590		
TS 24810		<5	10	1000		
TS 24811		<5	20	550		
TS 24812		<5	<10	580		
TS 24813		5	<10	590		
TS 24814		<5	<10	430		
TS 24815		<5	30	280		
TS 24816		<5	10	450		
TS 24817		<5	<10	610		
TS 24818		<5	10	490		
TS 24819		<5	10	430		
TS 24820		<5	10	510		
TS 24821		<5	10	600		
TS 24822		<5	10	560		
TS 24823		<5	10	530		
TS 24824		<5	10	510		
TS 24825		5	10	580		
TS 24826		<5	10	460		
TS 24827		<5	10	440		
TS 24828		5	10	560		
TS 24829		<5	<10	630		
TS 24830		<5	<10	650		
Detection Limit		5	10	10		

Comments:

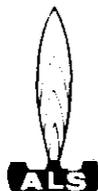


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32 Shand Street  
Stafford, Q. 4053  
PO Box 66,  
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Telex: ALSEV 42344

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**DEVONPORT, TAS. 7310**

Page 3 of 12

Contact: **MR. J. PEMBERTON**

Batch Number: **C100**

Order No. **K 959, KP 3380**

Sample Type: **SOIL**

No. of Samples: **171**  
Date Received: **15/03/84**  
Date Completed: **23/03/84**

SAMPLE NUMBER	Element Unit Method	Cu ppm G001	Pb ppm G001	Zn ppm G001	Ag ppm G001	Fe % G001
TS 24831		<2	20	55	1	2.55
TS 24832		<2	15	45	1	3.27
TS 24833		<2	15	40	1	2.31
TS 24834		30	15	25	1	4.60
TS 24835		2	10	25	1	3.04
TS 24836		<2	10	40	1	2.76
TS 24837		<2	10	20	1	1.78
TS 24838		<2	10	25	<1	1.99
TS 24839		<2	15	40	1	4.36
TS 24840		<2	10	30	<1	2.25
TS 24841		<2	10	35	1	2.36
TS 24842		<2	10	30	1	1.95
TS 24843		<2	10	25	1	2.15
TS 24844		5	10	10	<1	0.34
TS 24845		2	10	2	1	0.49
TS 24846		2	5	2	1	1.14
TS 24847		2	10	2	1	0.69
TS 24848		10	15	20	1	1.23
TS 24849		2	15	2	<1	0.43
TS 24850		5	15	2	<1	0.55
TS 24851		15	25	30	2	1.53
TS 24852		10	15	15	<1	1.35
TS 24853		10	20	30	1	2.81
TS 24854		2	15	2	<1	0.65
TS 24855		2	15	2	<1	0.98
TS 24856		5	20	10	1	2.46
TS 24857		2	15	2	<1	0.65
TS 24858		5	15	2	<1	0.75
TS 24859		10	30	90	2	6.88
TS 24860		10	20	5	1	0.94
Detection Limit		2	5	2	1	0.01

Comments:



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32 Shand Street  
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PO Box 66,  
Everton Park, Q. 4053

Phone: (07) 352 5577  
Telex: ALSEV 42344

Client: **GEOPEKO LIMITED,**  
Address: **P.O. BOX 598**  
**DEVONPORT.**

TAS. 7310

Page 4 of 12

Batch Number: C100

Contact: **MR. J. PEMBERTON**

No. of Samples: 171  
Date Received: 15/03/84

Order No. **K 859, KP 3380**

Sample Type: **SOIL**

Date Completed: 23/03/84

SAMPLE NUMBER	Element Unit Method	Sn ppm XRF 1A	W ppm XRF 1A	Ba ppm XRF 1A		
TS 24831		<5	<10	500		
TS 24832		<5	<10	620		
TS 24833		5	<10	670		
TS 24834		<5	<10	800		
TS 24835		<5	10	580		
TS 24836		5	<10	530		
TS 24837		<5	<10	480		
TS 24838		<5	10	770		
TS 24839		<5	<10	530		
TS 24840		<5	<10	560		
TS 24841		<5	10	530		
TS 24842		<5	10	570		
TS 24843		<5	10	540		
TS 24844		<5	20	60		
TS 24845		<5	40	70		
TS 24846		<5	40	<10		
TS 24847		<5	70	10		
TS 24848		<5	10	430		
TS 24849		<5	20	200		
TS 24850		<5	20	270		
TS 24851		<5	<10	40		
TS 24852		5	10	290		
TS 24853		<5	10	410		
TS 24854		<5	10	310		
TS 24855		<5	10	250		
TS 24856		<5	20	200		
TS 24857		<5	20	140		
TS 24858		<5	20	150		
TS 24859		<5	10	80		
TS 24860		<5	20	230		
Detection Limit		5	10	10		

Comments:



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*G. J. Kilmister*

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Stafford, Q. 4053  
PO Box 66,  
Everton Park, Q. 4053  
Phone: (07) 352 5577  
Telex: ALSEV 42344

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Batch Number: C100

Contact: **MR. J. PEMBERTON**

No. of Samples: 171  
Date Received: 15/03/84  
Date Completed: 23/03/84

Order No: **K 859, KP 3380**

Sample Type: **SOIL**

SAMPLE NUMBER	Element Unit Method	Cu ppm G001	Pb ppm G001	Zn ppm G001	Ag ppm G001	Fe % G001
TS 24891		5	20	35	1	1.85
TS 24892		2	15	35	1	1.60
TS 24893		30	15	30	1	2.49
TS 24894		2	10	<5	1	0.75
TS 24895		2	15	10	1	1.04
TS 24896		5	15	20	1	0.93
TS 24897		30	15	10	1	1.21
TS 24898		10	20	15	1	1.14
TS 24899		5	25	35	1	1.58
TS 24900		5	20	30	1	1.95
TS 24901		2	15	20	<1	1.05
TS 24902		2	20	15	<1	1.02
TS 24903		2	20	10	1	0.87
TS 24904		2	20	10	<1	0.83
TS 24905		<2	15	25	<1	2.45
TS 24906		<2	15	35	<1	2.36
TS 24907		<2	15	30	<1	2.22
TS 24908		10	20	45	<1	3.06
TS 24909		20	20	20	1	4.94
TS 24910		210	40	50	2	10.8
TS 24911		250	35	85	1	10.6
TS 24912		15	20	25	2	4.05
TS 24913		10	20	65	1	4.58
TS 24301		<2	15	10	1	0.96
TS 24302		5	15	10	2	1.16
TS 24303		2	15	15	1	1.04
TS 24304		<2	15	20	1	1.13
TS 24305		2	20	15	<1	1.01
TS 24306		<2	15	15	<1	0.62
TS 24307		2	15	15	1	1.27
Detection Limit		2	5	2	1	0.01

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Office & Laboratory

32 Shand Street  
Stafford, Q. 4053

PO Box 66,

Everton Park, Q. 4053

Phone: (07) 352 5577

Telex: ALSEV 42344

Page 3 of 12

Client: **GEOPEKO LIMITED,**  
Address: **P.O. BOX 598**  
**DEVONPORT,**

**TAS. 7310**

**Batch Number: C100**

Contact: **MR. J. PEMBERTON**

No. of Samples: **171**  
Date Received: **15/03/84**  
Date Completed: **23/03/84**

Order No: **K 859, KP 3380**

Sample Type: **SOIL**

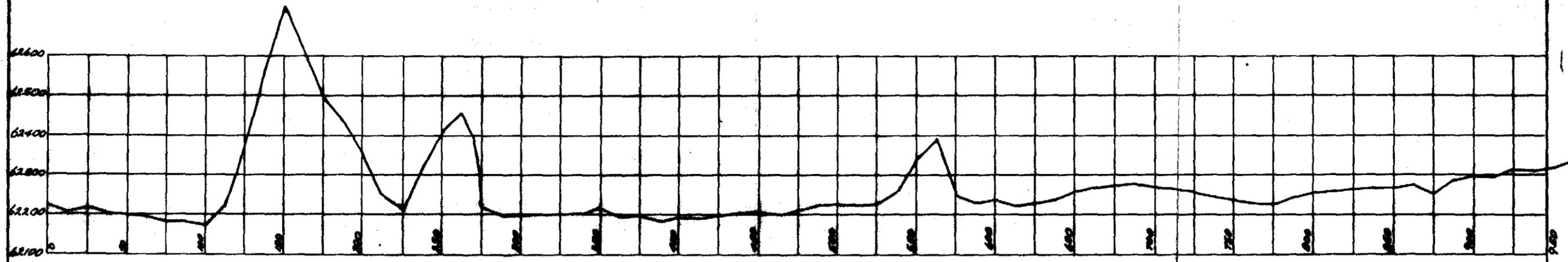
SAMPLE NUMBER	Element Unit Method	Sn ppm XRF 1A	W ppm XRF 1A	Ba ppm XRF 1A		
TS 24891		<5	10	790		
TS 24892		<5	10	590		
TS 24893		<5	10	470		
TS 24894		<5	40	110		
TS 24895		<5	10	340		
TS 24896		<5	10	330		
TS 24897		<5	20	300		
TS 24898		<5	10	470		
TS 24899		<5	20	260		
TS 24900		<5	10	410		
TS 24901		<5	20	360		
TS 24902		<5	20	210		
TS 24903		<5	10	370		
TS 24904		<5	10	370		
TS 24905		5	10	650		
TS 24906		<5	10	520		
TS 24907		<5	10	490		
TS 24908		<5	10	530		
TS 24909		<5	10	530		
TS 24910		<5	<10	90		
TS 24911		<5	<10	170		
TS 24912		<5	10	650		
TS 24913		5	10	670		
TS 24301		<5	<10	540		
TS 24302		<5	<10	500		
TS 24303		5	10	540		
TS 24304		<5	20	440		
TS 24305		<5	20	420		
TS 24306		<5	20	420		
TS 24307		<5	10	510		
Detection Limit:		5	10	10		

Comments

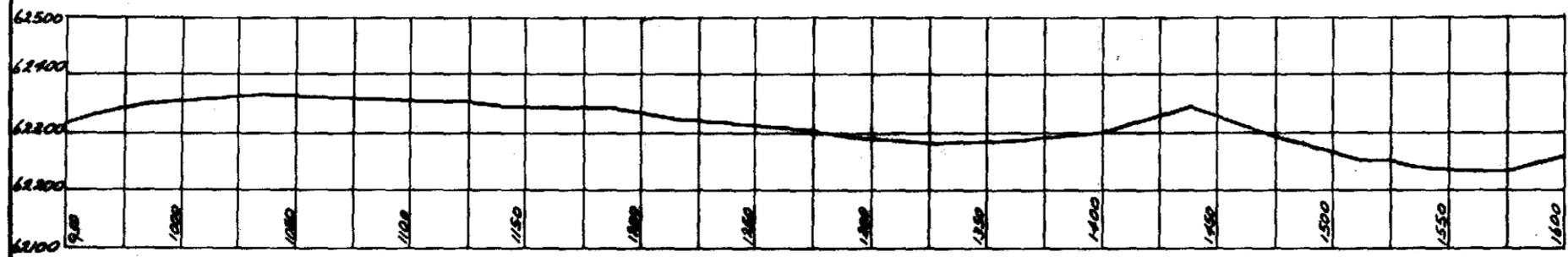


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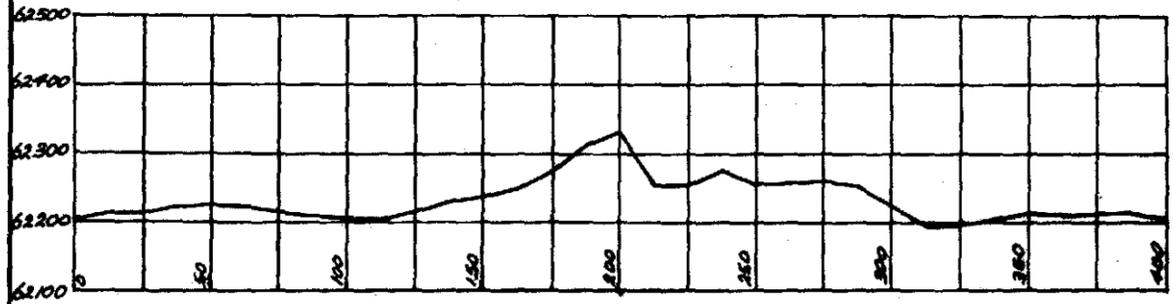
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TS 24905 → HORIZON SAMPLE No's TO → TS 24913



LINE 00N



LINE 150N

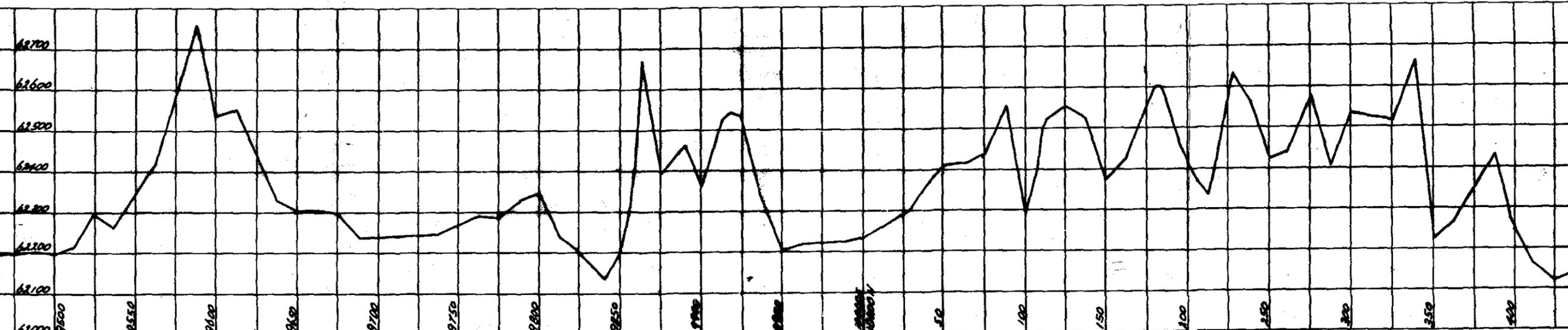
5 cm

SCALE  
1cm VERTICAL = 100MT  
1:2500 HORIZONTAL

MAGNETIC PROFILES  
FOR DON 1 + SOIL SAMPLE  
LOCALITIES  
FIG 1



SOUTHERN LINE 1000N



TS 2403 → CHORIZON SAMPLE No'S →

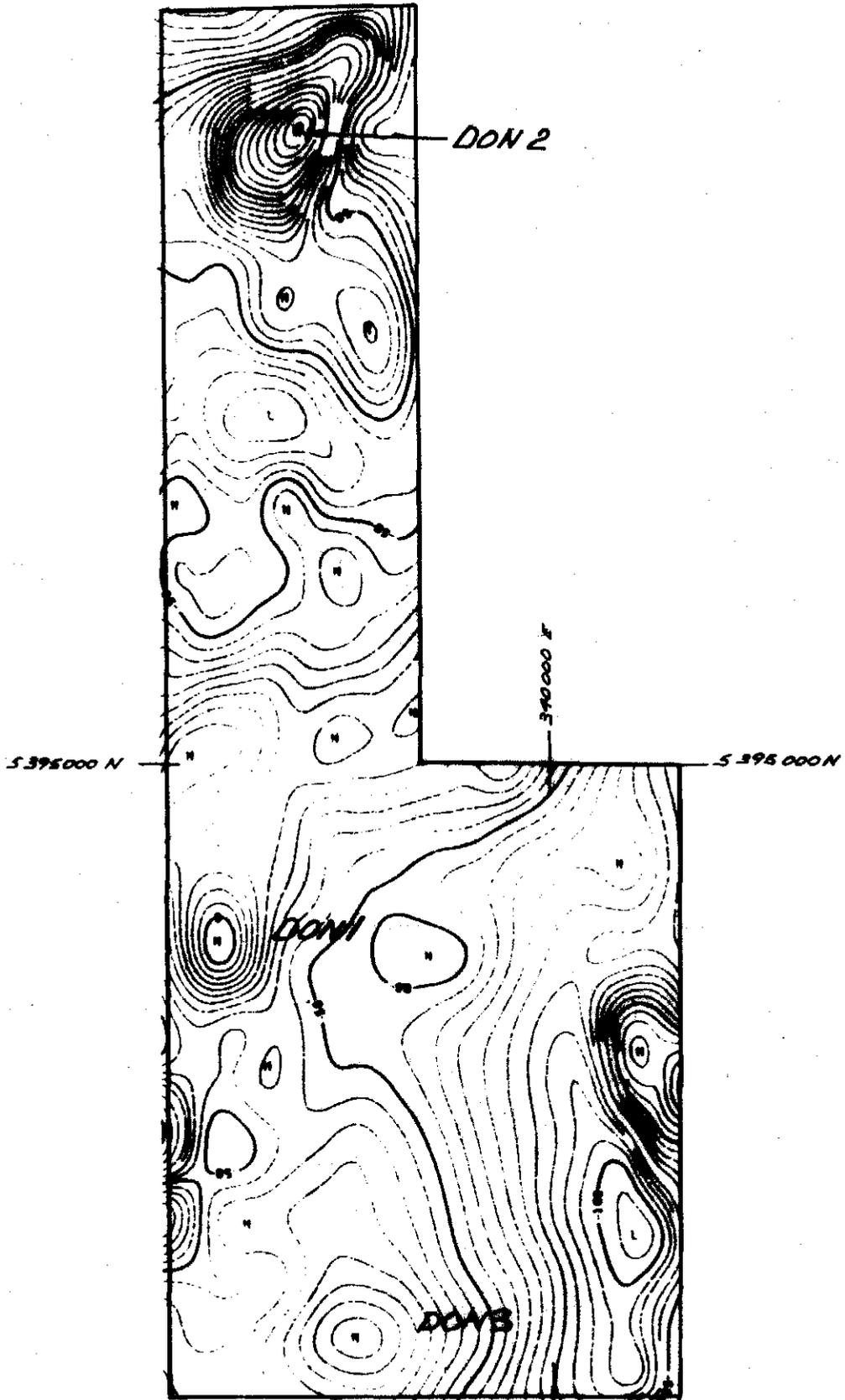
→ To TS 24843N  
10450E

5 cm

SCALE  
1cm VERTICAL = 100 NT  
1: 2500 HORIZONTAL

MAGNETIC PROFILES  
FOR DDN 2 + SOIL SAMPLE  
LOCALITIES

FIG 2



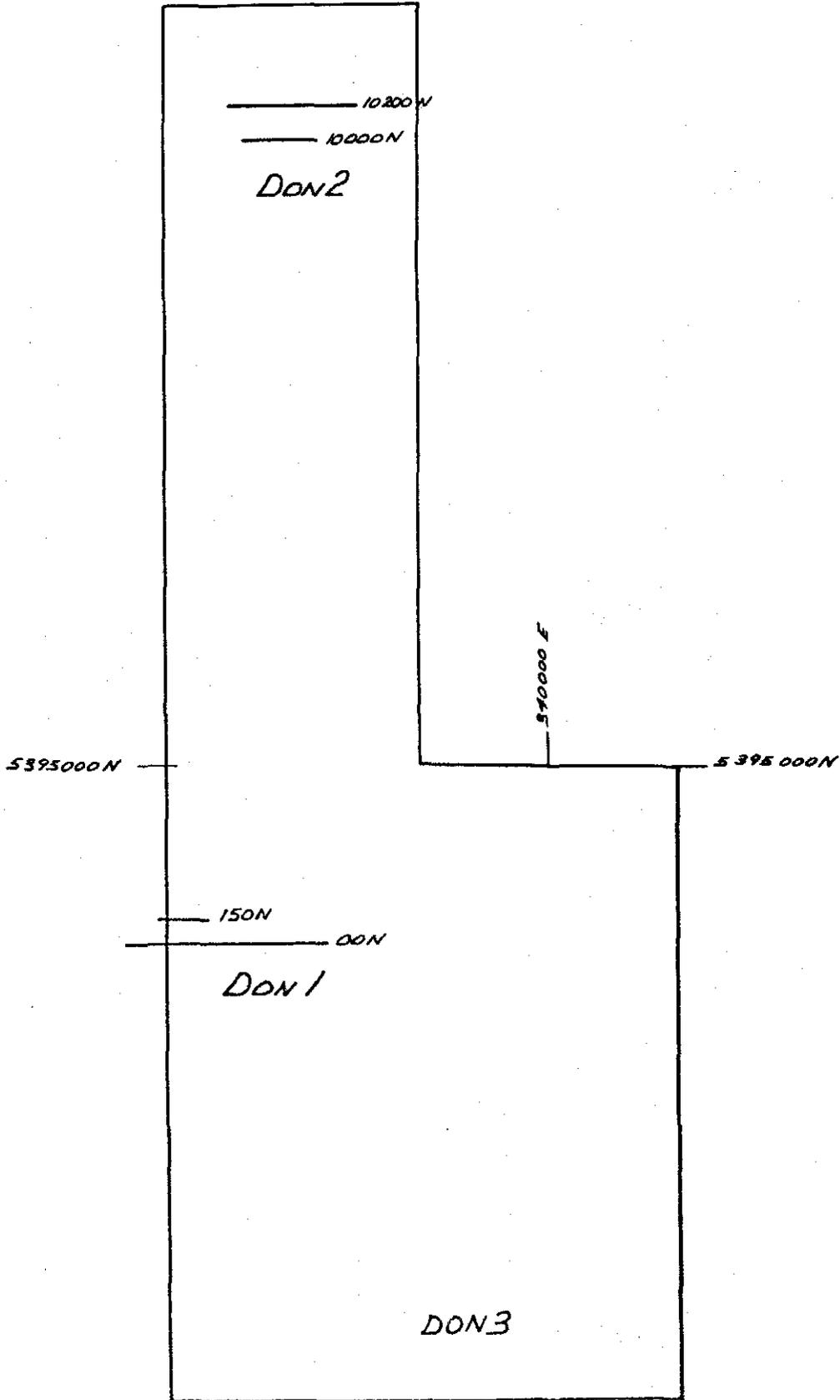
MT DONALDSON E.L. 57/83  
 TASMANIA  
 1:50000  
 AEROMAGNETICS  
 + PROSPECTS MAP  
 PLAN 1

5 cm

340000 E

U17

403018



Mt DONALDSON E.L. 57/83  
TASMANIA  
1:50000  
RECONNAISSANCE GRIDS  
+ PROSPECTS MAP  
PLAN 2

5 cm