CONTENTS ENVELOPE 3420

Transparencies In
Cylinder 3420/1, 2, 3

TENEMENT: E.L. 442 _ Ilkina Hill.

TENEMENT HOLDER: Carpentaria Exploration Company Pty. Ltd.

PLANS:	Profiles Of Potassium Channel Intensity. Drg. No. 15747.	3420(III)-16
	Proiles Of Potassium Channel Intensity. Drg. No. 15748.	3420(III)-17
	Profiles Of Potassium Channel Intensity. Drg. No. 15749.	3420(III)-18
REPORT:	Progress Report Quarter Ended 7th Jan. 1981.	Pgs. 146-147
PLANS:	Profiles Of Total Magnetic Intensity. Drg. No. 15729.	3420(III)-19
	Profiles Of Total Magnetic Intensity. Drg. No. 15728.	3420(III)-20
	Profiles Of Total Magnetic Intensity. Drg. No. 15727.	3420(III)-21
REPORT:	Analytical results for Core Library samples collected by D. Tonkin in August and September, 1996 for analysis by David Tonkin & Associates.	Not microfilmed

I

2C

ENVELOPE NO. 3420

CONTENTS - TRANSPARENCY CYLINDER NO. 3420/1.

TITLE -	SCALE.	PLAN NO.
E.L. 442 Ilkina: -		
Simplified Diagramatic Section South-Eastern Traverse	1:5000(Vert)	19 985
Major Basement Outcrops & Possible Channel Location	1:250 000	19 987.
Simplified Diagramatic Section Central Traverse	1:500 (Vert)	19 982.
" " " North-Western Traverse	1:500(Vert)	19 983
" " " Eastern Traverse	1:500 (Vert)	19 984.
Resistivity - Pseudo Section Line 6 S (27000S-29000S)	—	—
" " " Line 3	—	—
" " " Line 1	—	—
" " " Line 6N	—	—
" " " Line 6S (00S-26000S)	—	—
Provisional Basement Contour Plan.	1:100 000	19 976.
Drill Hole Location Plan	1:100 000.	19 975
Resistivity Profiles Lines 5, 6S & 6N.	—	—
" " Lines 1, 2, 3 & 4	—	—
Resistivity: Strip Contour plan of total conductance per metre for layers 1 & 2.	1:25 000.	—
Resistivity: (a) Location plan showing traverses. (b) Strip contours of interpreted depth to base layer 2.	1:25 000	—

2D

ENVELOPE NO. 3420

CONTENTS - TRANSPARENCY CYLINDER NO. 3420/2

TITLE	SCALE	PLAN NO.
Aerial geophysical survey ;- Minnipa S.A:-		
-Profiles of total radiometric intensity	1:50000	15731
- Profiles of uranium channel intensity	1:50000	15735.
- " " total magnetic intensity	1:50000	15720.
- " " thorium channel intensity	1:50000	15740.
- " " uranium channel intensity	1:50000	15736.
- " " total radiometric intensity	1:50000	15730,
- " " potassium channel intensity	1:50000	15746,
- " " thorium channel intensity	1:50000	15741.
- " " total magnetic intensity	1:50000	15721,
- " " total magnetic intensity	1:50000	15725,
- " " total magnetic intensity	1:50000	15726.
-Flight path plot	1:50000	15715.
EL442 Ilkina - Drill hole location plan	1:100000	19975.
" " - Flight lines, April 1980 Magnetometer survey	1:100000	20426.
- Profiles of potassium channel intensity	1:50000	15745,
- Flight path plot	1:50000	15716.

ENVELOPE NO. 3420

CONTENTS - TRANSPARENCY CYLINDER NO. 3420/3.

TITLE -	**SCALE**	**PLAN NO.**
Aerial geophysical survey, Minnipa Area S.A.:-		
– Profiles of Uranium channel intensity	1:50 000	15738.
– " " " " "	"	15739.
– " " Total magnetic intensity	"	15722.
– " " " " "	"	15723
– " " " " "	"	15724
– Flight path plot	"	15719.
– " " "	"	15718
– " " "	"	15717.
– Profiles of Uranium channel intensity	"	15737.
– " " Potassium " "	"	15749.
– " " " " "	"	15748
– " " " " "	"	15747
– " " Thorium " "	"	15744
– " " " " "	"	15743
– " " " " "	"	15742
– " " Total radiometric intensity	"	15733
– " " " " "	"	15732
– " " " " "	"	15734

ENVELOPE 3420

E.L. 442 Progress reports from 7th April 1979 to 7th January 1981.
(Carpentaria Exploration Co. Pty. Ltd). 8 reports, 4 vols.
147 pages, 39 maps.

Author: Binks, P.J. Geoex Pty. Ltd.

Map area: YARDEA SI53-3 (6032, 5932, 5933-III, 5933-IV);
STREAKY BAY SI53-2 (5832-1, 5833, 5733-1).

Drilling of 70 holes (t.d. 4441m) located a substantial Tertiary drainage system in excess of 8 km wide, in search for sedimentary uranium. Further drilling recommended.

Keywords: Mineral Exploration - SA/Uranium exploration/ Geophysical surveys/Aerial magnetic surveys/Total magnetic intensity maps/Aerial radioactivity surveys/Multichannel spectrometers/Ground magnetic surveys/Resistivity survey method/ Basement depth maps/Rotary drilling/Palaeochannel/Palynology Eocene/Pliocene/Tertiary/Narlaby Palaeochannel/Eyre Peninsula.

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CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED APRIL 7, 1979.

1. TERMS AND CONDITIONS

Exploration Licence No. 442 "Ilkina" covers an area of 2388 km^2 approximately 100 km east of Ceduna, South Australia. It was granted to Carpentaria Exploration Company Pty. Ltd. for a term of one year commencing on January 8, 1979. The expenditure requirement on the lease is $70 000 for the full term.

2. EXPLORATION

The aim of the exploration programme is to investigate the potential of the area for sandstone-type uranium mineralization.

As an initial step, air photos of the area were obtained from the Lands Department and a 1:100 000 base plan was prepared.

The area was visited during March 1979 to establish contact with local farmers and locate sources of water suitable for a drilling programme. A programme of 4000 m to 5000 m of "open hole" drilling has been finalized and a contract let to W.L. Sides and Son Pty. Ltd. of Melbourne. Drilling is expected to commence in April 1979 and will use a Mayhew 1000 drill rig with two water trucks for support. All drillholes will be radiometrically and electrically (SP and resistivity) down-hole logged; all drill sites will be along existing tracks.

3. EXPENDITURE

A statement of expenditure for the period is appended.

RECEIVED
20 APR 1979
DEPT. OF MINES
AND ENERGY
SECURITY
3420

R.E. Darlington
....
R.E. Darlington
Administration Manager

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

STATEMENT OF EXPENDITURE FOR QUARTER ENDED APRIL 7, 1979.

	$	$
Administration	1916	
Consultant Fees	153	
Equipment Charges	220	
Freight	25	
Operating Labour	2022	
Stores	250	
Transport	280	
Travelling Expenses	92	
Total		$ 4958

R.E. Darlington

R.E. Darlington
Administration Manager

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CARPENTARIA EXPLORATION COMPANY PTY. LTD.

MINING TENEMENT

PROGRESS REPORT

EXPLORATION LICENCE NO.442 "ILKINA"

REPORT FOR QUARTER ENDED JULY 7, 1979

DATE: JULY, 1979.

COPY: DEPARTMENT OF MINES
& ENERGY

RECEIVED
26 JUL 1979
DEPT. OF MINES
AND ENERGY
SECURITY
3420

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.442 "ILKINA"

STATEMENT OF EXPENDITURE FOR 3 MONTHS ENDED JULY 7, 1979

	$	$
Administration	2 990	
Drilling	60 277	
Equipment Charges	2 818	
Freight	146	
Operating Labour	17 071	
Stores	744	
Transport	2 208	
Travelling Expenses	1 060	
Total This Period	$87 314	$87 314
Expenditure Already Reported - Current Term		
3 Months Ended April 7, 1979	4 958	4 958
TOTAL EXPENDITURE - CURRENT TERM		$92 272
Total Project Expenditure to Date		$92 272

R.E. Darlington
Administration Manager

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED JULY 7, 1979

1. TERMS AND CONDITIONS

Exploration Licence No.442 "Ilkina" covers an area of 2388 km^2 approximately 100 km east of Ceduna, South Australia. It was granted to Carpentaria Exploration Company Pty. Ltd. for a term of 1 year commencing on January 8, 1979. The expenditure requirement on the Licence is $70 000 for the full term.

2. EXPLORATION

2.1. Drilling

An open hole drilling programme was completed over the area by W.L. Sides & Son Pty. Ltd. of Melbourne. The aim of the programme was to locate possible channel structures, to identify the accompanying stratigraphy and establish whether it was uraniferous.

Difficult terrain, mainly of sand dunes with thick vegetation, limited the location of drill sites to existing tracks crossing the area. The drill sites were initially sited at 2 km intervals, which were later increased to 3 km.

The drilling rig used was a Mayhew 1000.

Water supplies were limited and had to be carted over long distances (up to 50 km) with 2 water trucks being used full time. A total of 4515 m was completed in 69 drill holes (see Drawing No.19 975 for location) with depth varying from 12 m to 128 m. All holes were drilled to basement except IR8 and IR9, which were abandoned due to severe caving problems. Similar

2. EXPLORATION (CONT.)

problems resulted in more than one attempt being made to complete other holes. Samples were collected every 2 m and geologically logged.

2.2. Geology

The drilling has located a substantial buried Tertiary? drainage system extending south-east - north-west, the entire length of the Exploration Licence and in excess of 8 km wide. The widespread reconnaissance nature of the drilling has prevented a detailed accurate assessment of the channel system. Drawing No.19 976 is a provisional approximate basement contour plan based on the drilling data. The contours are only approximate as the Reduced Levels of the drill collars are only known to within ±5 m. These were calculated from the 1:50 000 topographic sheets (contour interval 10 m) and partly from stratigraphic correlation between drill holes using the top of the lacustrine clays as a marker horizon.

The stratigraphic section intersected was in general as follows.

Aeolian Sands : with minor silts and clays.

Clay : black and grey-green (lacustrine).

Sand : coarse grained, subangular to subrounded quartz often with black-brown humic staining and fine grained pyrite aggregates.

+ Interbedded clays generally black to brown.

Basement : granitic.

2. EXPLORATION (CONT.)

The channel sediments were invariably in a reduced state.

The thickness of the coarse sands, a potential host for uranium mineralization, varies up to a maximum of 65 m (IR31). Diagrammatic sections are being prepared and will be submitted with the next report. Detailed drill logs are included in Appendix A.

2.3. Downhole Geophysical Logging

Where possible, downhole geophysical logs were completed using either an Austral Midilogger or S.I.E. T450E. Both instruments were used due to mechanical breakdowns.

No significant downhole radiometric readings were recorded. However, these gamma logs were useful in determining the actual depths of the various units. The sands and clays generally have a distinctly different radiometric response. The logs also enabled a more accurate basement depth to be recorded.

The logs are included in Appendix A.

Downhole electric logging (self potential and resistivity) was attempted with only very limited success, due mainly to saline ground water and drilling fluid.

2.4. Assaying

A selection of 19 samples from the coarse sands was submitted for assay for U_3O_8. A maximum value of 9.4 p.p.m. U_3O_8 was recorded (see Appendix B for results).

3. EXPENDITURE

A statement of expenditure for the period is attached.

R E Darlington
....
R.E. Darlington
Administration Manager

APPENDIX A

DRILL HOLE LOGS

- oOo -

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. 1R1

Project

Prospect EL 442 ILKINA

Location

Depth 48m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 3-4-79

R.L. collar

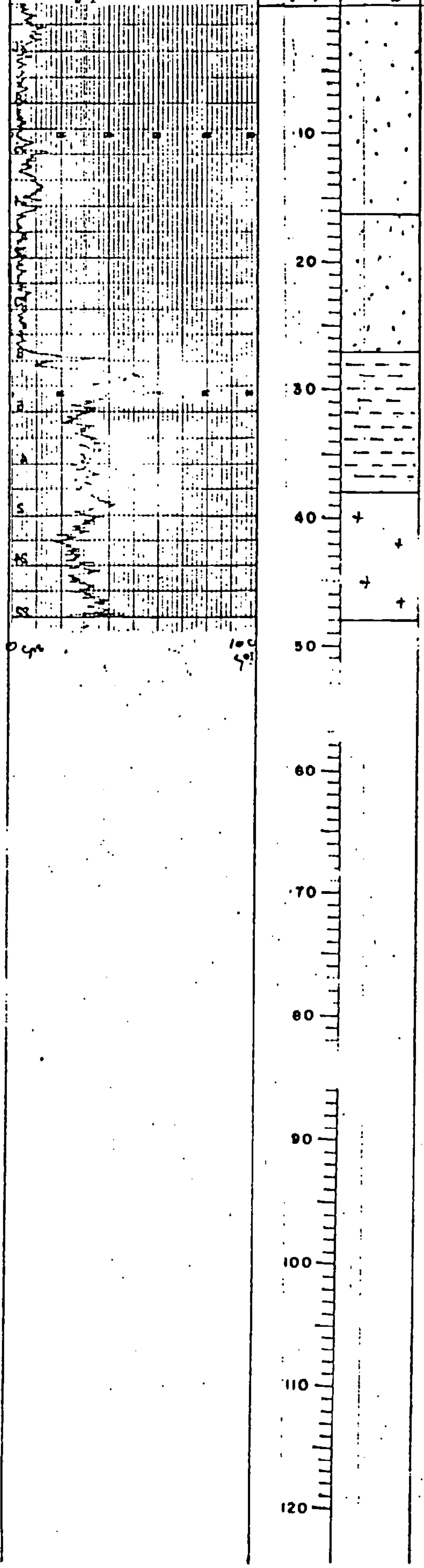
Air 0-12m

Water 12-48m

0 12

Logged by G. HOOPER

Geophysical Log Type Austral Midi | Depth (m) | Strip Log | Ox



Lithological Log

SAND (AEOLIAN) f. gr orange

SAND (") m gr white, rounded, well sorted
weakly cemented

?

SAND (AEOLIAN) m gr grey, rounded, mod. well sorted
minor patches black carbonaceous
SANDY SILT

CLAY grey black

CLAY light grey green

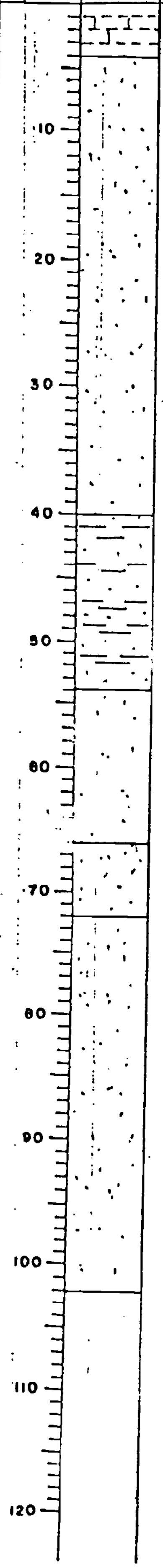
GRANITE wthed, c gr angular qtz in a
kaolinitic matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE NO. IR2

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0-6m
Location	Contractor WL SIDES + SON	Water 6-102m
Depth 102m	Date 3-4-79	Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED HOLE BLOCKED				



CALCAREOUS SILT & KUNKAR
light brown

SAND light brown F-m gr well rounded.
(AEOLIAN

" white

" grey brown

SAND & - F-m gr grey white
CLAY dark grey

SAND light brown F-m gr sub rounded - sub angular
with white cream Flakey "micaceous" mineral.

SAND as above but grey

SAND light grey F-m gr sub angular
minor pyrite
+ Flakey biotite / chlorite.

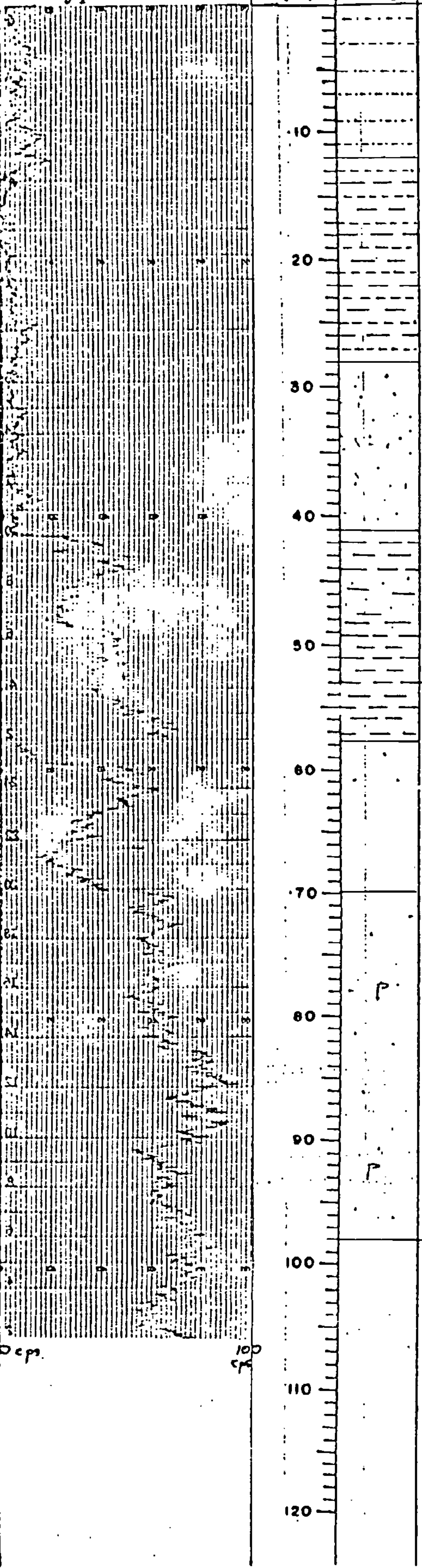
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

0 14

roject	Grid co-ords	R.L. collar
rospect EL 442 ILKINA	AMG	Air 0
ocation	Contractor W.L. SIDES & SON	Water 0-98m
epth	Date 4-4-79	Logged by G. HOOPER

Geophysical Log
Type AUSTRAL MIDI

Depth (m) | Strip Log | Ox | Lithological Log



SILTY SAND orange.

SILT & CLAY red - light greenish

SAND F gr. rounded qtz
(AEOLIAN) greyish colour

CLAY grey black.
minor sand (F gr) lenses.

SAND F-m gr subrounded - sub angular
probable feldspar grains (minor) creamy white.

SAND c gr sub rounded - sub angular
trace pyrite

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE NO. IR4

0 15

Project

Prospect EL 442 ILKINA

Location

Depth 96m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 5-4-79

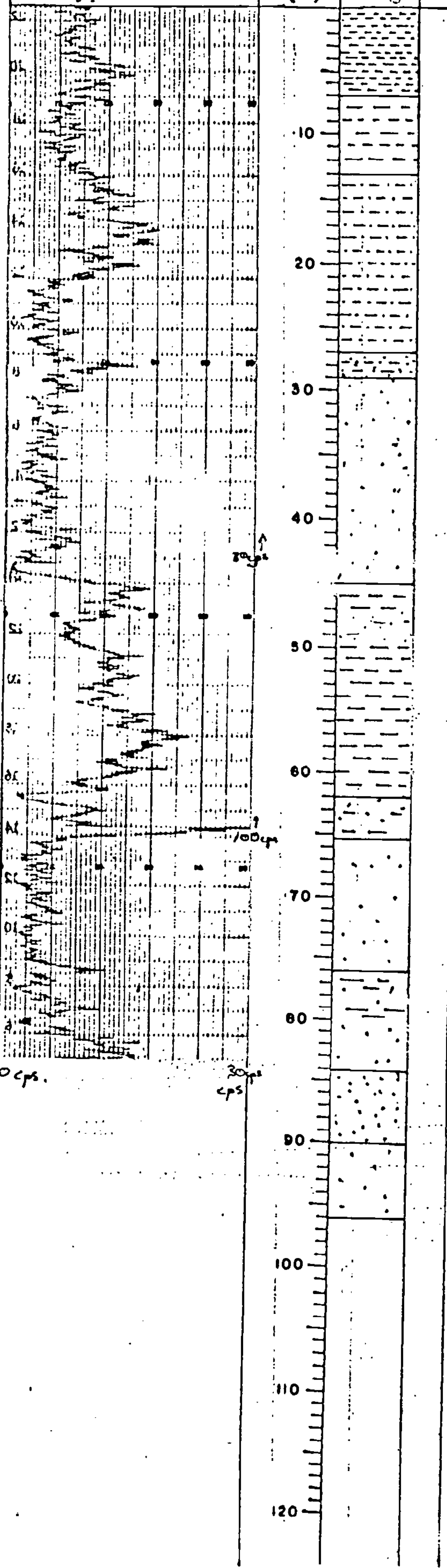
R.L. collar

Air 0m

Water 0-96m

Logged by G. HOOPER

Geophysical Log Type AUSTRAL MINI	Depth (m)	Strip Log	Ox	Lithological Log



SILT orange brown

CLAYEY SILT light brown

SILTY SAND f-m gr rounded light brown
patches white F gr SAND (minor)

SILT + SAND light brown & greyish minor white F gr SAND.

SAND m.gr rounded greyish (dirt) colour

CLAY grey black minor sand F gr black.
& grey brown, minor F gr sand.

CLAY + SAND F gr rounded qtz +
dark grey clay

SAND m-c gr sub angular - sub rounded qtz
white - cream.

SAND as above with, lenses grey black clay

SAND F gr rounded qtz
light grey white

SAND m-c gr sub angular qtz
minor humic staining greyish

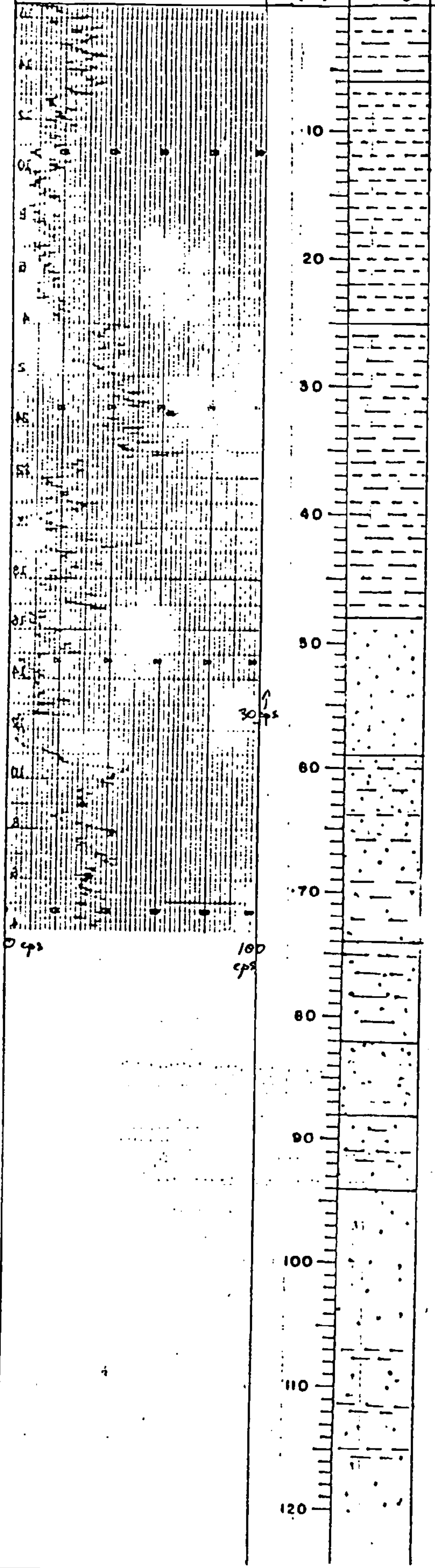
HARD BASEMENT.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR5

Project	Grid co-ords	R.L. collar
Prospect *EL 442 ILKINA*	AMG	Air *0m*
Location -	Contractor *W.L. SIDES & SON*	Water *0-128m*
Depth *128m*	Date *5-4-79*	Logged by *G. HOOPER*

Geophysical Log Type *AUSTRAL MIDI*	Depth (m)	Strip Log	Ox	Lithological Log



CLAYEY SILT cream - light brown

SILT - grey - light brown
minor clay and sand rich parts
some silicified chips

orange red

CLAYEY SILT red - grey green.

SAND F gr rounded mod well sorted
grey brown

SAND as above +
CLAY black

CLAY black less SAND F gr.
& grey brown

SAND F-C gr subrounded -
sub angular qtz

SAND F-m gr
CLAY grey black & grey green.

SAND m-c gr sub rounded to
sub angular (becomes more angular
with depth.)

minor pyrite (F gr)

lenses black grey & green
CLAY

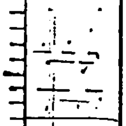
CARPENTARIA EXPLORATION COMPANY PTY. LTD.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR5

0 17

Project	Grid co-ords	R.L. collar	
Prospect	AMG	Air	
Location	Contractor	Water	
Depth 128m	Date	Logged by	

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
				SAND m-c gr sub angular lenses black grey + green CLAY.
	30			

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IK6

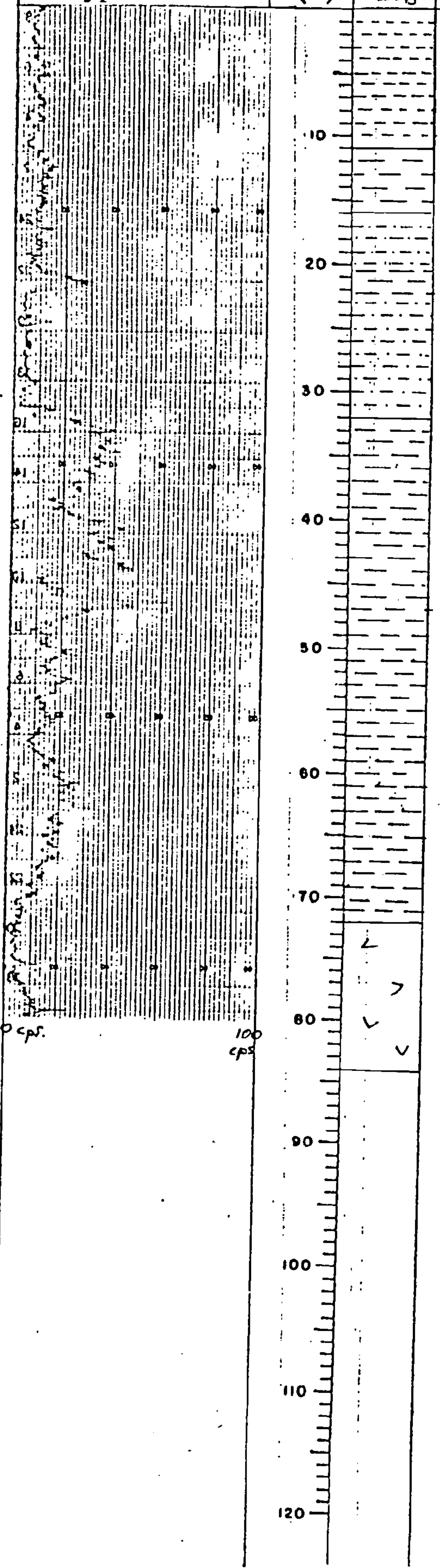
0 18

Project
Prospect EL 442 ILKINA
Location
Depth 84m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 5-4-79

R.L. collar
Air 0m
Water 0-84m
Logged by G. HOOPER

Geophysical Log Type AUSTRAL NIBI | Depth (m) | Strip Log | Ox | Lithological Log



SILT orange brown

CLAY, red & grey green.

SILT - SILTY SAND minor silicified bands.
CLAY red & grey green.

CLAY black carbonaceous

minor pale green clay
& white grey clay

CLAY dark green
wthed basic volcanic.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR7

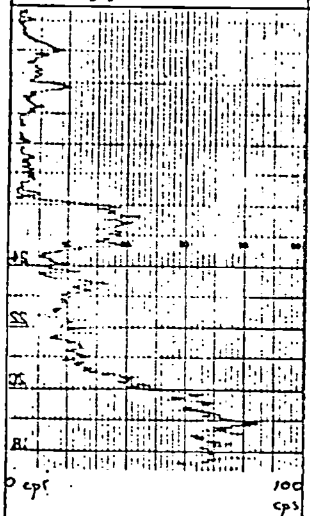
Project
Prospect EL 442 ILKINA
Location
Depth 30m

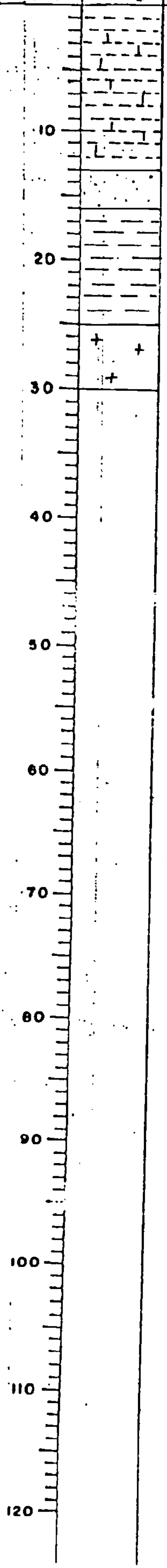
Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 6-4-79

R.L. collar
Air 0m
Water 0-30m
Logged by G. HOOPER

0 19

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log





SILT. cream, calcareous

SAND f gr rounded white-grey

CLAY grey black.

" c gr crystalline gypsum

GRANITE.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR8

0 20

Project

Prospect EL 442 ILKINA

Location

Depth 42m

Grid co-ords

AMG

Contractor W.L. SIDES & SON

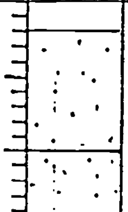
Date 6-4-79

R.L. collar

Air O

Water 0-42m

Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
No log	10 20 30 40 50 60 70 80 90 100 110 120			SILTY SAND orange brown SAND F gr rounded well sorted light grey brown SAND F gr grey - dark grey silty in part. (No sample return 12-42m) Hole abandoned

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 9A

Project

Prospect EL 442 ILKINA

Location

Depth 42m

Grid co-ords

AMG

Contractor W.L. SIDES & SON

Date 23-4-79

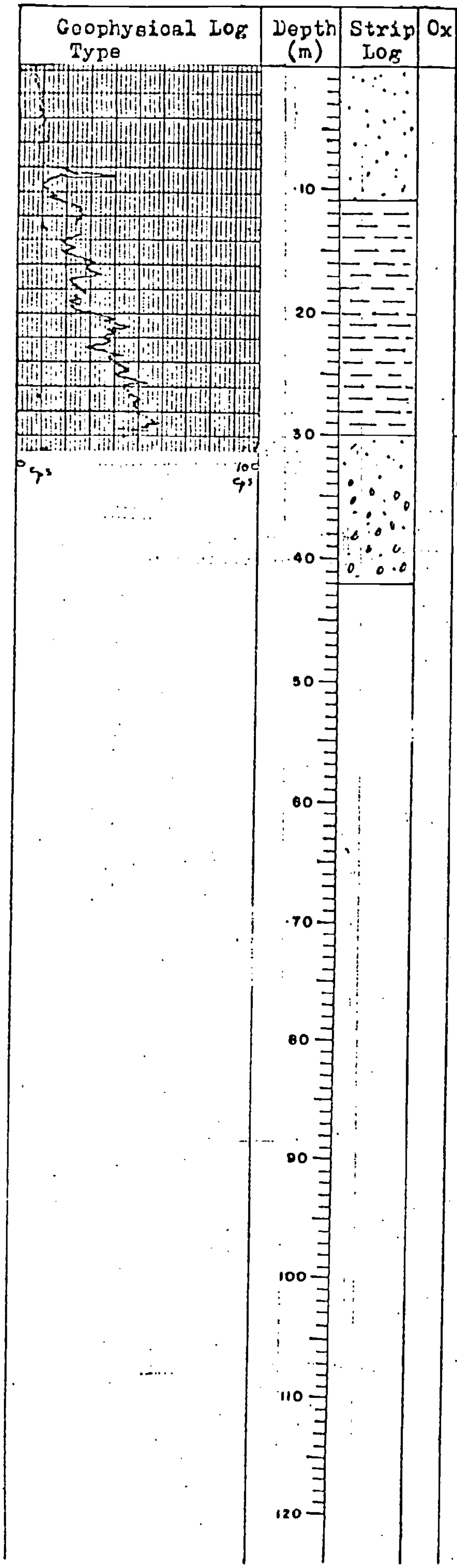
R.L. collar

Air 0m

Water 0-42m

Logged by P. BINKS

0 21



Lithological Log

SAND f gr well rounded qtz, gypsiferous

CLAY dark grey, gypsiferous

SAND c gr qtz, sub rounded to
GRAVEL sub angular.

HOLE No. IR 10

0 22

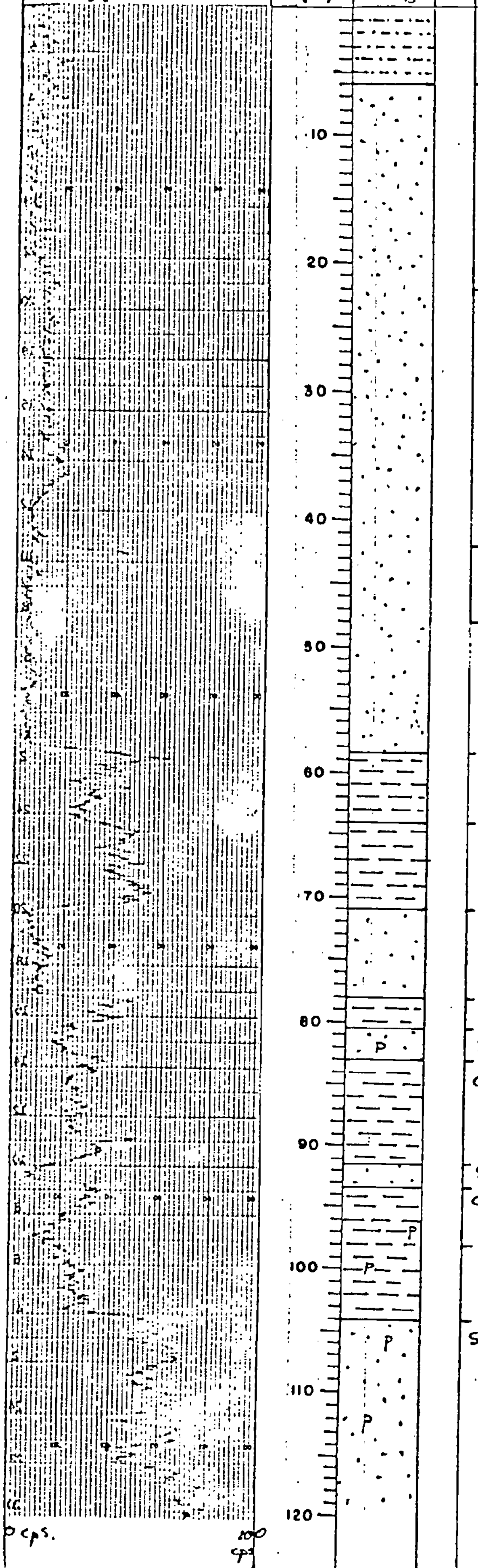
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project
Prospect EL 442 ILKINA
Location
Depth 128m

Grid co-ords
AMG
Contractor W.L. SIDES + SON
Date 7-4-79

R.L. collar
Air 0m
Water 0-128m
Logged by G. HOOPER

Geophysical Log Type AUSTRAL MIDI | Depth (m) | Strip Log | Ox | Lithological Log



SILT, SAND creamy brown calcareous

SAND (AEOLIAN) F gr rounded well sorted
orange brown

" red

" pale pinky cream

" grey brown, minor carbonaceous patches.

CLAY grey black - black carbonaceous
with lenses light grey clay

CLAY grey green + light grey

SAND c. gr sub rounded qtz
very minor F gr pyrite

CLAY stiff light grey

SAND c gr sub rounded qtz, minor pyrite

CLAY, stiff light grey + dark grey

SAND c gr sub rounded qtz

CLAY Lignitic dark brown minor c qtz grains
minor F gr. pyrite.

" cream, light grey, dark grey.

SAND c. gr angular qtz grey
minor pyrite

very c. gr qtz.

HOLE NO. IR 10

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project

Prospect EL 442 ILKINA

Location

Depth 128m

Grid co-ords

AMG

Contractor WL SIDES & SON

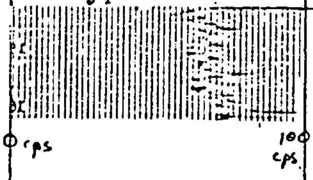
Date 7-4-79

R.L. collar

Air 0m

Water 0-128m

Logged by G. HOOPER

Geophysical Log Type AUSTRAL NIDI	Depth (m)	Strip Log	Ox	Lithological Log
 0 cps 100 cps				SAND v.c.gr angular qtz.
	130			AMPHIBOLITE, Fgr

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE NO. IR11

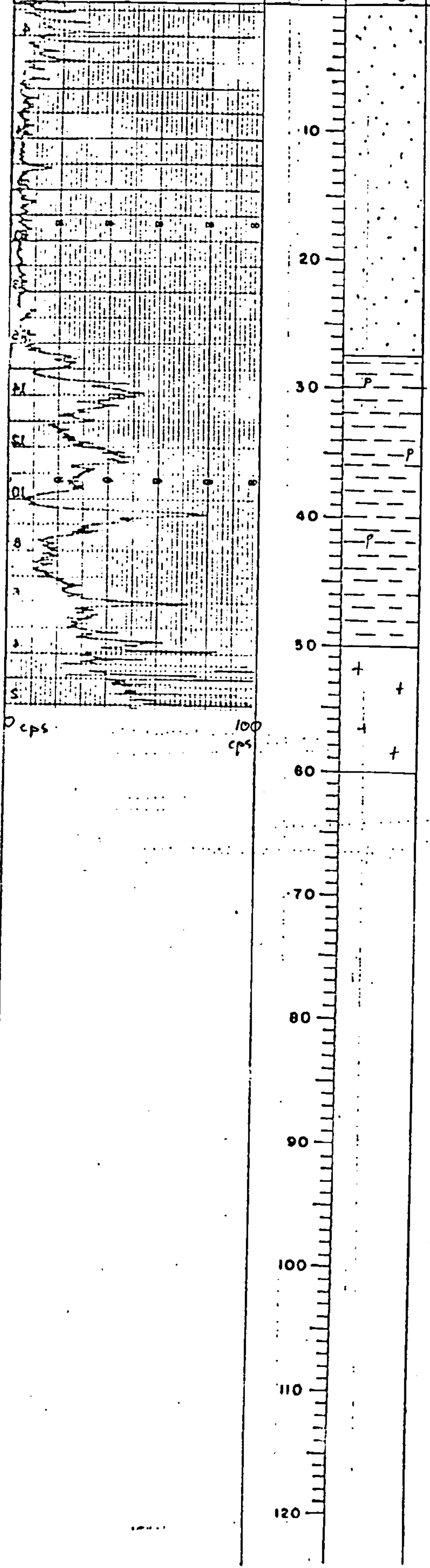
0 24

Project
Prospect EL 442 ILKINA
Location
Depth 60m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 8-4-79

R.L. collar
Air 0m
Water 0-60m
Logged by G. HOOPER

Geophysical Log Type AUSTRAL NIBI | Depth (m) | Strip Log | Ox | Lithological Log



SAND (AEOLIAN) f-m gr rounded qtz, creamy white
silicified in part

CLAY grey black, minor v.f. gr pyrite

+ white grey clay

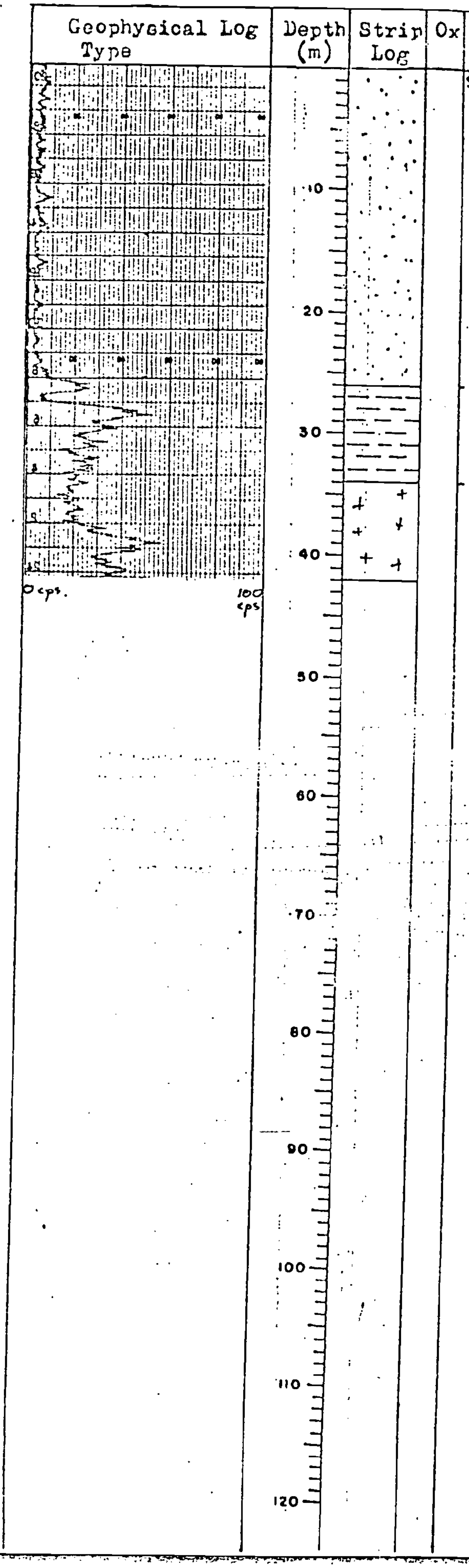
GRANITE wthd angular m-c gr qtz in a
white kaolinitic matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE NO. IC 12

0 25

Project	Grid co-ords	R.L. collar
Prospect *EL 442 ILKINA*	AMG	Air *Om*
Location	Contractor *W.L. SIDES + SON*	Water *O-42m*
Depth *42m*	Date *8-4-79*	Logged by *G. HOOPER*



Lithological Log

SAND (AEOLIAN) f-m gr rounded qtz
partly siliciceous cemented.

CLAY black carbonaceous

GRANITE wthed. c gr angular qtz in
kaolinitic matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Hole No, IS 13

0 26

Project

Prospect EL 442 ILKINA

Location

Depth 94m.

Grid co-ords

AMG

Contractor W.L. SIDES & SON

Date 9-4-79

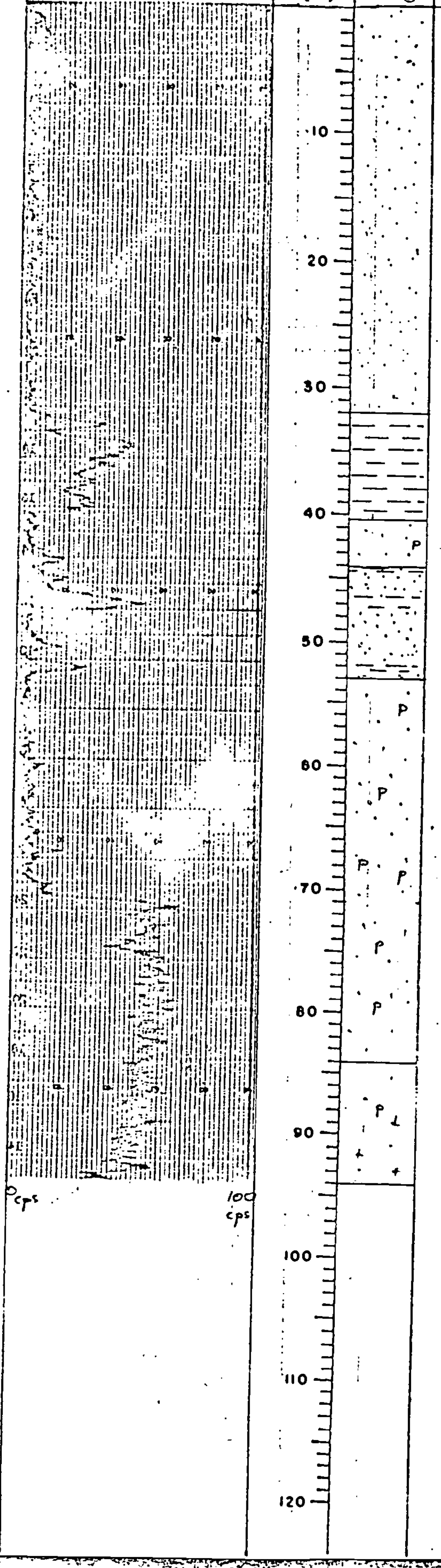
R.L. collar

Air 0m

Water 0-94m

Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND (AEOLIAN) F-m gr rounded silicified

CLAY black carbonaceous

SAND V.c. gr subangular qtz
minor 2mm aggregate F. gr pyrite

SAND F gr white-grey silty +
lenses CLAY light grey

SAND v c gr subangular qtz
minor F gr pyrite in aggregates to 2mm

QUARTZ, grey & leached c. gr angular.
minor pyrite intergrowths.
probably part of basement.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. I.K 14

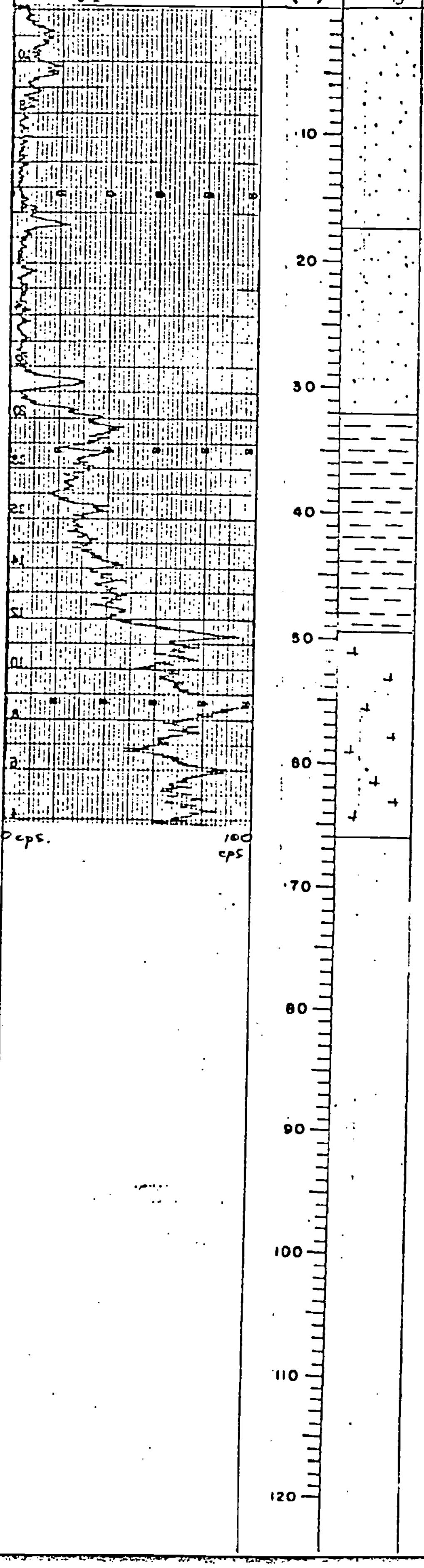
0 27

Project
Prospect EL 442. ILKINA
Location
Depth 66m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 10-4-79

R.L. collar
Air 0m
Water 0-66m
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND (AEOLIAN) f gr rounded qtz red
partly silicified

" " f gr rounded qtz white-grey

CLAY grey black
minor grey white

GRANITE wthed c gr qtz in kaolinitic
matrix

" c.gr qtz & red brown Feldspar intergrowths
with dark green mafic (chlorite ?)

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 15

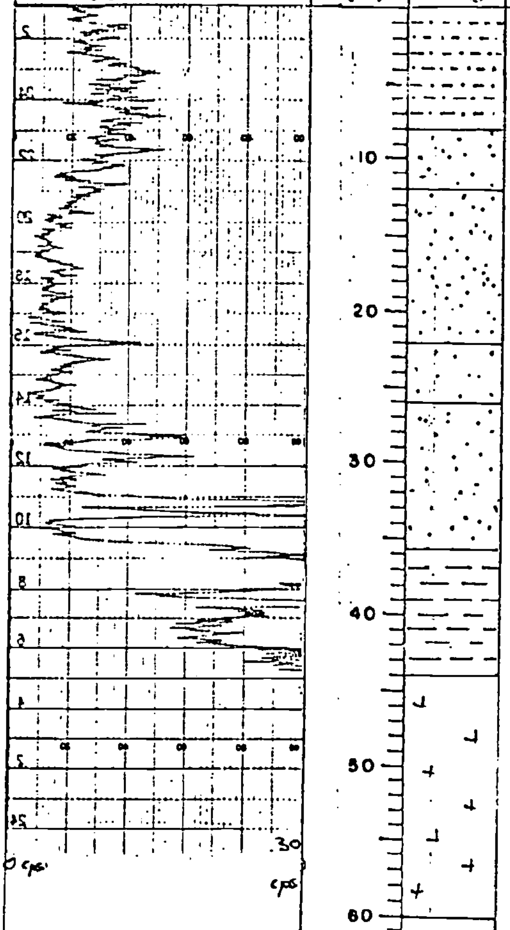
0 28

Project
Prospect EL 442 ILKINA
Location
Depth 60m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 10-4-79

R.L. collar
Air 0m
Water 0-60m
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SILTY SAND F gr orange brown

SAND (AEOLIAN) F gr white silicified

SAND (AEOLIAN) F gr rounded qtz pale red.

SAND F-m gr rounded qtz dark grey

SAND VF gr rounded qtz
minor dark carbonaceous patches

CLAY grey black & light grey

GRANITE wthd. c. gr angular grey qtz in kaolinitic matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 16

Project

Prospect EL 442 ILKINA

Location

Depth 38m

Grid co-ords

AMG

Contractor W.L. SIDES &SON

Date 10-4-79

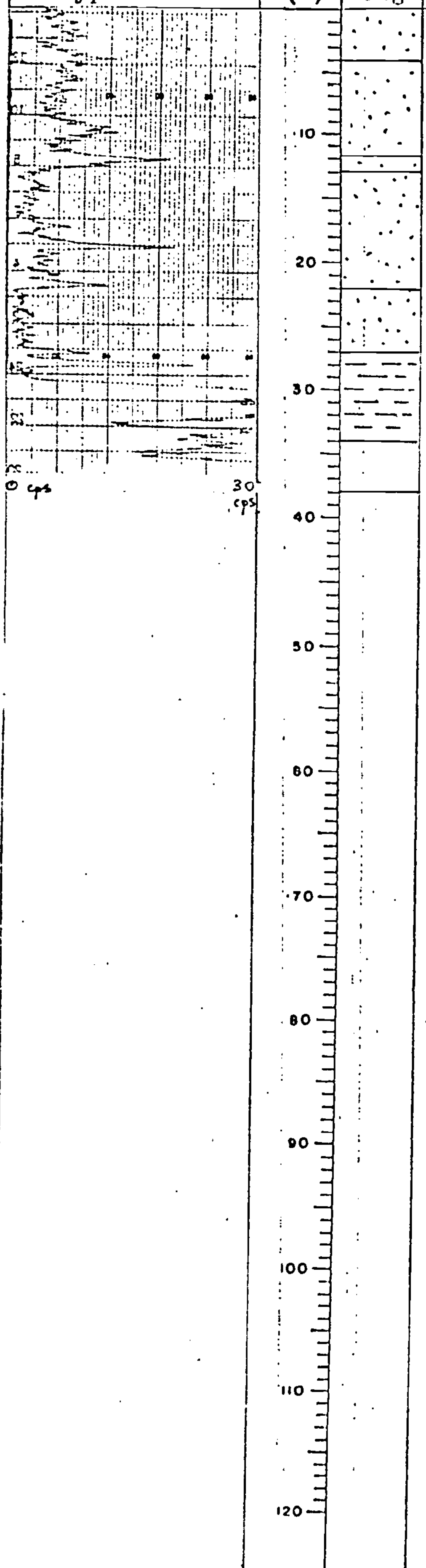
R.L. collar

Air 0m

Water 0-38m

Logged by G. HOOPER

Geophysical Log Type | Depth (m) | Strip Log | Ox | Lithological Log



SAND F gr cream

SAND (AEOLIAN) F.gr rounded q/z orange red.

HARD SILICEOUS BAND.

SAND (AEOLIAN) F gr rounded q/z orange yellow.

minor hard siliceous lenses.

SAND (AEOLIAN) grey brown grey F gr rounded.

CLAY grey black.

? massive pyritic

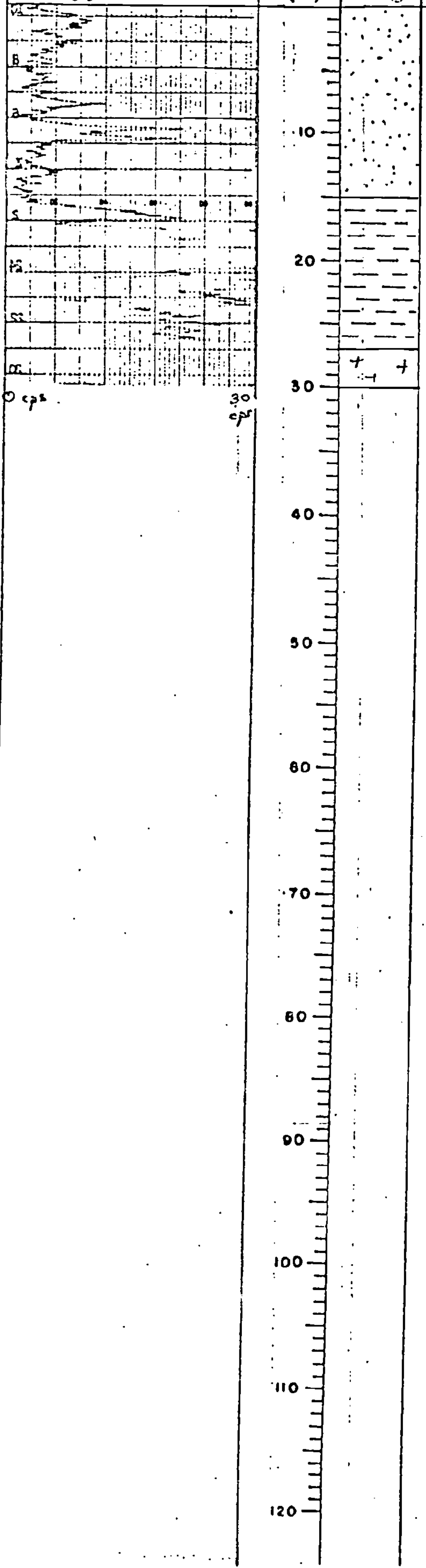
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 7

0 30

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0m
Location	Contractor W.L. SIDES & SON	Water 0-30m
Depth 30m	Date 12-4-79	Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND (AEOLIAN) F gr rounded q/z white

CLAY grey black

GRANITE wthed c.gr angular q/z in kaolinitic matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 18

Project

Prospect EL 442 ILKINA

Location

Depth 30m

Grid co-ords

AMG

Contractor W.L. SIDES & SON

Date 12-4-79

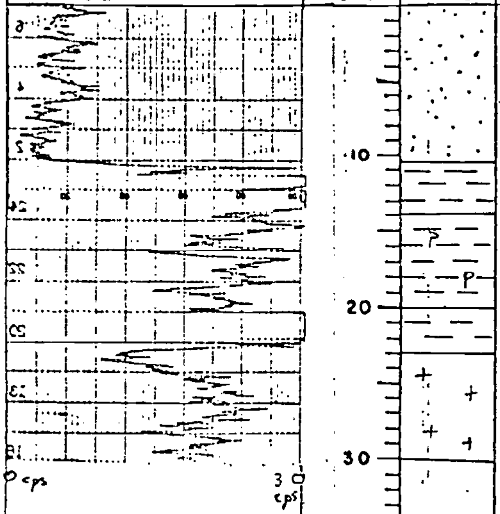
R.L. collar

Air 0m

Water 0-30m

Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND (AEOLIAN) F gr rounded qtz white

CLAY grey green.

CLAY grey black pyritic

CLAY grey green

GRANITE wthed. c gr angular (pyrite) in creamy white kaolinitic matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 19

0 32

Project

Prospect EL 442 ILKINA

Location

Depth 42m

Grid co-ords

AMG

Contractor W.L. SIDES & SON

Date 12-4-79

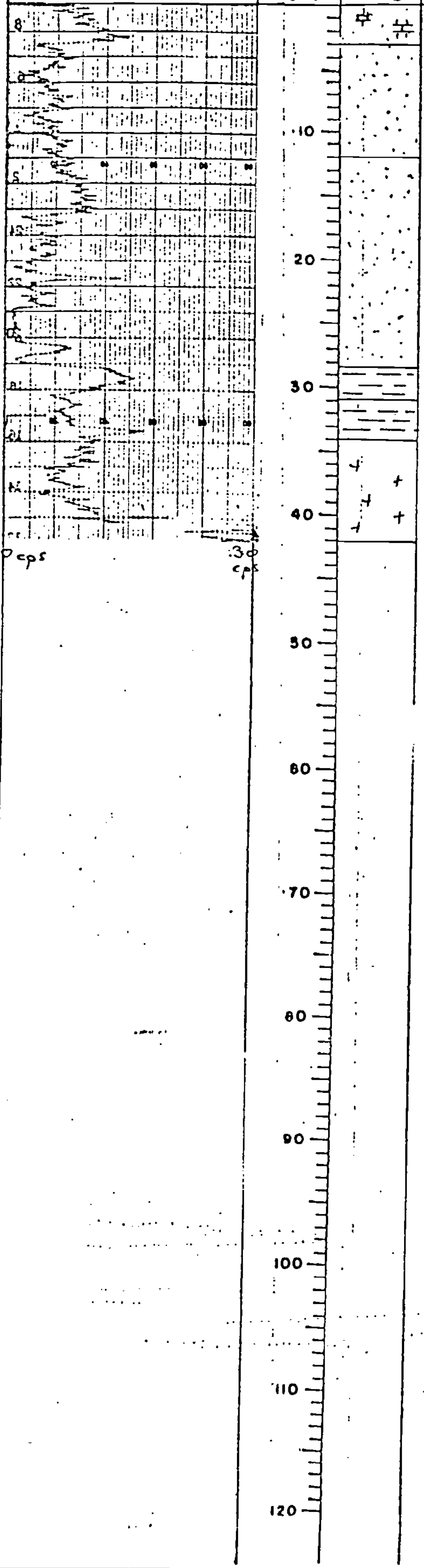
R.L. collar

Air 0-4m

Water 4-42m

Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



KUNKAR + SAND, bouldery

SAND f gr silicified

SAND f gr rounded white grey

CLAY grey black

CLAY " + light grey

GRANITE wthed c. gr angular qtz in kaolinitic matrix

HOLE No. IR 20

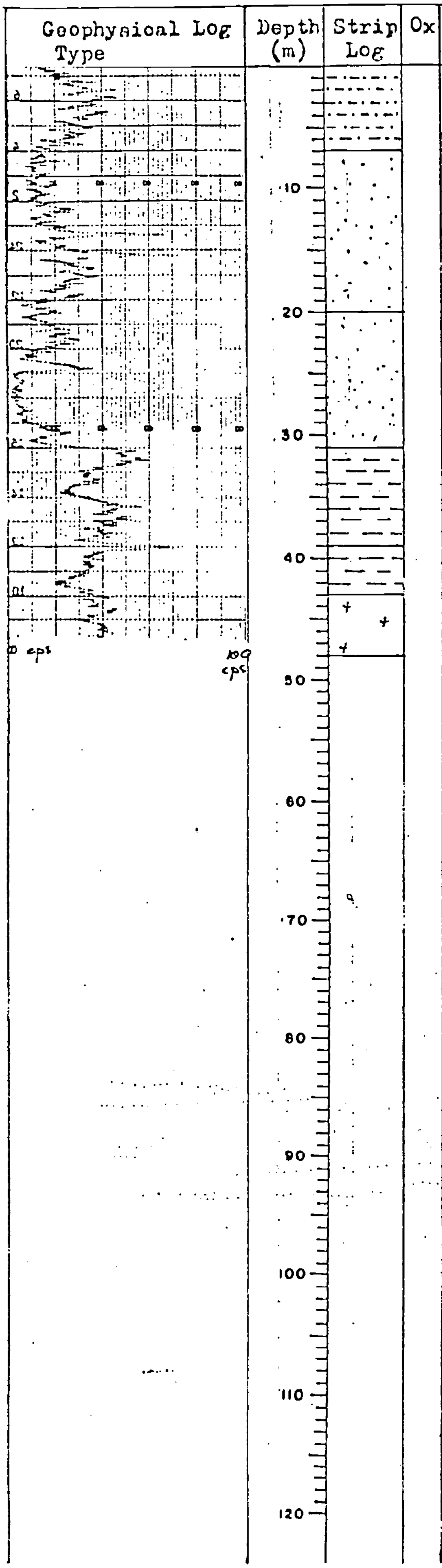
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

0 33

Project
Prospect EL 442 ILKINA
Location
Depth 48m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 13-4-79

R.L. collar
Air 0m
Water 0-48m
Logged by G. HOOPER



Lithological Log

SAND & SILT (AEOLIAN) yellow brown.

SAND (AEOLIAN) F gr silicified.

SAND (AEOLIAN) F gr rounded qtz grey

CLAY grey black

CLAY light grey

GRANITE wthed. F-c gr angular qtz in kaolinitic matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 21

Project

Prospect EL 442 ILKINA

Location

Depth 48m

Grid co-ords

AMG

Contractor W.L. SIDES & SON

Date 13-4-79

R.L. collar

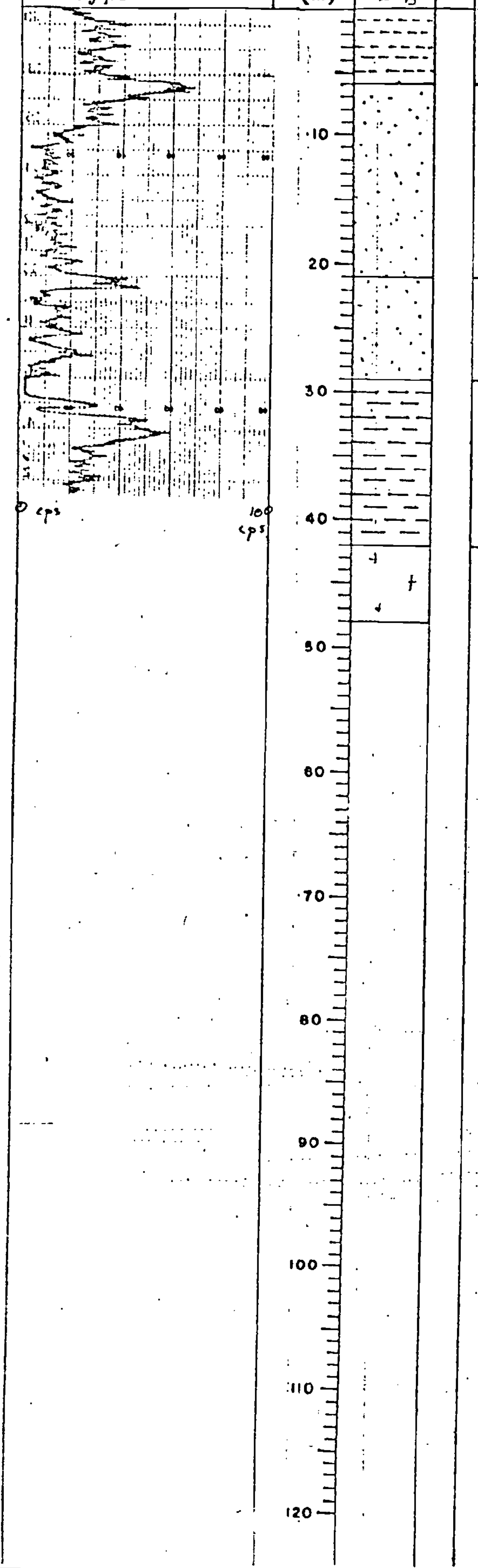
Air 0m

Water 0-48m

Logged by G. HOOPER

0 34

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SILT, clayey

SAND (AEOLIAN) F gr silicified

SAND (AEOLIAN) F gr rounded qtz grey

CLAY grey black.

GRANITE wthd. c. gr angular qtz in a kaolinitic matrix.

HOLE No. IR 22

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

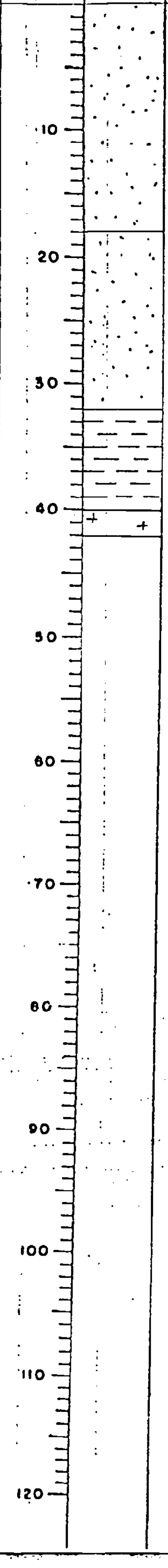
Project
Prospect EL 442 ILKINA
Location
Depth 42m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 13-4-79

R.L. collar
Air 0m
Water 0-42m
Logged by G. HOOPER

0 35

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED (Logger Malfunction)				SAND (AEOLIAN) F. gr silicified. SAND (AEOLIAN) F gr rounded qtz CLAY grey black. GRANITE wthed c. gr angular qtz in kaolinitic matrix



GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE NO. [illegible]

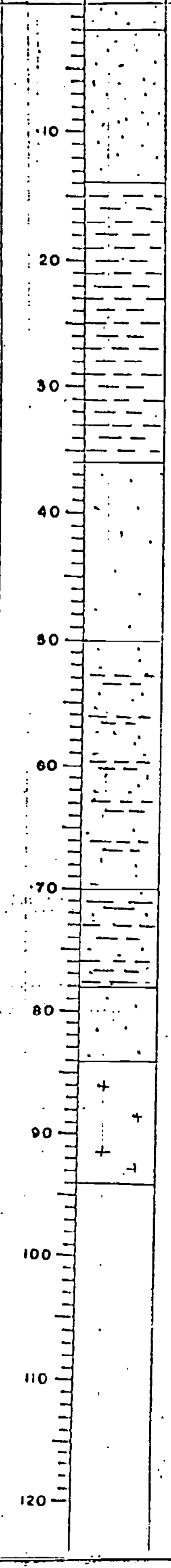
0 36

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0m
Location	Contractor W.L. SIDES + SON	Water 0-94m
Depth 94m	Date 21-4-79	Logged by G. HOOPER

Geophysical Log Type

NOT LOGGED
(Logger Malfunction)

Depth (m) | **Strip Log** | **Ox**



Lithological Log

SAND gypsiferous.
SAND vf gr rounded qtz white-grey

CLAY grey

SAND v c gr sub rounded - sub angular
white - grey

SAND c gr subrounded - sub angular
minor humic staining + lenses
CLAY dark choc. brown - black,

CLAY creamish brown +
SAND c gr.

SAND c gr sub angular qtz

GRANITE c gr ang qtz in sericitic matrix.
Fragments qtz with [illegible]
feldspar intergrowths

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IX 24R

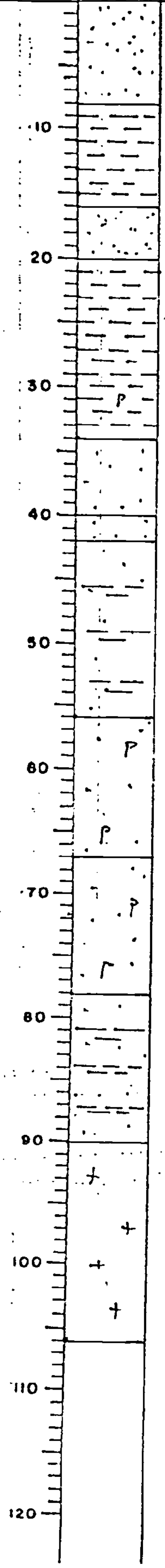
0 37

Project
Prospect EL 442 ILKINA
Location
Depth 106m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 20-4-79

R.L. collar
Air 0m
Water 0-106m
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED (Logger Malfunction)				



SAND (AEOLIAN) F gr rounded white

CLAY pale green

SAND (AEOLIAN) F gr rounded white

CLAY grey

trace pyrite f gr

SAND f-m gr subrounded-subangular qtz white.

SAND v c gr subrounded qtz.

SAND m-c gr subrounded qtz
+ CLAY light greyish.

SAND v c gr subrounded qtz brownish
humic staining minor pyrite

SAND m-c gr subrounded qtz white grey
trace pyrite

SAND m-c gr subrounded qtz minor white
clay matrix +
lenses grey green CLAY

GRANITE wthed c gr angular qtz in
white matrix

" qtz, wthed Feldspar, chlorite intergrowths

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. [illegible]

Project

Prospect *EL 442 ILKINA*

Location

Depth *42m*

Grid co-ords

AMG

Contractor *W.L. SIDES & SON*

Date *16-4-79*

R.L. collar

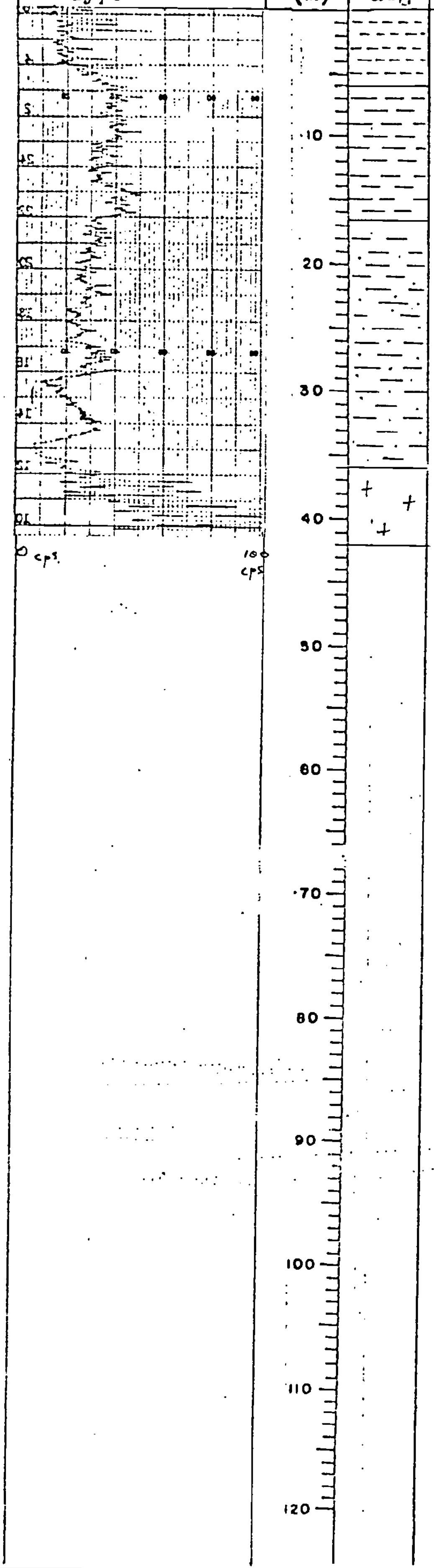
Air *0m*

Water *0-42m*

Logged by *G. HOOPER*

0 38

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SILT calcareous minor KUNKAR
light brown.

CLAY red brown & light grey
minor ferruginous bands.

CLAY sandy in part
pink brown & white grey sandy patches.

GRANITE f-m gr qtz in a white
kaolinitic matrix

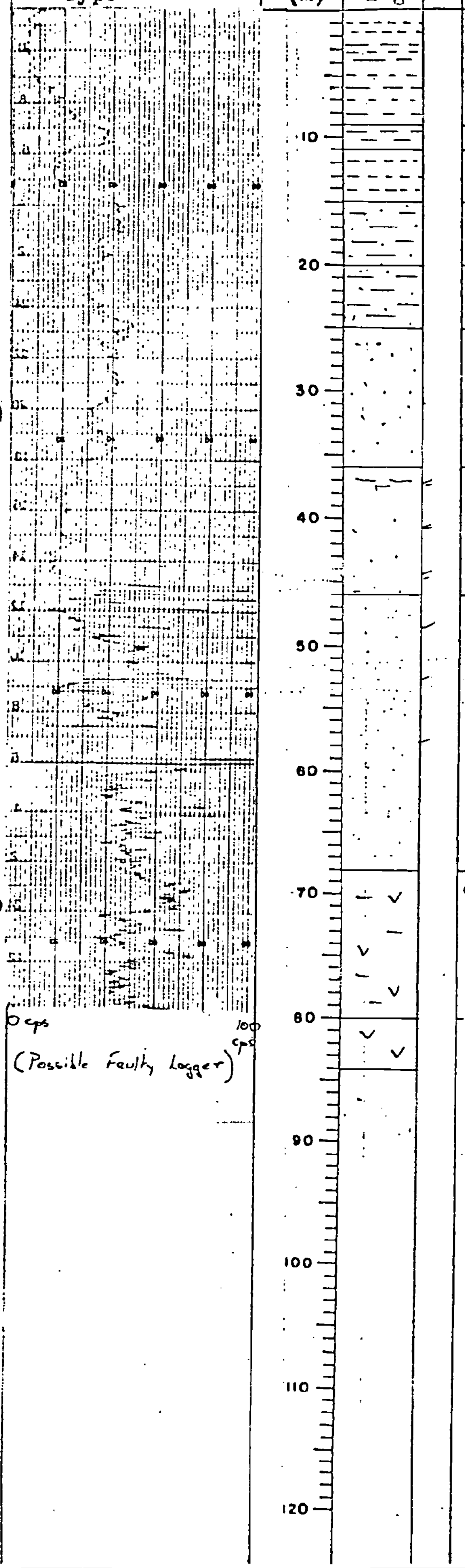
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. 1226

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0m
Location	Contractor W.L. SIDES & SON	Water 0-84m
Depth 84m	Date 17-4-79	Logged by G. HOOPER

0 39

Geophysical Log Type | Depth (m) | Strip Log | Ox | Lithological Log



(Possible Faulty Logger)

SILT & CLAY light brown

CLAY brown

SILT cream - light brown

SANDY CLAY light brown

CLAY - SANDY CLAY red brown & light grey

SAND m-c gr sub angular qtz
pinky brown, white clay matrix.
partly Ferruginous

SAND c gr sub angular - sub rounded qtz
minor white clay matrix
hematite staining v minor grey green clay

SAND f-m gr sub angular - sub rounded qtz
possible wthed granitic Fragments (partly rounded)
minor hematite staining

CLAY dark green, wthed basic rock

M.M. BASIC VOLCANIC

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. 1227

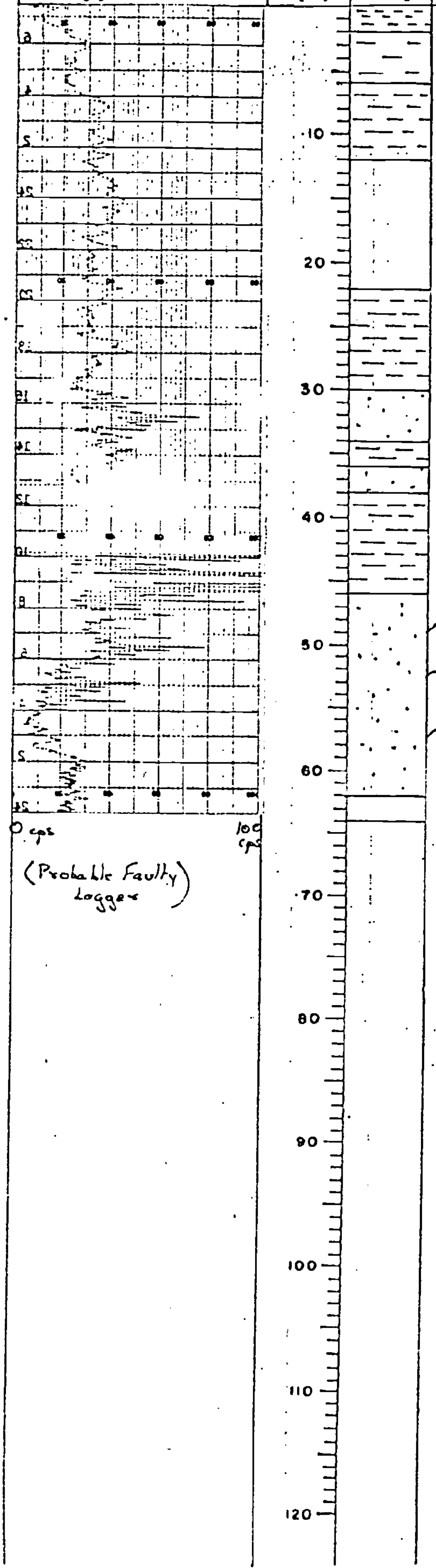
Project
Prospect EL 442 ILKINA.
Location
Depth 64m

Grid co-ords
AMG
Contractor W.L. SIDES + SON
Date 17-4-79

R.L. collar
Air 0-2m
Water 2-64m
Logged by G. HOOPER

0 40

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



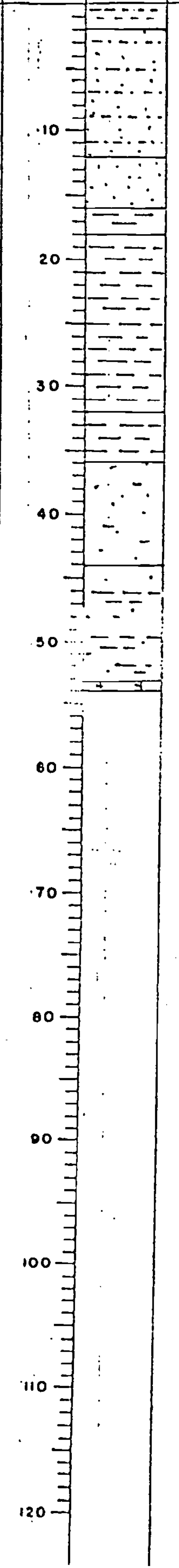
(Probable Faulty Logger)

KUNKAR + SILT
SANDY CLAY dark brown
CLAY red brown + cream grey
hard ferruginous bands + grey clayey bands.
CLAY creamy grey minor brown
SAND m-c gr rounded yellow brown
CLAY creamy grey
SAND m-c gr greyish
CLAY black minor grey cream
grey
SAND f-m gr sub rounded
grey white
minor possible lim. alteration
becoming coarser grained with depth
QUARTZOSE BASEMENT Greyish
angular fragments.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 28

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0m
Location	Contractor W.L. SIDES & SON	Water 0-54m
Depth 54m	Date 18-4-79	Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED (Logger Malfunction)				SILT SILTY SAND Ferruginous cement f. gr dark red brown & grey white SAND (AEOLIAN) F-m gr rounded. CLAY light grey & red brown CLAY grey CLAY black & dark grey SAND m-c gr grey white sub rounded to sub angular minor white clay on qtz SAND & CLAY gravelly in part grey m-c gr sub angular qtz minor sericitic aggregates Z QUARTZOSE FELDSPATHIC Rock

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. JR 29

0 42

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0m
Location	Contractor W.L. SIDES + SON	Water 0-30m
Depth 30m	Date 19-4-79	Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED (Logger Malfunction)				CLAY light green grey
				CLAY grey
	10			
	20			CLAY green grey
				CLAY white grey
				GRANITE wthrd c gr angular qtz in a kaolinitic matrix
	30			
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

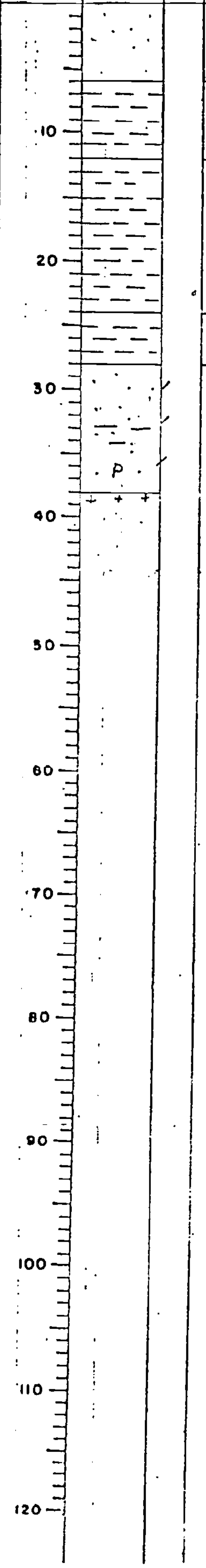
Hole No. IR 3c

0 43

Project
Prospect EL 442 ILKINA
Location
Depth 38m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 19-4-79

R.L. collar
Air 0m
Water 0-38m
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED (Logger Malfunction)				SAND gypsiferous c gr gypsum to 2cm CLAY light green CLAY dark grey - black minor f gr pyrite CLAY grey white SAND f - c gr. subrounded to sub angular (inc with depth) possible limonitic alteration minor greyish clay selective leaching of feldspar? grns in granitic? fragments trace pyrite QUARTZ, KAOLINISED FELDSPAR, CHLORITE ROCK

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

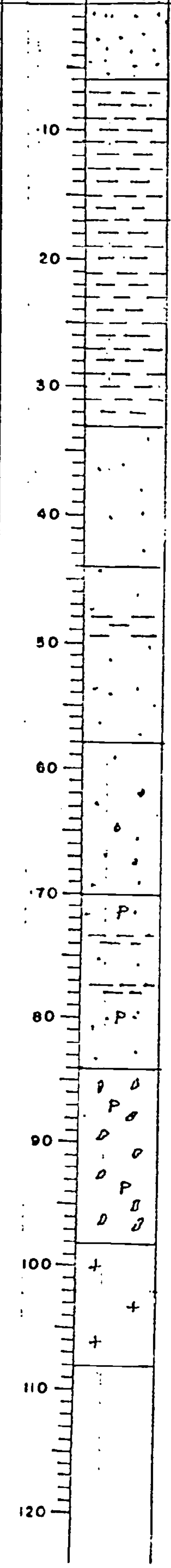
HOLE No. IK51

0 44

Project
Prospect EL 442 ILKINA
Location
Depth 108m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 20-4-79

R.L. collar
Air 0m
Water 0-108m
Logged by G. HOOPER



Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED (Logger Malfunction)				SAND (AEOLIAN) F gr rounded
				CLAY - grey green & brown
				" " & grey
				" grey & grey black
				" grey & creamy grey
				SAND c gr sub rounded qtz white-grey
				SAND c gr sub rounded qtz humic staining
				CLAY brown black lignitic
				SAND m-c gr dark brownish. sub rounded c̄ humic staining
				SAND V c gr sub rounded qtz mud humic staining
				SAND F-c gr poorly sorted sub angular qtz minor lenses brown CLAY
				GRAVEL V c gr rounded qtz V c aggregates F gr pyrite.
				GRANITE wthed m-c gr ang. qtz in a clayey matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IK 32

Project

Prospect EL 442 ILKINA

Location

Depth 99m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

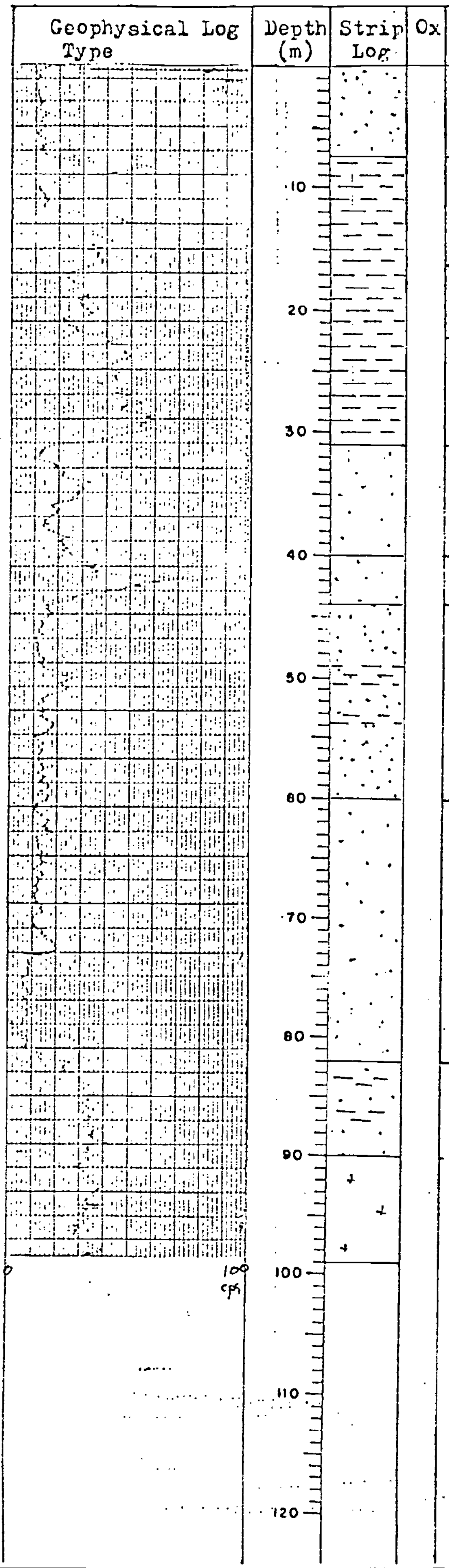
Date 25-4-79

R.L. collar

Air

Water 0-99m

Logged by P. BINKS



Lithological Log

SAND (AEOLIAN) f gr rounded yellow - brown gypsiferous.

CLAY green grey

" dark grey

" blue grey

SAND - c gr sub rounded clear + milky qtz + grey CLAY

SAND c gr sub rounded brown

SAND f gr with lenses brown CLAY

SAND c gr sub rounded - sub angular

trace pyrite

SAND + CLAY c. gr subrounded - sub angular grey

GRANITE c gr qtz in clay + wthd. granitic rock

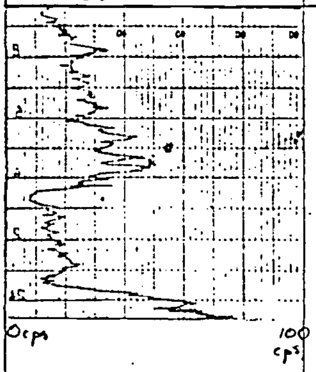
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. I 233

Project
Prospect EL 442 ILKINA
Location
Depth 22m

Grid co-ords
AMG
Contractor W.L. SIDES + SON
Date 25-4-79

R.L. collar
Air O
Water O-22m
Logged by P. BINKS 0 46

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
				SAND (AEOLIAN) f gr rounded calcareous cement brown.
	10 20			CLAY + PORPHYRY red brown clay with porphyry fragments
	30 40 50 60 70 80 90 100 110 120			

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE NO. 3254

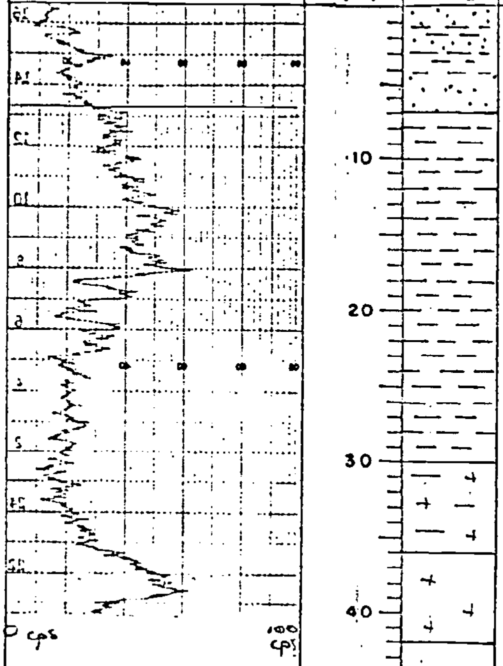
Project
Prospect EL 442 ILKINA
Location
Depth 42m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 25-4-79

R.L. collar
Air 0-8m
Water 8-42m
Logged by P. BINKS

0 47

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



CLAY & SAND brown- red brown

CLAY grey

" carbonaceous

" grey

CLAY white with qtz fragments.
(wthd granite?)

GRANITE f gr partly wthd

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE NO. [illegible]

0 48

Project

Prospect EL 442 ILKINA

Location

Depth 72m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 26-4-79

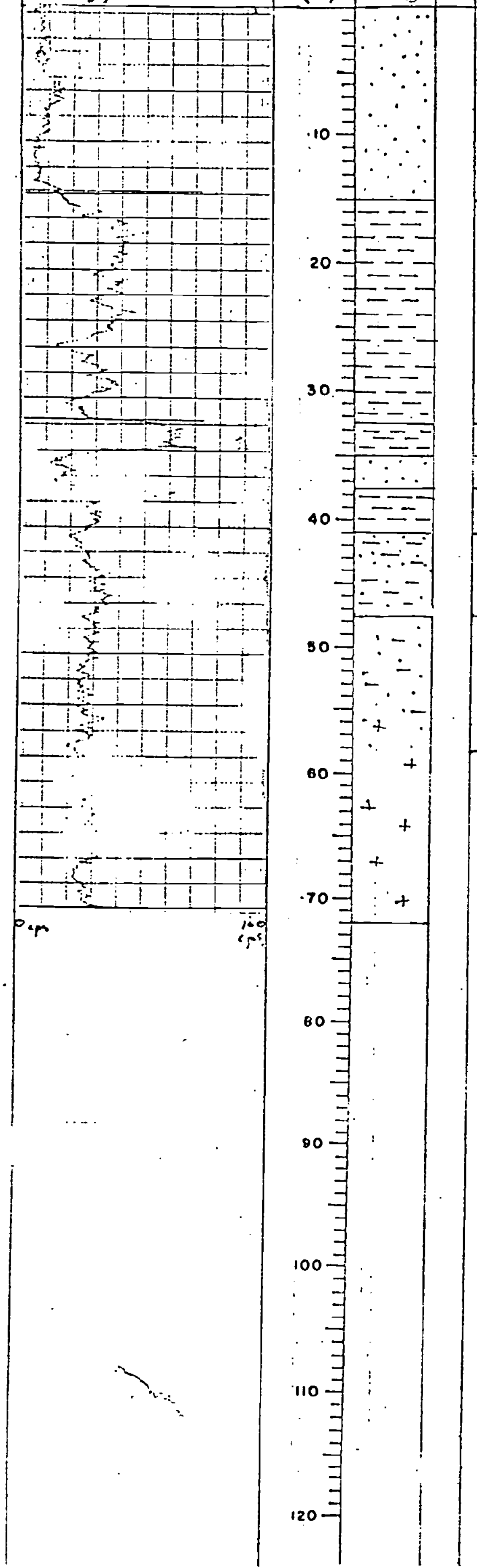
R.L. collar

Air 0m

Water 0-72m

Logged by P. BINKS

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND f gr. well rounded lt - yellow brown

CLAY green grey

" dark grey

SAND m gr subrounded. clean some silcrete cement.

CLAY dark grey

CLAY · SANDY CLAY

SAND m-c gr. grey sub angular qtz
a white clay on grains trace pyrite

(gradationaly change from sand to granite).

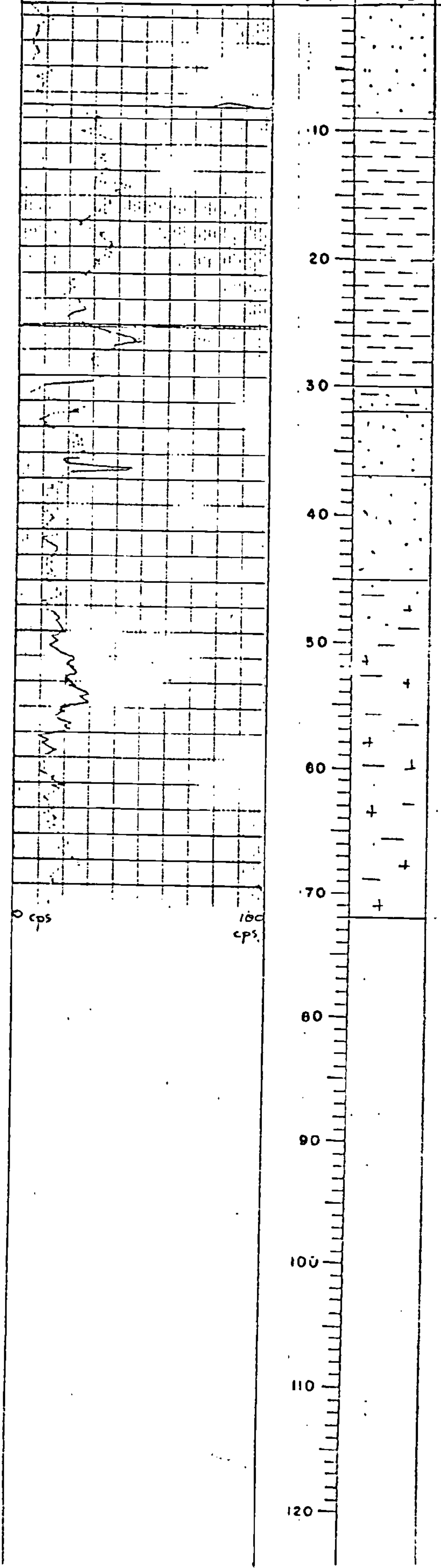
GRANITE wthed Fragments m-c gr qtz
with wthed Felspar intergrowths

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. 123[illegible]

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA.	AMG	Air Om
Location	Contractor W.L. SIDES & SON	Water 0-72m
Depth 72m	Date 26-4-79	Logged by P. BINKS

Geophysical Log Type | Depth (m) | Strip Log | Ox | Lithological Log



SAND (AEOLIAN) F gr well rounded brown.

CLAY grey green - blue grey

CLAYEY SAND m gr sub rounded.

SAND f-m gr white - pale brown with silcrete bands.

SAND m-c gr. sub rounded to sub angular

SANDY CLAY / WTHED GRANITE

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IC37

0 50

Project

Prospect EL 442 ILKINA

Location

Depth 78m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 26-4-79

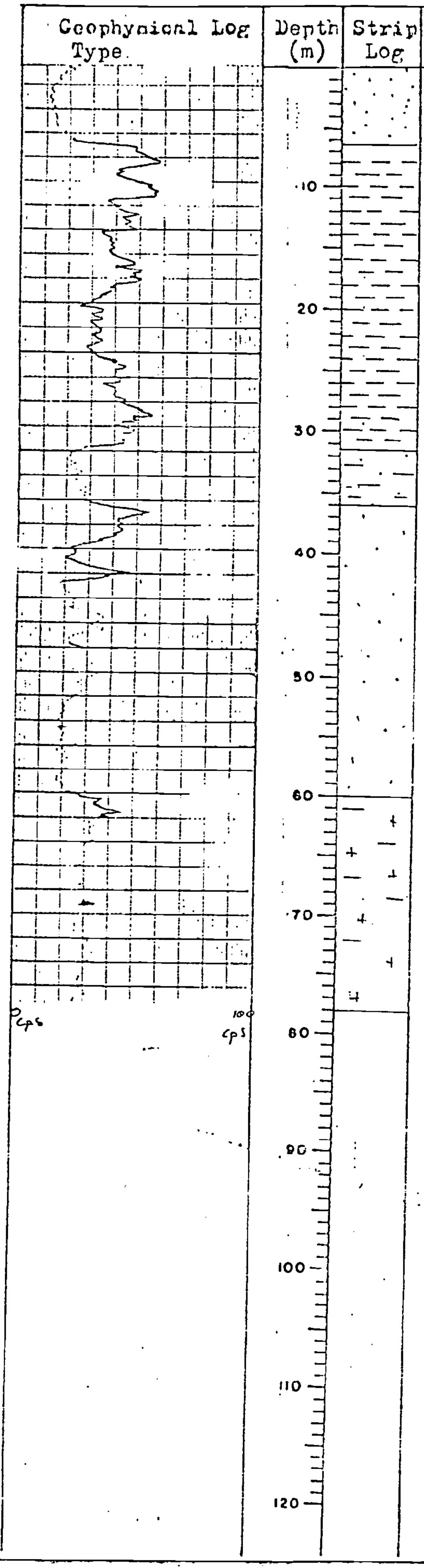
R.L. collar

Air 0m

Water 0-78m

Logged by P BINKS

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND f gr well rounded red - pale brown.

CLAY grey - green grey - dark grey

SANDY CLAY m gr qtz grains subangular.

SAND c gr sub rounded to sub angular clean qtz grns.

- brown - black humic staining.

INTERMEDIATE ROCK grey green.
/ SANDY CLAY

wthed gneissic rock.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE NO. IX 38

0 51

Project

Prospect EL 442 ILKINA

Location

Depth 82m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 26-4-79

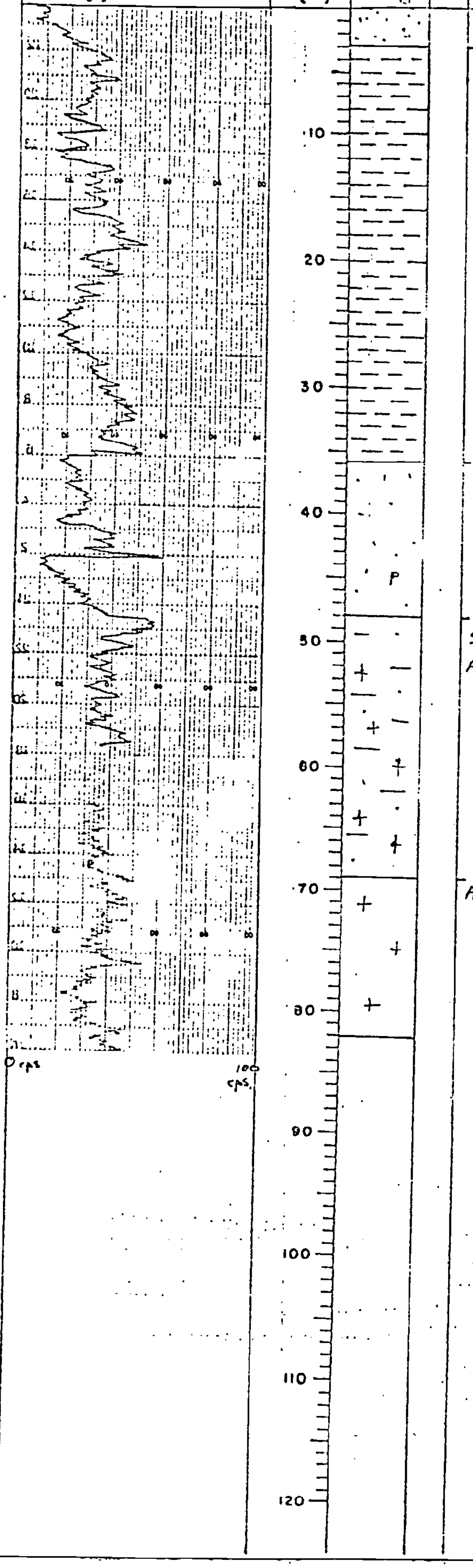
R.L. collar

Air 0m

Water 0-82m

Logged by P. BINKS

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND (AEOLIAN) F gr well rounded brown

CLAY grey grey green dark grey
purple grey

SAND m gr subrounded clean grns.
white clay matrix.

trace pyrite

SANDY CLAY/ c gr angular qtz white clay matrix
ALTERED GRANITIC ROCK some qtz pale green

trace pyrite (? contamination).

ALTERED INTERMEDIATE ROCK pale green grey
GRANITIC
clay with angular qtz grns.

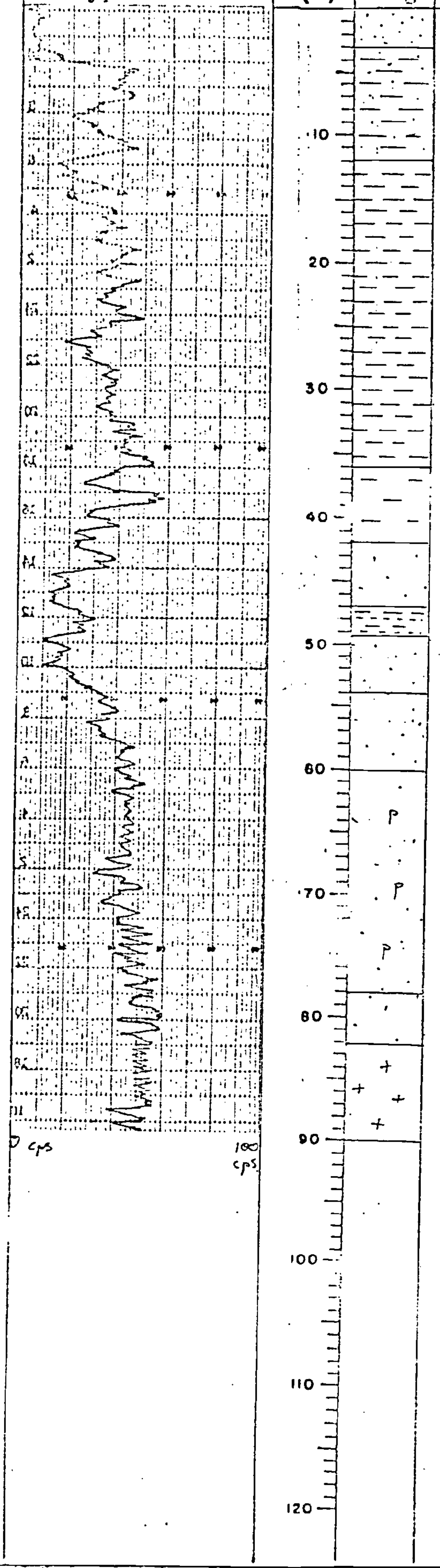
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Hole No. IC34

0 52

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0m
Location	Contractor W.L. SIDES + SON	Water 0-90m
Depth 90m	Date 27-4-79	Logged by P. BINKS

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND (AEOLIAN) F gr rounded brown.

SANDY CLAY - CLAY grey

CLAY grey green grey & dark grey

SANDY CLAY silt & sand size qtz grns in white clay matrix

SAND m gr sub angular - sub rounded

CLAYEY SILT off white

SAND m gr sub angular - sub rounded

SAND c gr sub rounded qtz grns.

SAND F-m gr sub rounded - sub angular
trace pyrite

trace mica.

SAND c gr angular - sub angular
qtz & feldspar

GRANITE pink & ?biotite.

HOLE NO. IK40

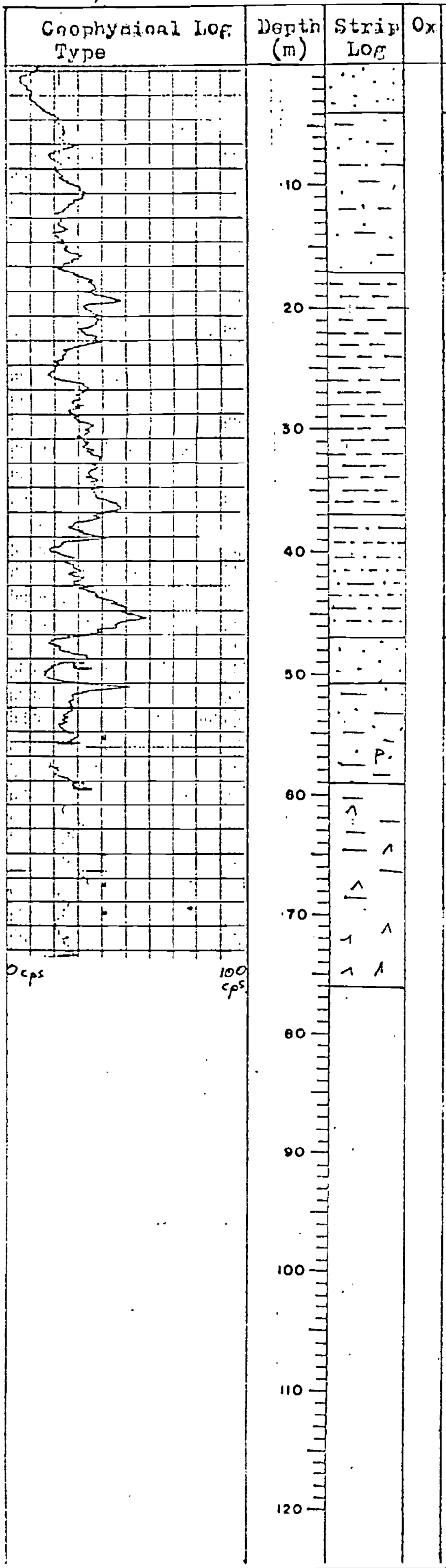
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project
Prospect *EL 442 ILKINA*
Location
Depth *76m*

Grid co-ords
AMG
Contractor *W.L. SIDES & SON*
Date *27-4-79*

R.L. collar
Air *0m*
Water *0-76m*
Logged by *P BINKS*

0 53



Lithological Log

SAND (AEOLIAN) F gr rounded pale brown.

SANDY CLAY grey brown & blue grey

CLAY green & blue grey

SANDY SILTY CLAY grey

SAND m-c gr subrounded clean qtz.

SANDY CLAY grey

pyrite

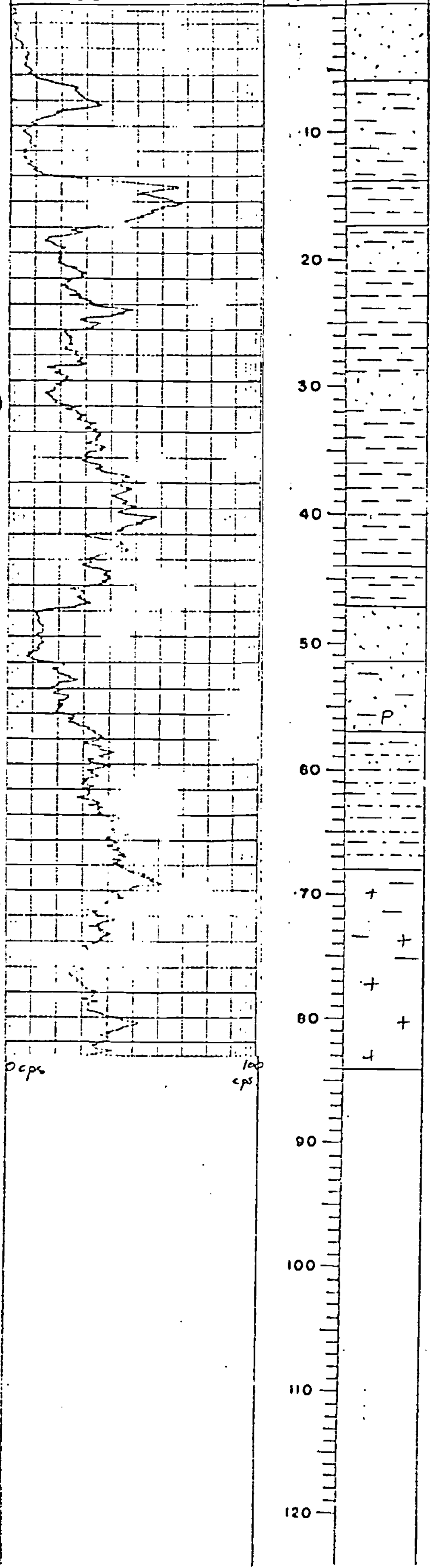
CLAY grey green with qtz fragments

F gr grey green acid volcanic?

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0m
Location	Contractor W.L. SIDES & SON	Water 0-84m
Depth 84m	Date 27-4-79	Logged by P. BINKS.

Geophysical Log Type | Depth (m) | Strip Log | Ox | Lithological Log



SAND f gr rounded pale brown. (AEOLIAN)

SANDY CLAY grey

CLAY blue-grey

CLAY grey green with sand lenses - m gr subrounded qtz grns.

CLAY brown

SAND m-c gr sub rounded qtz.

SAND m gr subrounded clear qtz grains with brown clay matrix
trace pyrite

SILTY SANDY CLAY

CLAY with qtz grains
wthed FELSIC ROCK.

GRANITIC ROCK.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IK 42

0 55

Project

Prospect EL 442 ILKINA

Location

Depth 94m

Grid co-ords

AMG

Contractor W.L. SIDES & SON

Date 27-4-79

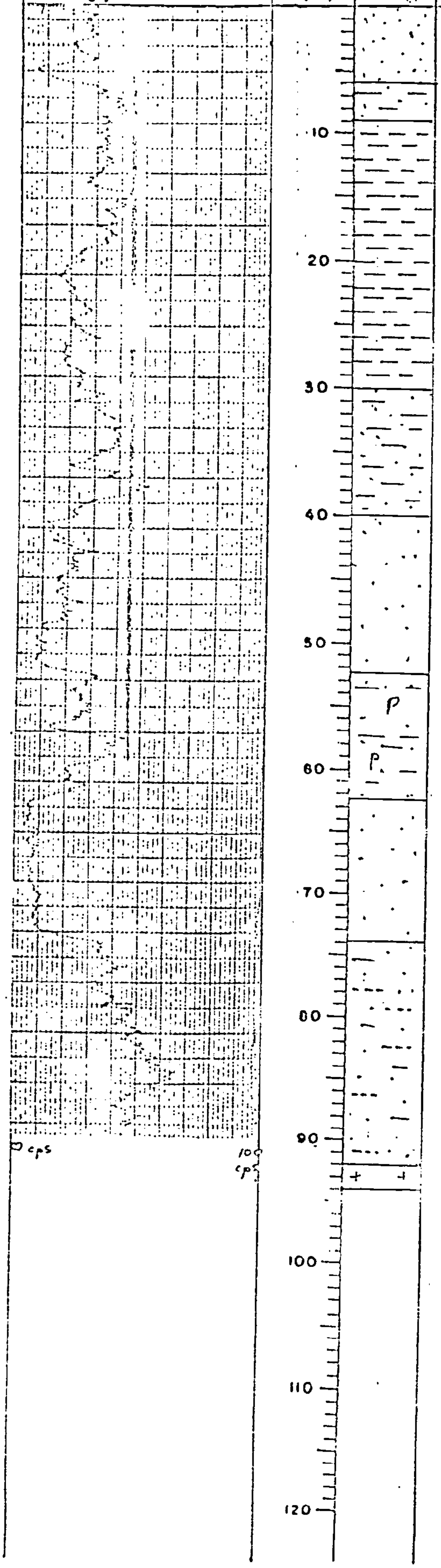
R.L. collar

Air Om

Water 0-94m

Logged by P. BINKS

Geophysical Log Type | Depth (m) | Strip Log | Ox | Lithological Log



SAND (AEOLIAN) F gr rounded yellow brown red.

CLAYEY-SAND

CLAY blue grey & grey green

SANDY CLAY m gr subrounded qtz grey

SAND m gr sub rounded - sub angular brown black humic staining trace pyrite

SAND & CLAY brown grey clay matrix with small fragments carbonaceous trash + pyrite qtz grains m-c gr.

SAND m-c gr angular - sub angular trace humic staining & pyrite

V. c. gr. gravelly.

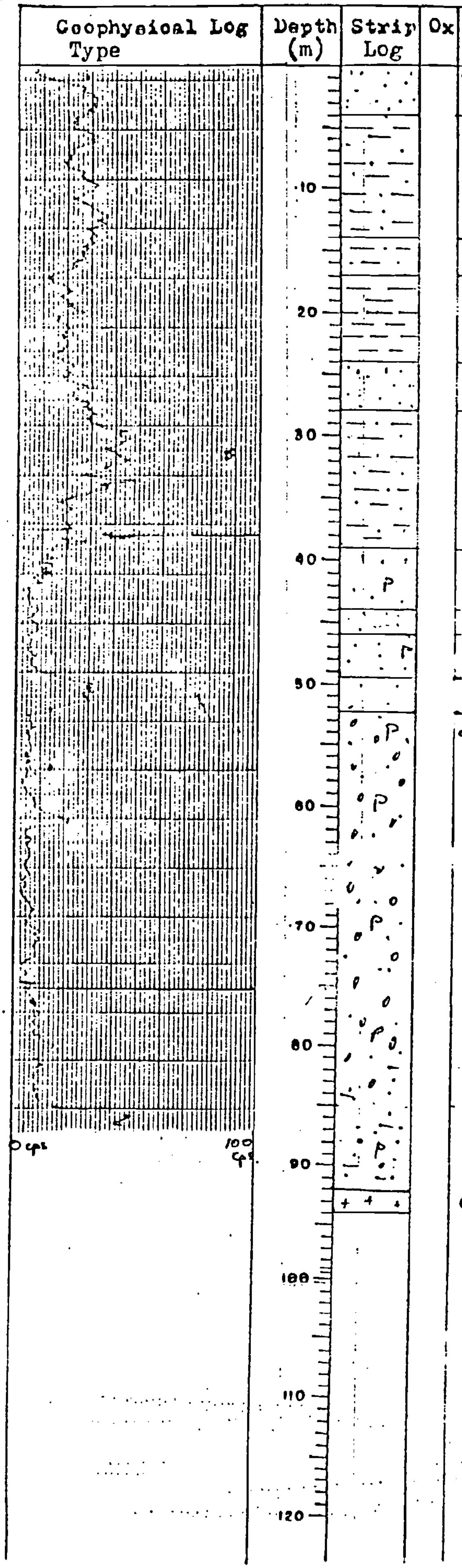
SILTY SANDY CLAY grey f.m gr sub angular qtz in grey silty clay

GRANITE

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 43

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0-
Location	Contractor W.L. SIDES + SON	Water 0-94m
Depth 94m	Date 28-4-79	Logged by P BINKS.



Lithological Log

SAND f gr rounded red brown (AEOLIAN)

SANDY CLAY grey green + red

" " grey green.

CLAY blue grey + grey green.

SAND f-m gr sub angular - sub rounded clear qtz grains.

SANDY CLAY blue grey

CLAY pale brown

SAND m gr angular - sub angular clear qtz trace pyrite

SANDY CLAY

SAND m-c gr sub angular - sub rounded clear qtz grains trace pyrite

CLAYEY SAND

SAND v c gr gravelly angular - sub angular qtz. brown black humic staining trace pyrite.

trace carbonaceous trash.
minor grey clay matrix.

GRANITE

HOLE No. IC4

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

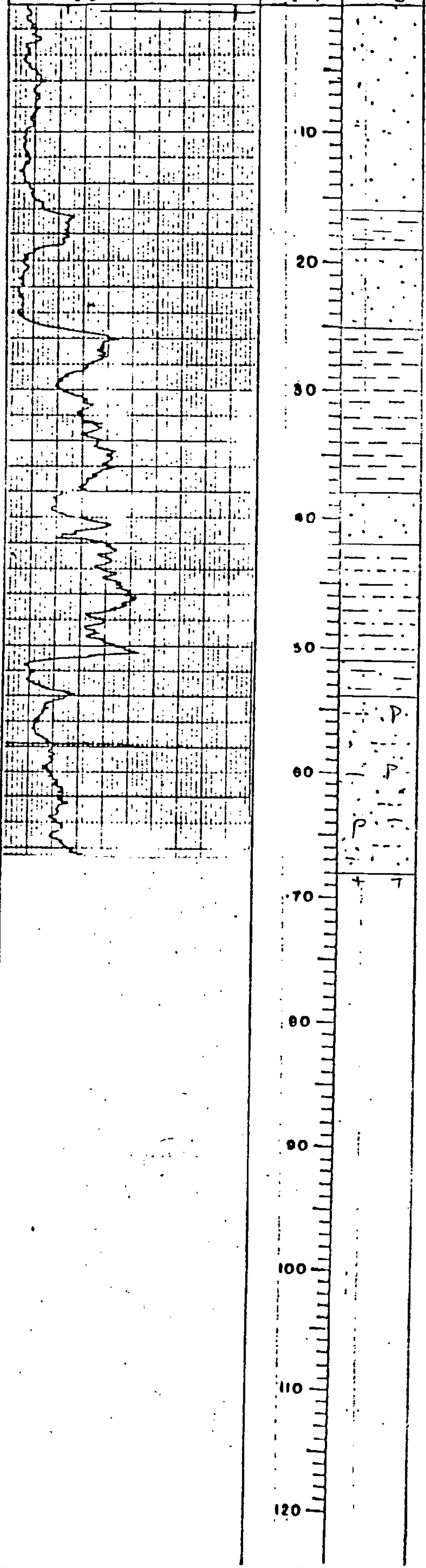
0 57

Project
Prospect EL 442 ILKINA
Location
Depth 68m

Grid co-ords
AMG
Contractor W.L. SIDES + SON
Date 29-4-79.

R.L. collar
Air 0m
Water 0-68m
Logged by P. BINKS.

Geophysical Log Type | Depth (m) | Strip Log | Ox | Lithological Log



SAND F gr rounded pale brown-red brown
(AEOLIAN)

" slightly ferricreted + silicreted.

SANDY CLAY green grey-purple grey

SAND F-m gr rounded purple brown
(AEOLIAN)

CLAY green-grey

SAND m gr sub angular-sub rounded
clear qtz grains with grey clay matrix.

SANDY + SILTY CLAY pale grey - off white

SANDY CLAY c gr qtz.

SILTY + CLAYEY SAND m-c gr. sub angular qtz.
minor white clay
trace pyrite

GRANITIC ROCK

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. 1C45

Project

Prospect EL 442 ILKINA

Location

Depth 64m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 1-5-79

R.L. collar

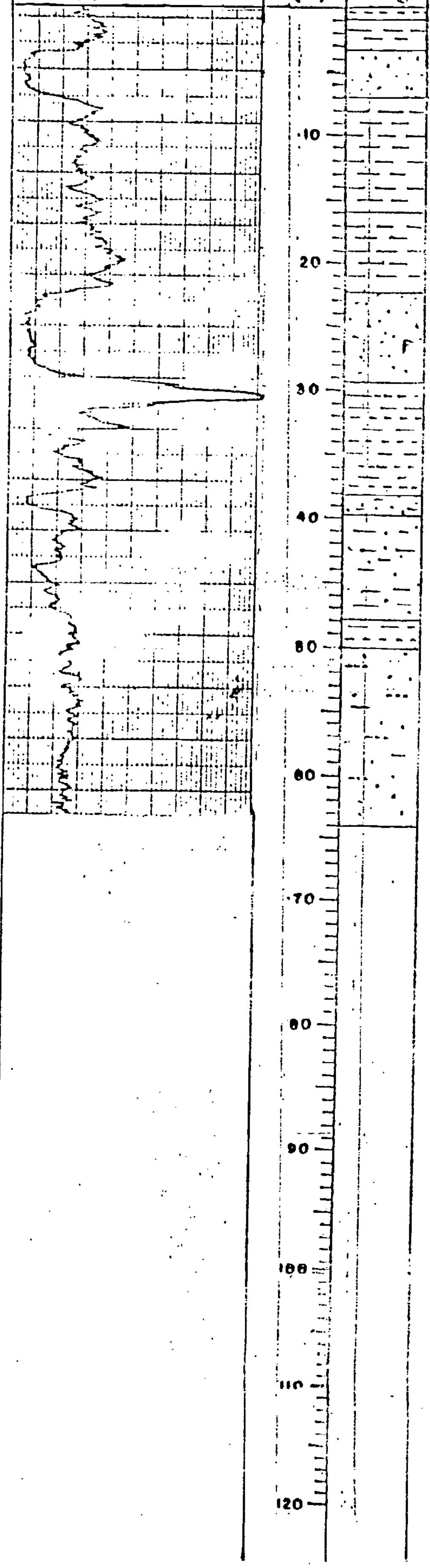
Air O

Water O-64m

Logged by G. HOOPER

0 58

Geophysical Log Type | Depth (m) | Strip Log | Ox | Lithological Log



Lithological Log

SILTY brown

CLAY yellow brown

SAND (AEOLIAN) F gr white rounded.
yellow orange.

CLAY grey minor patchy limonitic orange yellow clay

CLAY dark grey green.

SAND F-c gr subrounded white-grey
v minor F gr pyrite

SILTY CLAY white - creamy white

SAND F-c gr minor F gr pyrite minor sandy clay

SANDY CLAY grey brown, cream brown patchy
dark brown carbonaceous material

SILTY CLAY cream.

SILTY CLAYEY SAND
cream - grey

BASEMENT, hard, foliated siliceous rock.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. 3046

Project

Prospect EL 442 ILKINA

Location

Depth 52m

Grid co-ords

AMG

Contractor W.L. SIDES & SON

Date 1-5-79

R.L. collar

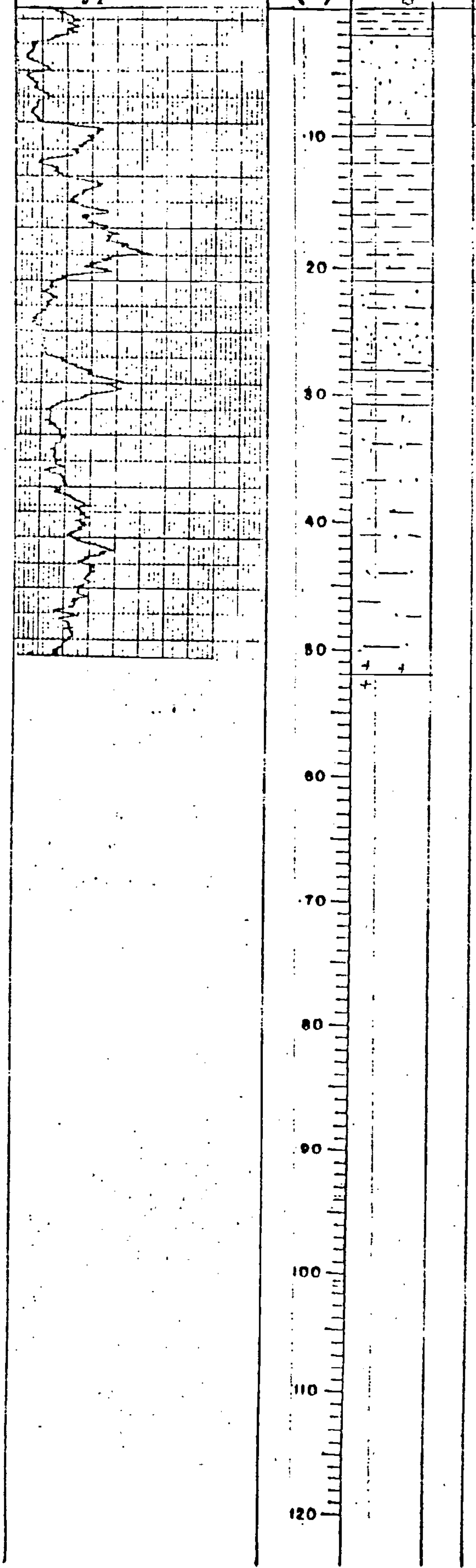
Air 0m

Water 0-52m

Logged by G. HOOPER

0 59

Geophysical Log Type | Depth (m) | Strip Log | Ox. | Lithological Log



SILTY CLAY light green brown.

SAND (AEOLIAN) F gr rounded light brown.

grey

CLAY grey green • dark grey minor qtz
framboidal pyrite

SANDY CLAY/CLAYEY SAND F gr qtz grey

SANDY LENSE F. gr qtz.

CLAY cream • v light brown minor grey green, sticky

SANDY CLAY/ m-c gr sub angular qtz
CLAYEY SAND creamy clay matrix

GRANITE - qtz feldsp. biotite fragments

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

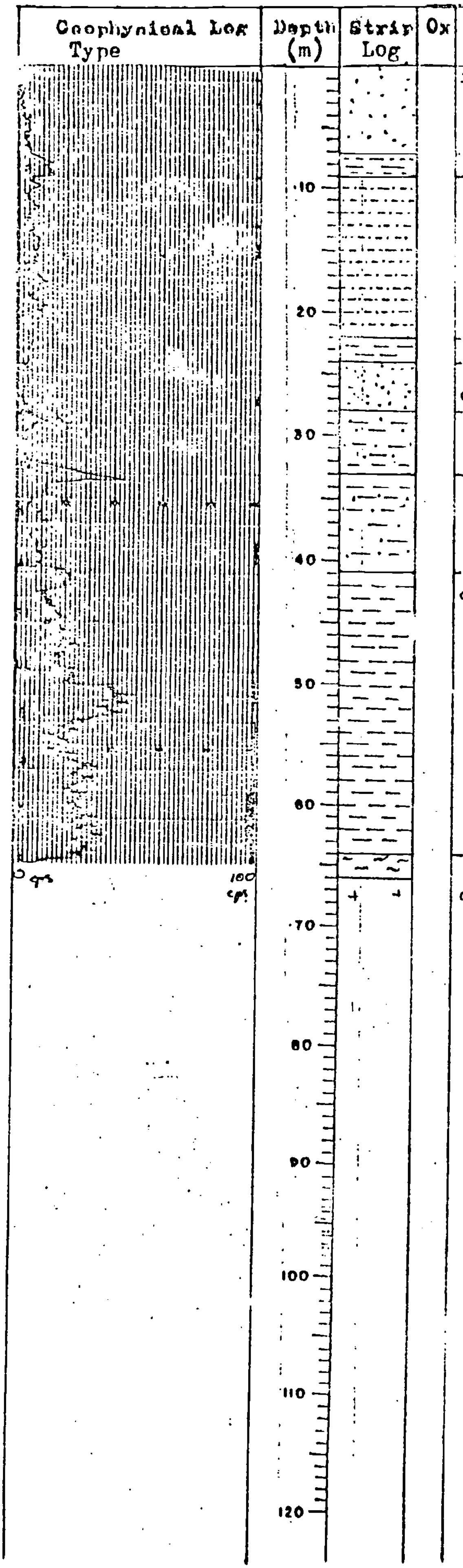
HOLE NO. IR 47

Project
Prospect EL 442 ILKINA
Location
Depth 66m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 1-5-79

R.L. collar
Air 0m
Water 0-66m
Logged by G. HOOPER

0 60



Lithological Log

SAND F gr rounded (AEOLIAN)

SILTY CLAY red brown

SILTY SAND vf- F gr qtz orange brown

CLAY cream grey - brown

SAND F gr rounded white - light brown (AEOLIAN)

SAND - SANDY CLAY dark grey black. F gr qtz

SAND - SANDY CLAY m-c gr sub angular qtz with white clay matrix.

CLAY cream white sericitic sticky

SCHISTOSE CHLORITE BIOTITE, SERICITE ROCK

QUARTZ BIOTITE ROCK.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

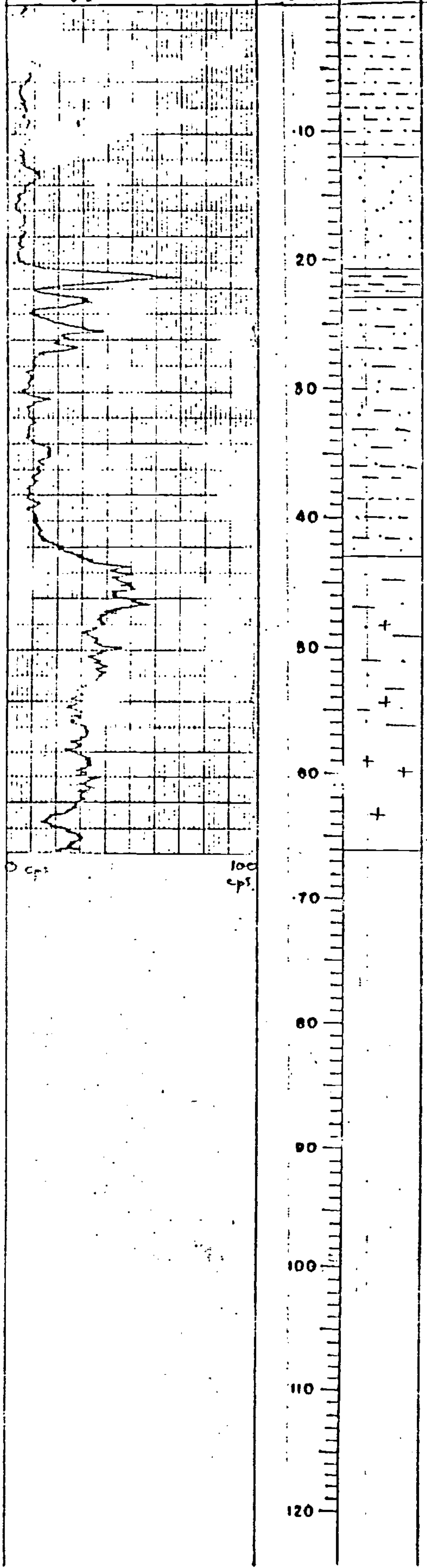
Project
Prospect EL 442 ILKINA
Location
Depth 66m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 1-5-79

R.L. collar
Air 0
Water 0-66m
Logged by G. HOOPER

0 61

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND & SILTY CLAY brown - yellow brown.

SAND (AEOLIAN) F gr rounded pink brown

CLAY grey black - black

CLAYEY SAND m-c gr qtz sub rounded
white clay matrix in part.

↓

SANDY CLAY F-c gr qtz white - grey clay matrix.

SANDY CLAY / WTHED GRANITE
m-c gr qtz sub angular with
white clay matrix.

" some green chlorite

BIOTITE GRANITE

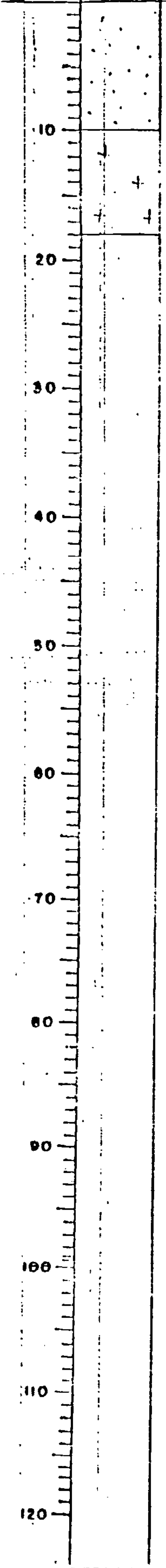
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. [illegible]

Project	Grid co-ords	R.L. collar
Prospect *EL 442 ILKINA*	AMG	Air *0m*
Location	Contractor *W.L. SIDES & SON*	Water *0-18m*
Depth *18m*	Date *2-5-79*	Logged by *G. HOOPER*

0 62

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED	0–10			SAND (AEOLIAN) F gr rounded. orange red.
	10–18			GRANITE wthed.



GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IC30

Project

Prospect EL 442 ILKINA

Location

Depth 12m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 2-5-79

R.L. collar

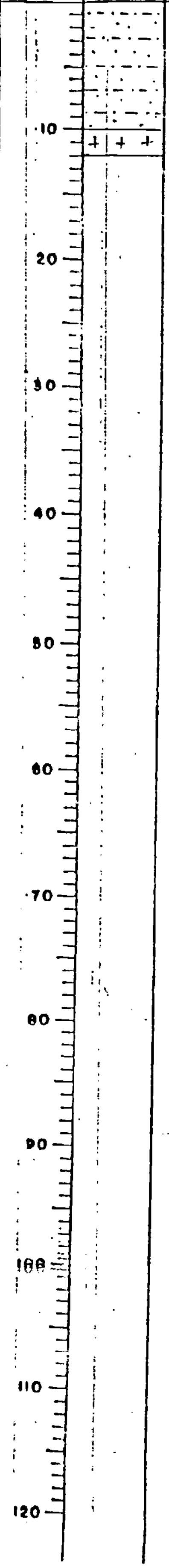
Air 0m

Water 0-12m

Logged by G. HOOPER

0 63

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED				SILTY SAND f gr rounded orange brown.
	10			GRANITE c gr qtz + kaolinised Feldspar intergrowths.



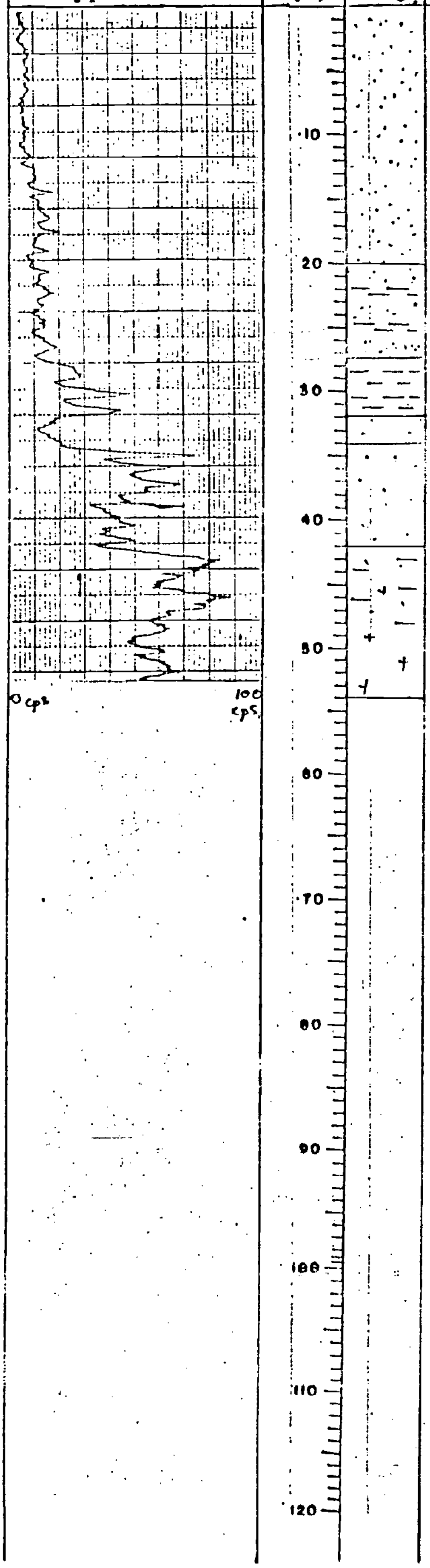
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project
Prospect EL 442 ILKINA
Location
Depth 54m

Grid co-ords
AMG
Contractor W.L. SIDES + SON
Date 3-5-79

R.L. collar
Air 0m
Water 0-54m
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND (AEOLIAN) F gr rounded
cemented in places. white - yellow brown

" greyish brown.

SAND & F gr rounded
CLAY lenses grey black

CLAY dark grey green

SAND - CLAYEY SAND F gr rounded white - grey clay matrix

SAND m-c gr sub rounded greyish

SANDY CLAY / ? WTHED GRANITE
m- cgr sub angular - angular qtz
with creamish clay matrix

Hard GRANITIC Rock

HOLE No. IC 529

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

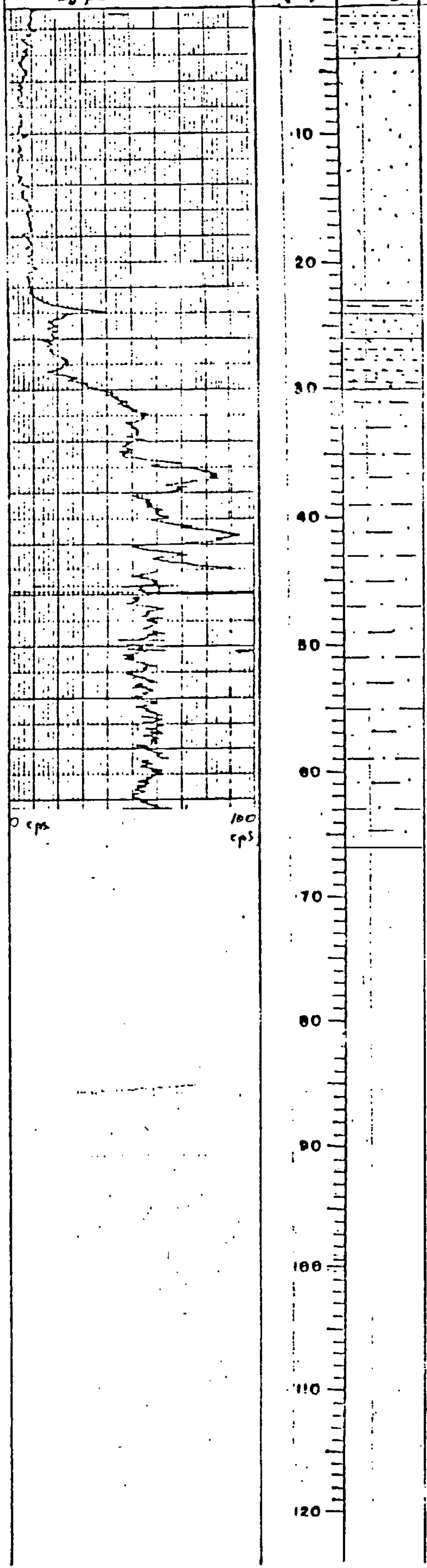
0 65

Project
Prospect EL 442 ILKINA
Location
Depth 66m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 5-5-79

R.L. collar
Air 0
Water 0-66m
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SILTY SAND brown

SAND (AEOLIAN) F gr rounded yellowish

CLAY black
SAND F gr rounded light brown.
SILTY SAND F gr grey white.

SANDY CLAY c gr sub angular q/z in grey white clay matrix.
some parts more clay rich.

HARD QUARTZOSE ROCK.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

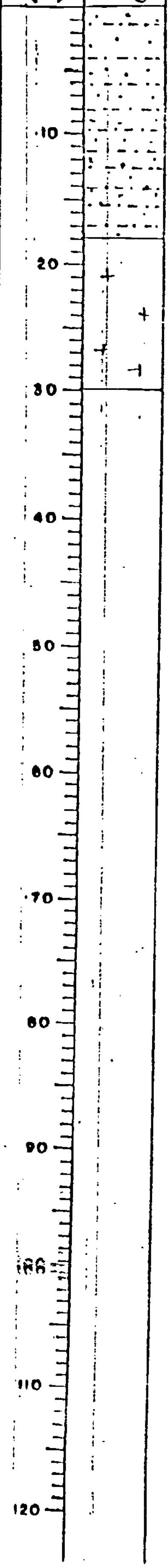
HOLE No. IK 53

Project
Prospect EL442 ILKINA
Location
Depth 30m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 5-5-79

R.L. collar
Air
Water 0-30m
Logged by G. HOOPER

0 66



Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED.				SILTY SAND (AEOLIAN) F gr rounded light reddish brown.
				GRANITE (wthed) c gr angular qtz with white kaolinitic matrix

HOLE No. IK 34

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

0 67

Project

Prospect EL 442 ILKINA

Location

Depth 24m

Grid co-ords

AMG

Contractor W.L. SIDES & SON

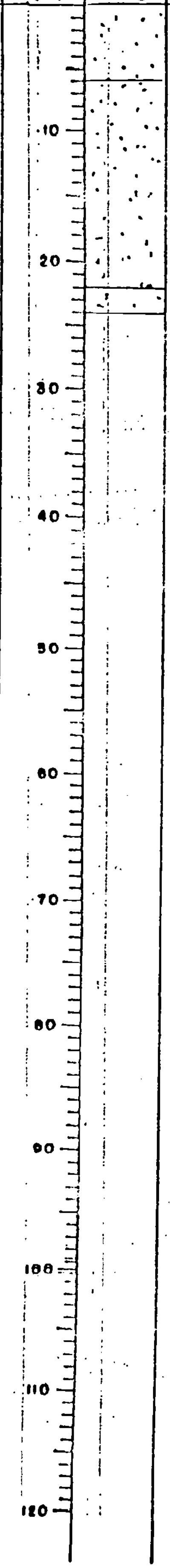
Date 5-5-79

R.L. collar

Air

Water 0-24m

Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED				SAND (AEOLIAN) F gr rounded grey brown
				SAND (AEOLIAN) F gr rounded orange.
				SAND - SILCRETE m-c gr qtz angular cream chalcedonic matrix
				HOLE ABD. NO PENETRATION.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 55

0 68

Project

Prospect EL 442 ILKINA

Location

Depth 54m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 7-5-79

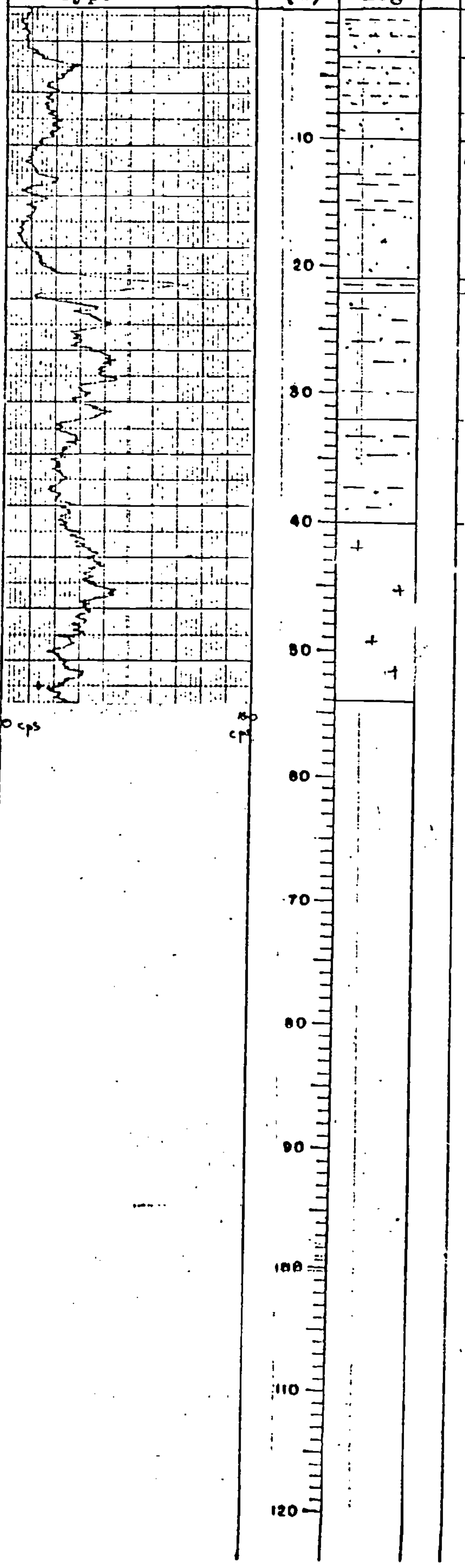
R.L. collar

Air 0m

Water 0-54m

Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND - SILT (AEOLIAN) F gr rounded orange brown
minor boulders kunkar

SILTY SAND F-m gr grey - red brown

SAND m-c gr grey green minor red brown

SAND M-c gr rounded qtz creamy grey
CLAY lenses creamish (calcareous?)

CLAY brown

SANDY CLAY creamy brown c gr rounded qtz.

" creamy grey

SANDY CLAY grey white m-c gr qtz.
minor dark green grey clay.

GRANITE + SERICITIC ROCK greenish f gr

HOLE No. IC 56

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

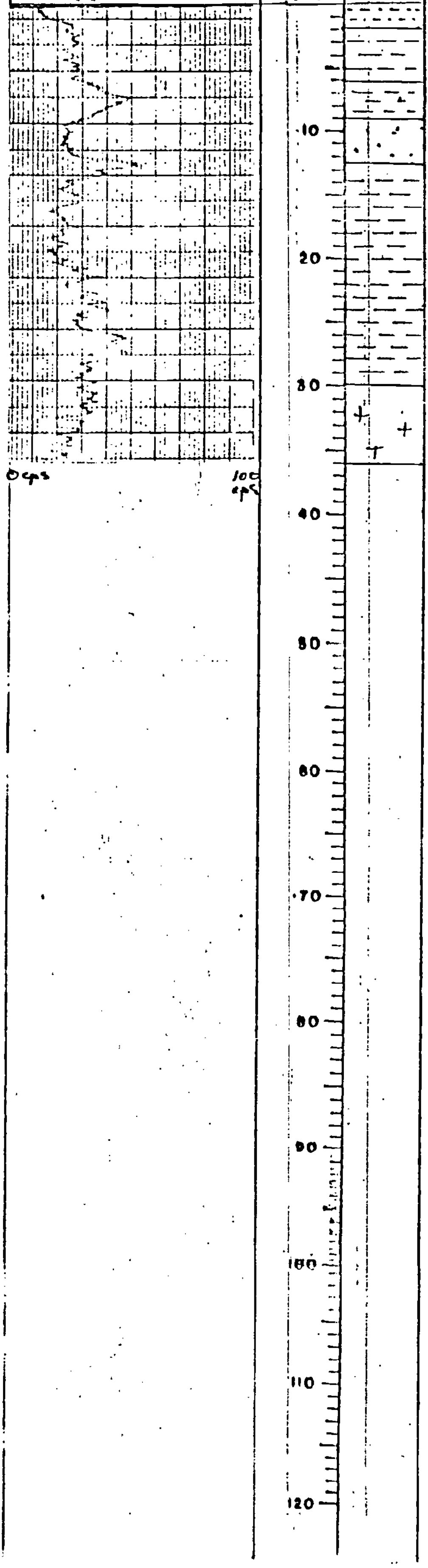
0 69

Project
Prospect EL 442 ILKINA
Location
Depth 36m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 7-5-79

R.L. collar
Air 0m
Water 0-36m
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SANDY SILT calcareous cream brown.

CLAY cream grey & red.

CLAY grey green & red purple.

SAND (AEOLIAN) F gr rounded

CLAY grey brown.

GRANITE pyritic qtz biotite.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE HOLE NO. IS57

Project

Prospect EL 442 ILKINA

Location

Depth 76m

Grid co-ords

AMG

Contractor W. L. SIDES & SON

Date 7-5-79

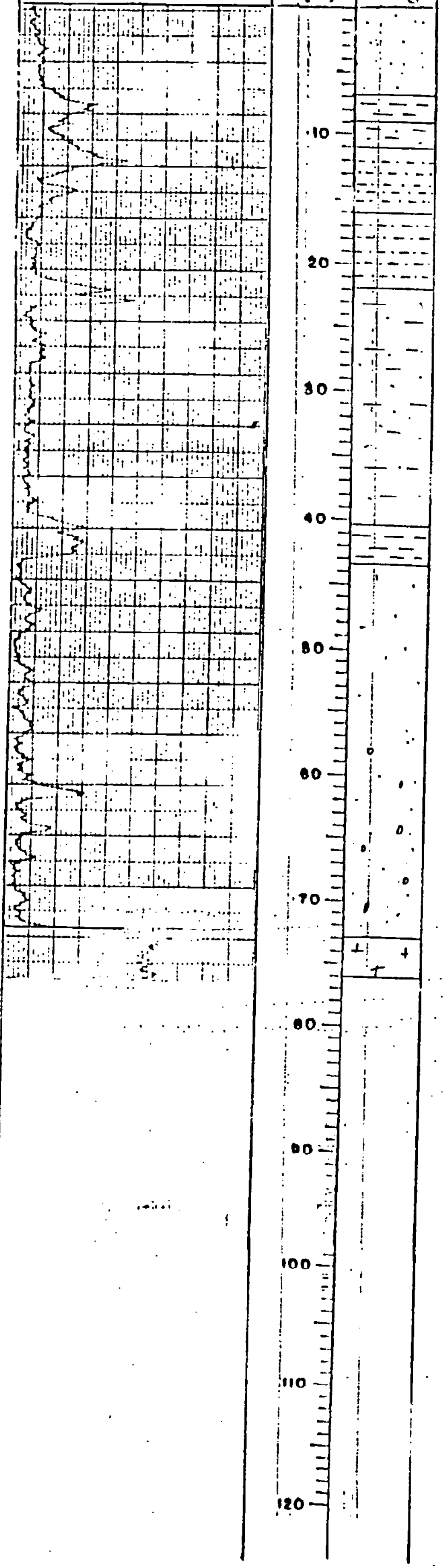
R.L. collar

Air On

Water 0-76m 0 70

Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log



SAND (AEOLIAN) f gr rounded orange brown.

CLAY grey green

SANDY CLAY grey green v f gr qtz

SILTY SAND v.f gr. grey minor yellowish lenses.

SILTY SAND dark brown lignitic
v f gr rounded qtz.

CLAYEY SAND c gr sub rounded qtz
dark brown-brown

CLAY brown black lignitic

SAND c gr sub rounded.
humic staining

V. c grt (up to 0.5cm)

GRANITE

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IK 58

0 71

Project

Prospect EL 442 ILKINA

Location

Depth 92m

Grid co-ords

AMG

Contractor W.L. SIDES + SON

Date 8-5-79

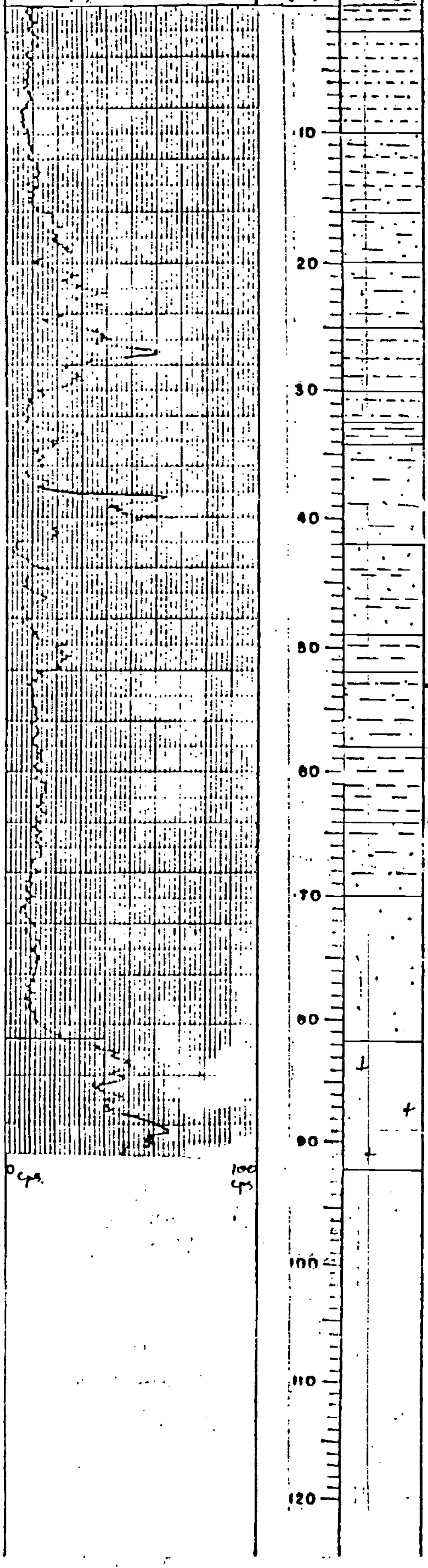
R.L. collar

Air

Water 0-92m

Logged by G. HOOPER

Geophysical Log Type | **Depth (m)** | **Strip Log** | **Ox** | **Lithological Log**



CLAYEY SILT brown

SILTY SAND F gr rounded orange brown

CLAYEY SILTY SAND brown F gr.

CLAYEY SAND white cream
+ SAND Ferruginous.

CLAY SANDY CLAY red.
grey cream

SILTY CLAY grey green.

SILTY SAND VF gr qtz grey green.
CLAY black-dark brown.

CLAYEY SAND) F gr qtz rounded dark brown.
SANDY CLAY

SAND c gr sub rounded
CLAY lenses black carbonaceous.

CLAY dark brown-black carbonaceous.

SANDY CLAY F gr rounded qtz dark brown
with Fine needle like mineral.

CLAY black carbonaceous + needle like min.

SANDY CLAY F-c gr qtz dark brown-black

SAND c gr subrounded-sub angular
humic staining

GRANITE wthd qtz + sericitic clay cream grey

qtz biotite intergrowths.

HOLE NO. IR 59

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

0 72

Project
Prospect EL 442 ILKINA
Location
Depth 104m

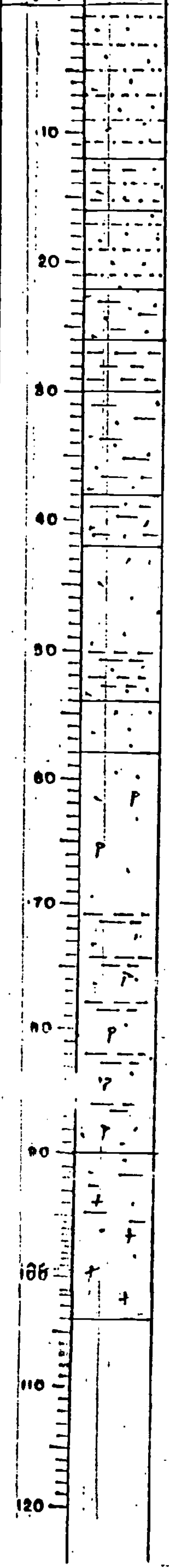
Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 8-5-79

R.L. collar
Air 0m.
Water 0-104m
Logged by G. HOOPER

Geophysical Log Type

NO CHART RECORD
ALL < 100 cps.

Depth (m) **Strip Log** **Ox**



Lithological Log

SILTY SAND f gr orange brown

CLAYEY SILTY SAND vf gr qtz, creamy grey

SILTY SAND vf gr qtz grey green

CLAYEY SAND F gr rounded qtz dark brownish

CLAY dark brown - black carbonaceous

SANDY CLAY f-c gr qtz brown clay matrix

CLAY-SANDY CLAY black carbonaceous with needle like crystals.

SAND f-c gr qtz sub rounded. humic staining

lenses CLAY brownish

SAND f-c gr qtz subrounded

SAND m-c gr qtz sub rounded. minor pyrite, humic staining

lenses CLAY black brown.

SANDY CLAY / WTHED GRANITE m-c gr qtz with white kaolinitic matrix minor pyrite (contam?).

GRANITE

HOLE No. IK60

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

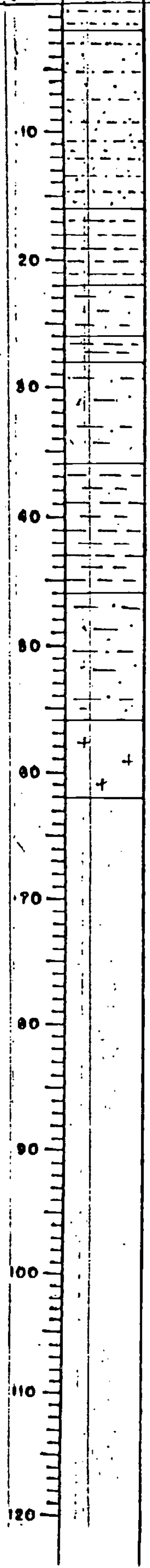
0 73

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air O
Location	Contractor W.L. SIDES + SON	Water O-62m
Depth 62m	Date 8-5-79	Logged by G. HOOPER

Geophysical Log Type

NO CHART RECORD
ALL < 100 cps.

Depth (m) | **Strip Log** | **Ox**



Lithological Log

SANDY SILT brown.

SILTY SAND F gr orange brown

SILTY CLAY vF gr qtz
grey green + dark red.

SANDY CLAY + cream grey
CLAY brown grey

CLAY grey green.

SANDY CLAY + grey green
CLAY

CLAY black carbonaceous
" brown

SANDY CLAY c gr sub rounded qtz
cream brown clay matrix

GRANITE

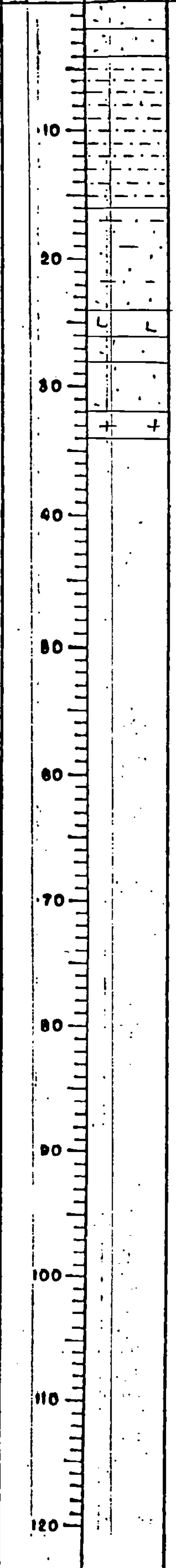
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IP61

Project
Prospect EL 442 ILKINA.
Location
Depth 34m.

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 9-5-79

R.L. collar
Air 0m
Water 0-34m
Logged by G. HOOPER

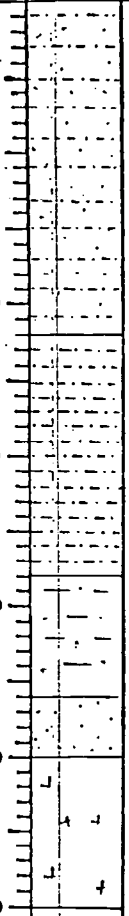
Geophysical Log Type	Depth (m) / Strip Log	Ox	Lithological Log
NO CHART RECORD ALL < 100cps.			SAND grey brown F-m gr. " F gr cream SANDY SILT F gr, orange brown. CLAYEY SAND dark red Ferruginous. LATERITE orange yellow SANDY CLAY F gr qtz with white cream clay matrix (wthd granite ??) " grey green GRANITIC ROCK

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. I262A

0 75

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air O
Location	Contractor W.L. SIDES + SON	Water 0-60m
Depth 60m	Date 9-5-79	Logged by G. HOOPER.

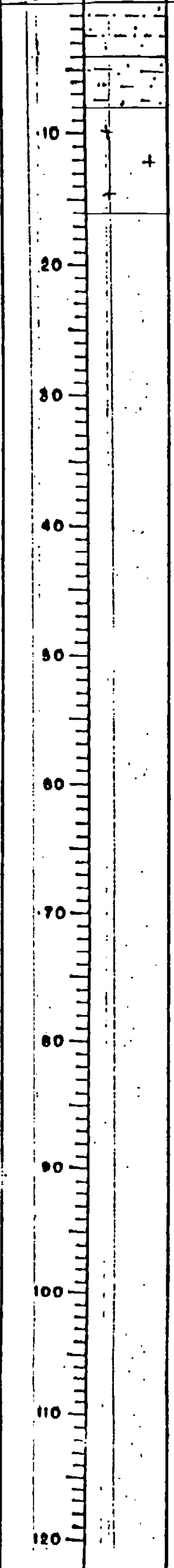
Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NO CHART RECORD ALL < 100 cps	10 20 30 40 50 60 70 80 90 100 110 120			SILTY SAND F-M gr rounded light orange brown. SANDY SILT red brown. SANDY CLAYS grey green F gr qtz. SAND. F-m gr rounded SAND yellow brown F-m gr rounded. GRANITE wthed c gr angular qtz with kaolinitic matrix. minor mafic intergrowths in qtz.

HOLE NO. IC63

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air 0m
Location	Contractor W.L. SIDES & SON	Water 0-16m
Depth 16m	Date 9-5-79	Logged by G. HOOPER

0 76



Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED.				SILTY SAND light brown.
				CLAYEY SAND & SILCRETE F. gr Ferruginous.
				GRANITE : c. gr angular q/z with wh. Feldspar intergrowths

HOLE No. IK64

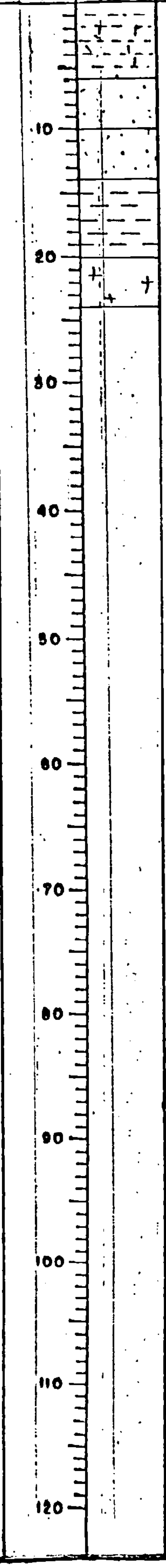
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project
Prospect EL 442 ILKINA
Location
Depth 24m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 9-5-79

R.L. collar
Air On
Water 0-24m 0 77
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED				KUNKAR & CALCAREOUS SILT SAND + SILCRETE F. gr. creamy brown SAND F. gr. grey CLAY black, carbonaceous GRANITE grey qtz Felds. intergrowths



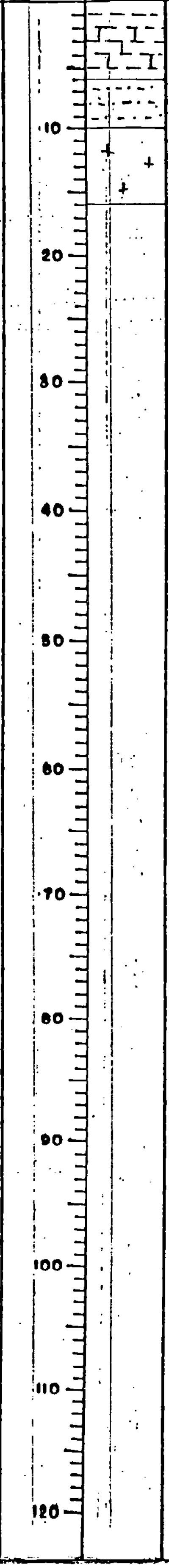
CARPENTARIA EXPLORATION COMPANY PTY. LTD.

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR65

0 78

Project	Grid co-ords	R.L. collar
Prospect *EL 442 ILLINA*	AMG	Air *0m*
Location	Contractor *W.L. SIDES & SON*	Water *0-16m*
Depth *16m*	Date *10-5-79*	Logged by *G. HOOPER*

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
				KUNKAR + CALCAREOUS SILT SILTY SAND brown. GRANITE wthd

HOLE No. IP 66

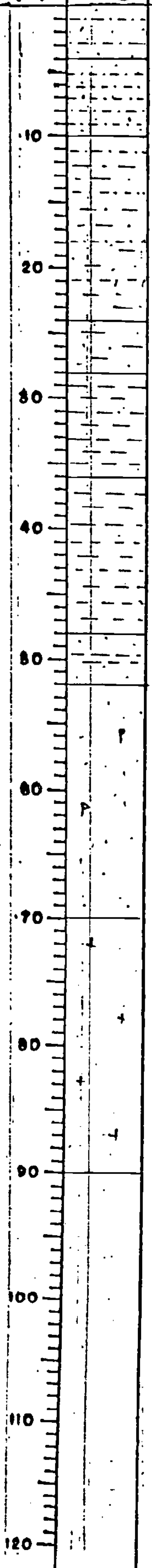
GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project	**Grid co-ords**	**R.L. collar**
Prospect EL 442 ILUNA	**AMG**	**Air** O
Location	**Contractor** W.L. SIDES & SON	**Water** O-90m
Depth 90m	**Date** 10-5-79	**Logged by** G. HOOPER

0 79

Geophysical Log Type | **Depth (m)** | **Strip Log** | **Ox** | **Lithological Log**

NO CHART RECORD
ALL < 130 cps.



SILTY SAND f-m gr red

SILTY SAND light brown

SILTY CLAYEY SAND F gr rounded qtz
red minor grey greenish

CLAYEY SAND grey green.

CLAY white - cream

CLAY & white
SILT light brown

SAND f-m gr rounded
CLAY lense black carbonaceous.

SAND c gr qtz sub angular
minor f gr pyrite

GRANITE mottled c gr ang qtz
+ white clayey matrix

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

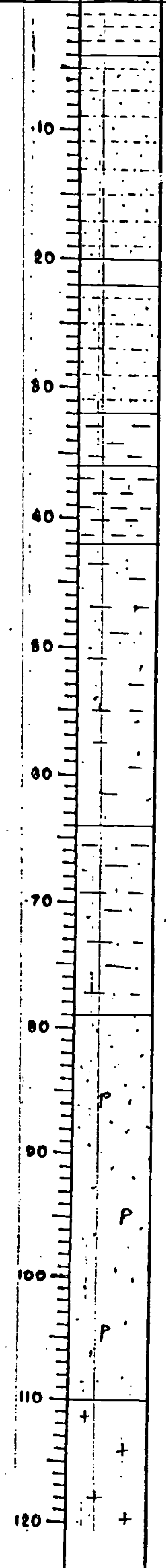
HOLE NO. IR6

Project
Prospect EL 442 ILKINA
Location
Depth 126m

Grid co-ords
AMG
Contractor W.L. SIDES + SON
Date 10-5-79

R.L. collar
Air 0m
Water 0-126m 80
Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NO CHART RECORD ALL < 100 cps				



SILT calcareous light brown.

SILTY SAND light red brown

" red brown

FERRUGINOUS BAND

SILTY SAND red brown

CLAY-SANDY CLAY pink
" grey green.

CLAY white - grey brown

CLAYEY SAND a F gr qtz pink
SANDY CLAY " grey brown minor yellow.
CLAY limonitic yellow

CLAY + SANDY CLAY black brown F gr qtz.
minor m gr qtz.

SAND m gr. sub rounded.
humic staining
minor pyrite

GRANITE

HOLE No. IR 67

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project
Prospect
Location
Depth 126

Grid co-ords
AMG
Contractor
Date

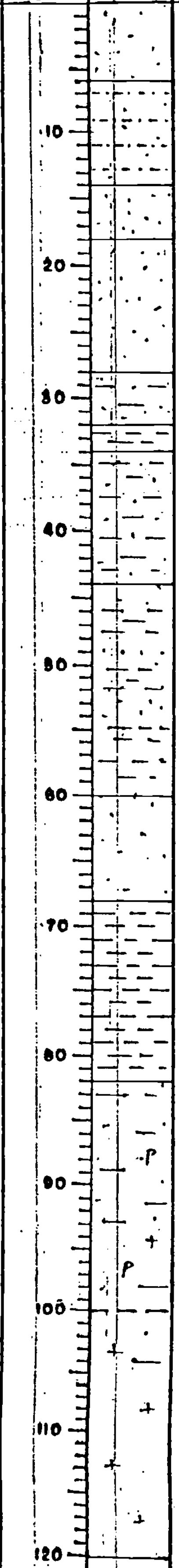
R.L. collar
Air 0 81
Water
Logged by

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
	130			

HOLE No. IR68

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

Project	Grid co-ords	R.L. collar
Prospect EL 442 ILKINA	AMG	Air O
Location	Contractor W.L. SIDES & SON	Water 0-120m
Depth 120m	Date 11-5-79	Logged by G. HOOPER

Geophysical Log Type	Depth (m)	Strip Log	Ox	Lithological Log
NOT LOGGED				SANDY SOIL & SILCRETE SILTY SAND F gr light red brown SILCRETE & SAND SAND F-m gr rounded orange (AEOLIAN) CLAY-SANDY CLAY grey green & brown grey CLAY grey brown SANDY CLAY & CLAY F gr qtz. grey ↓ brown SAND & CLAY F gr qtz varicoloured grey white limonitic yellow white SAND m-c gr humic staining. CLAY brown black. carbonaceous. SANDY CLAY - SAND m-c gr greyish qtz minor pyrite GRANITE? m-c gr angular qtz in a kaolinitic matrix } gradational change from sediment to bed-rock

GEOLOGICAL AND GEOPHYSICAL LOG - ROTARY DRILLHOLE

HOLE No. IR 69

Project
Prospect EL 442 ILUNA
Location
Depth 66m

Grid co-ords
AMG
Contractor W.L. SIDES & SON
Date 11-5-79

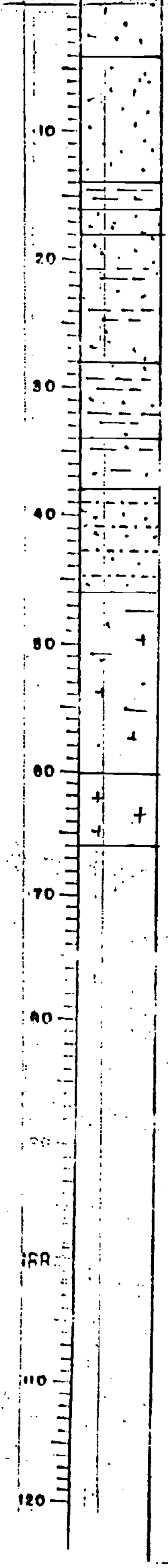
R.L. collar
Air o
Water 0-66m
Logged by G. HOOPER

0 83

Geophysical Log Type

NOT LOGGED
(Logger Malfunction)

Depth (m) | Strip Log | Ox



Lithological Log

SAND light brown.
(AEOLIAN)

SAND F gr red brown.
(AEOLIAN)

CLAY light grey brown
SAND (AEOLIAN) F gr yellow brown
SAND & F gr brownish (AEOLIAN)
CLAY hard grey brown

CLAY as above
SAND F gr white

SANDY CLAY F gr qtz white - grey

SAND, SILTY SAND F gr pale yellow brown

SANDY CLAY / WTHED GRANITE
white-yellow-red F-m gr qtz

GRANITE

APPENDIX B

ASSAY RESULTS

- oOo -

ADELAIDE
Tel.: 272 5733

~~SYDNEY~~

ANALYTICAL RESULTS

A.C.S. Laboratories Pty. Lt

50 Mary Street,
(P.O. Box 3),
UNLEY. 5061.

Samples from: Carpentaria Exploration Co.Pty.Ltd.

Area:

0 85

Samples of: Rock Chip.

Preparation: Crush and pulverize.

Sheet No.: 1.

Batch No.: S_X A 2920.

Date: 30/5/79.

SAMPLES WILL BE DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description	U308 ppm		
428343	3.2	IR 30	32-34m
362	4.0	IR 31	32-34m
369	2.7		46-48m
374	2.7		56-58m
388	1.9		84-86m
391	2.4		90-92m
392	9.4		92-94m
394	2.9		96-98m
420	1.7	IR 24A	40-42m
425	2.2		50-52m
428	1.1		56-58m
435	0.6		70-72m
443	2.4		86-88m
472	2.5	IR 23A	38-40m
481	1.9		56-58m
492	2.2		78-80m
515	4.0	IR 9A	30-32m
517	4.7		34-36m
428545	1.1	IR 32	48-50m
Repeat and check -			
428420	1.5		

ANALYTICAL METHODS: U. by Fluorimetry.

LEGEND

20 BASEMENT ELEVATION IN METRES ABOVE SEA LEVEL.

NOTE : BASED ON LIMITED DRILLHOLE INFORMATION WITH RL's OF DRILL HOLE COLLARS TAKEN FROM 1:50 000 TOPOGRAPHIC SHEETS (10 m contour interval)

REVISION		
		SCALE: 1:100 000
		GEOL.: G. J. H.
		DRAFT: R. V.
		CHECKED:
		DATE: July 1979
		MICROFILMED:
		ROLL Nº:
		MINING FIELD OR DISTRICT: 3420(I)-1

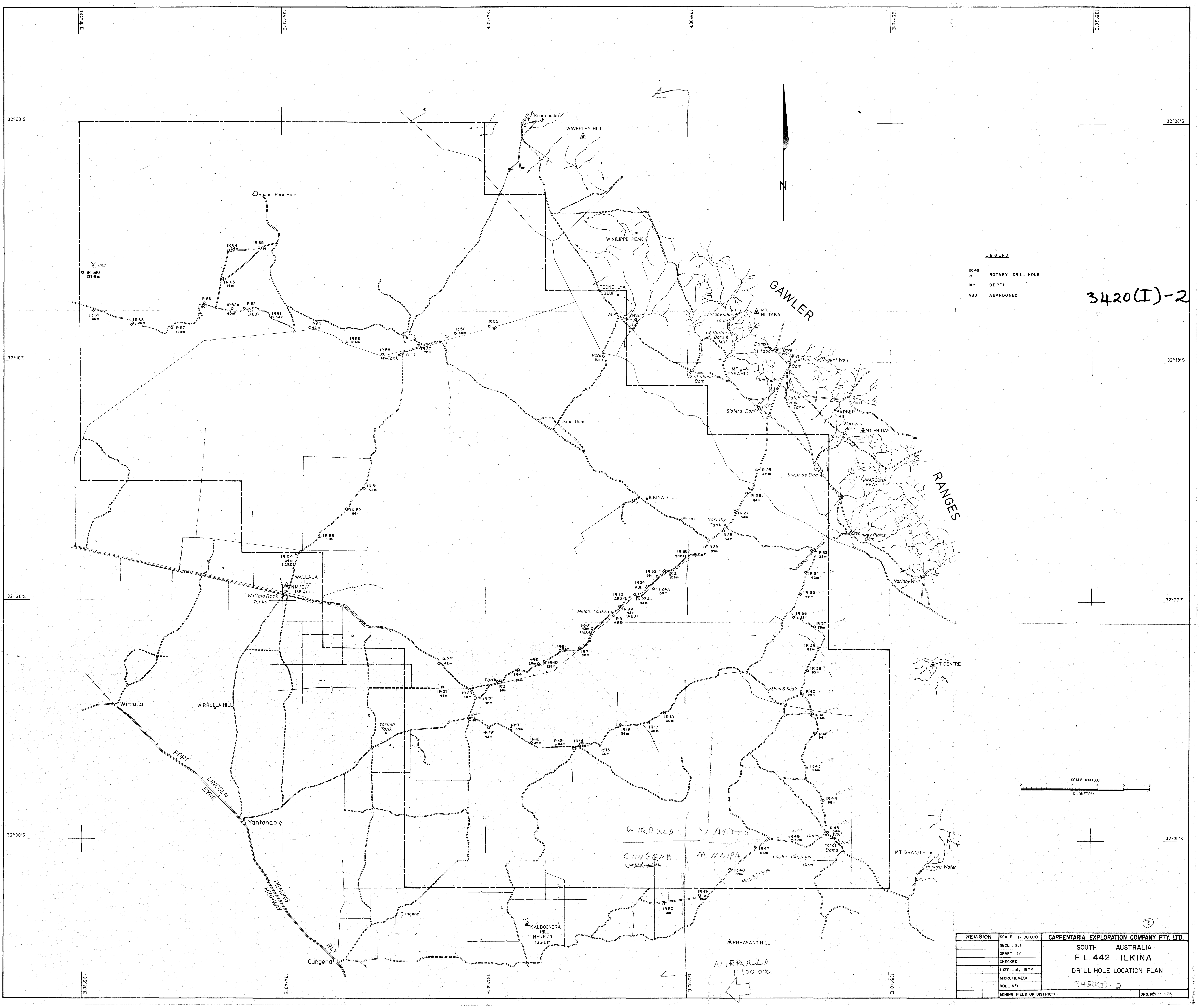
CARPENTARIA EXPLORATION COMPANY PTY. LTD.

SOUTH AUSTRALIA

E.L. 442 ILKINA

PROVISIONAL BASEMENT CONTOUR PLAN

DRG. Nº: 19 976



LEGEND

IR 49 ○ ROTARY DRILL HOLE
18m DEPTH
ABD ABANDONED

3420(I)-2

⑮

REVISION		SCALE: 1:100 000	CARPENTARIA EXPLORATION COMPANY PTY. LTD.
		GEOL.: GJH	SOUTH AUSTRALIA
		DRAFT: RV	E.L. 442 ILKINA
		CHECKED:	
		DATE: July 1979	DRILL HOLE LOCATION PLAN
		MICROFILMED:	
		ROLL Nº:	3420(I)-2
		MINING FIELD OR DISTRICT:	DRG. Nº: 19 975

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED OCTOBER 7, 1979.

1. TERMS AND CONDITIONS

The Exploration Licence covers an area of 2388 km^2 approximately 100 km east of Ceduna. It was granted for a term of one year commencing on January 8, 1979. The expenditure requirement on the licence is $70 000 for the full term.

2. EXPLORATION

Drilling Results

A map showing a possible channel outline based on the results of the drilling programme has been compiled. (Drawing number 19987)

This channel appears to be tending north-west - south-east possibly greater than 10 km wide. Two tributary channels have been located on the southern side of the main channel (IR 2, IR 13) which may converge into one before joining the main channel. The Ilkina Hill basement high resulted in a branch of the main channel flowing on the north-eastern side of the high. To the north-west the channel has been divided by a prominent basement high which outcrops west of IR 65.

At present not enough data is available to positively identify the direction of flow. However, the more likely direction is to the north-west into the then active Eucla Basin. To the south-east of the area, widespread granitic highs would tend to favour the development of a series of narrow channels joining to form a main channel flowing to the north-west.

The stratigraphy outlined by the drilling was summarized in the last quarterly report and has been compiled into a series of provisional

RECEIVED
29 OCT 1979
DEPT. OF MINES
AND ENERGY
SECURITY
3420

sections which are appended to this report. (Drawing numbers 19982 - 19985)

The holes were drilled to basement where possible which was generally of granitic composition and frequently pyritic. The extent of weathering varied from virtually unweathered fresh granite underlying some of the channel areas to more frequently a highly weathered kaolinite-coarse grained angular quartz rock.

Overlying the basement and in-filling the channels was a major sand unit which ranged up to a maximum thickness of 65 m in drill hole IR 31 (tracing 19982). This sand was invariable composed of very coarse grained, subrounded to subangular poorly sorted quartz grains. Apart from the sands in drill holes IR 26 and 27 all were in a completely reduced state with abundant humic staining and widespread minor fine grained pyrite either as individual grains or coarse aggregates. Within the sand unit are minor interbedded clay bands which are usually brown to black and often lignitic.

The sand intersected in IR 26 and 27 differs in that no humic staining or pyrite is present and the grains are coated with ? hematite which would indicate an oxidising state. It is not known if this is part of the main channel or a tributary channel but it does occur at a higher stratigraphic level than the main channel. Further work is required to fully determine the significance of this sand.

Much of the area is then overlain by a major accumulation of lacustrine? clays which vary from grey to grey green to black. These are best developed in the central and south-eastern part of the area while to the north significant silty deposits occur.

A typical aeolian sand deposit, fine grained well rounded and sorted quartz grains, overlies the clays and silts forming the uppermost lithological unit. This sand varies up to maximum thickness of 43 m (IR 10).

Resistivity Survey

Preliminary results have been received for the resistivity survey carried out along the north-eastern side of the area. The main purpose of this was to locate any possible tributary channels coming off of the Hiltaba Granite. No tributary channels were located.

A possible channel feature was located along the fence east of IR 55. The results suggest that oxidized sediments infill in the channel and this would indicate that the channel is a continuation of the one located to the south-east in IR 26 and 27.

A traverse was also completed over the drilled area from IR 1 to IR 7 to check the effectiveness of the resistivity method. The results compared fairly well with the known depths to basement.

A complete set of final results will be submitted with the next quarterly report.

R.E. Darlington
Administration Manager

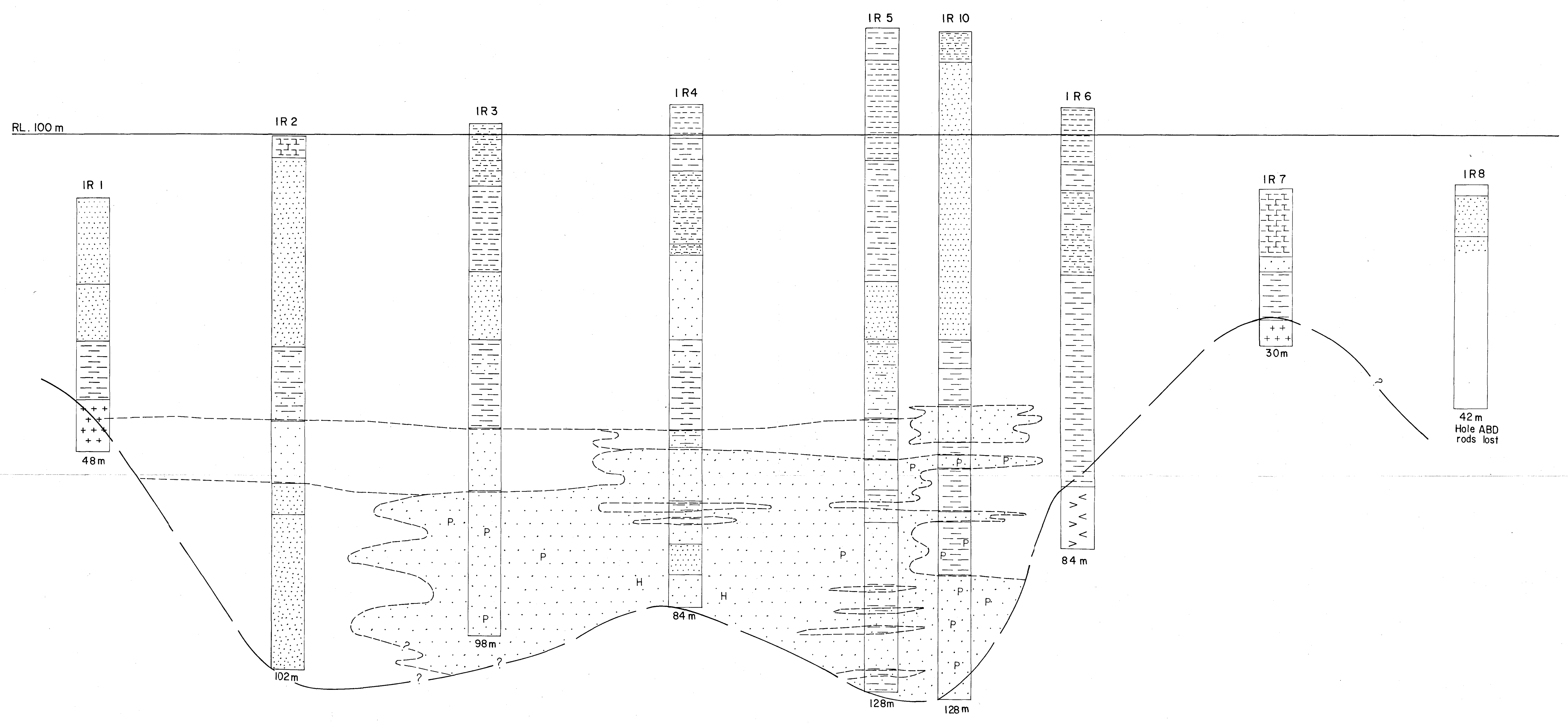
CARPENTARIA EXPLORATION COMPANY PTY. LTD.

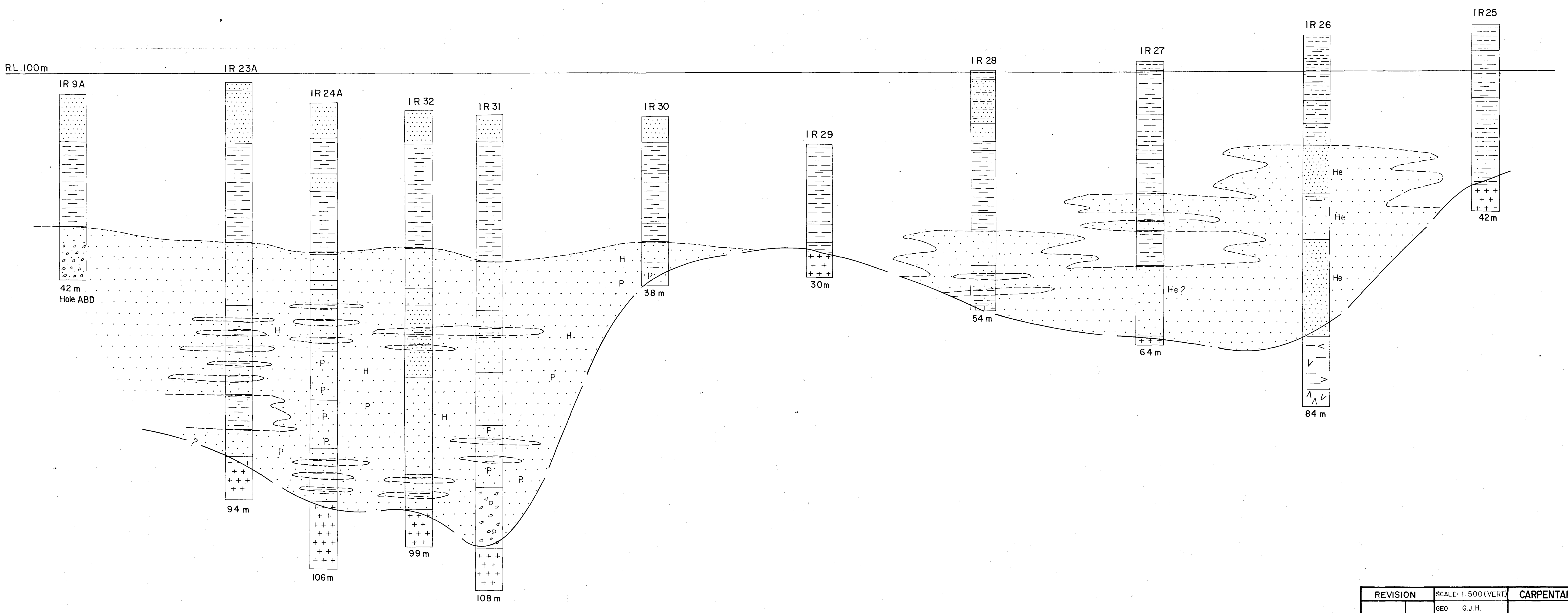
EXPLORATION LICENCE NO. 442 "ILKINA"

STATEMENT OF EXPENDITURE FOR QUARTER ENDED OCTOBER 7, 1979

	$	$
Administration	1 154	
Assaying	107	
Consultant Fees	15 485	
Drilling	110	
Equipment Charges	412	
Operating Labour	6 140	
Stores	103	
Transport	604	
Travelling Expenses	106	
Total This Period	24 221	24 221
Expenditure Already Reported - Current Term		
Quarter Ended April 7, 1979	4 958	
Quarter Ended July 7, 1979	87 314	
TOTAL EXPENDITURE - CURRENT TERM	92 272	92 272
Total Project Expenditure to Date		$116 493

R.E. Darlington
Administration Manager





LEGEND

▨	SAND f-m grained
▨	SAND c grained
▨	GRAVEL
▨	CLAY
▨	SILT
▨	CALCAREOUS SILT minor KUNKAR
+ + +	GRANITIC BASEMENT
Λ Λ	ACID VOLCANIC ?
V V	PORPHYRY
> <	BASIC VOLCANIC
▨	SERICITE, CHLORITE, BIOTITE, SILICEOUS SCHIST
H	Humic staining occassional carbonaceous trash
P	Pyritic
He	Hematite staining

Note: R.L. of drill collars is only approximate being derived from the 1:50,000 Topographic sheets (contour interval 10m) combined with stratigraphic correlation between drillholes.

Drillhole spacing 2 km

REVISION

SCALE: 1:500 (VERT)
GEO G.J.H.
DRAFT:
CHECKED:
DATE:
MICROFILMED:
ROLL Nº:
MINING FIELD OR DISTRICT: 3420(I)-3

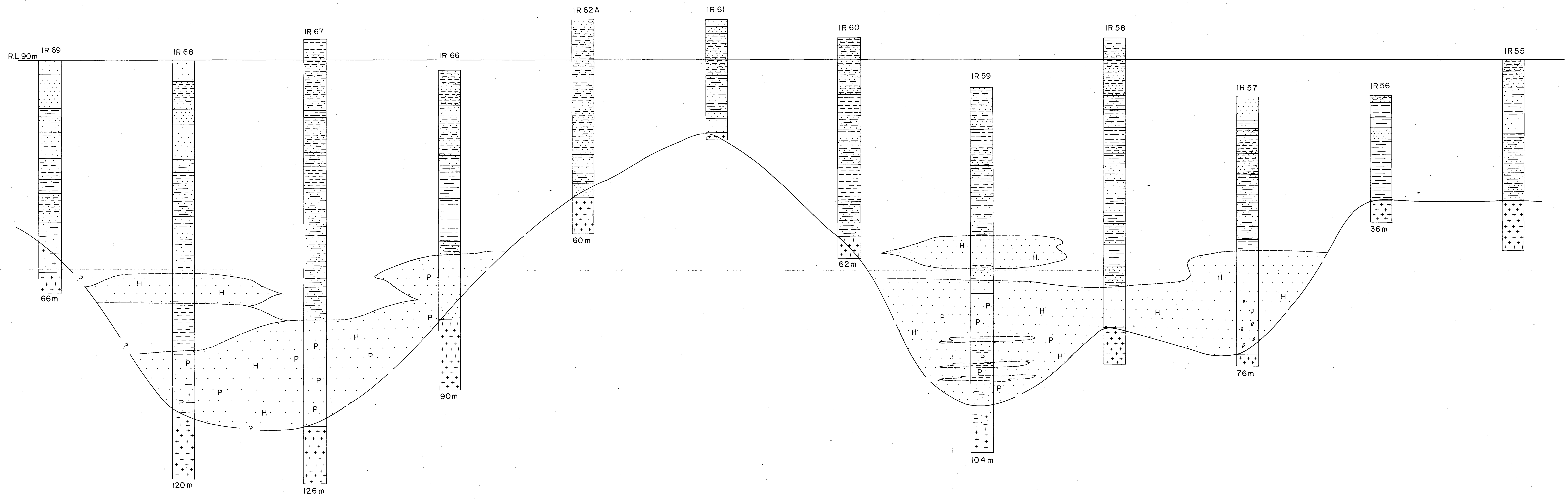
CARPENTARIA EXPLORATION COMPANY PTY. LTD.

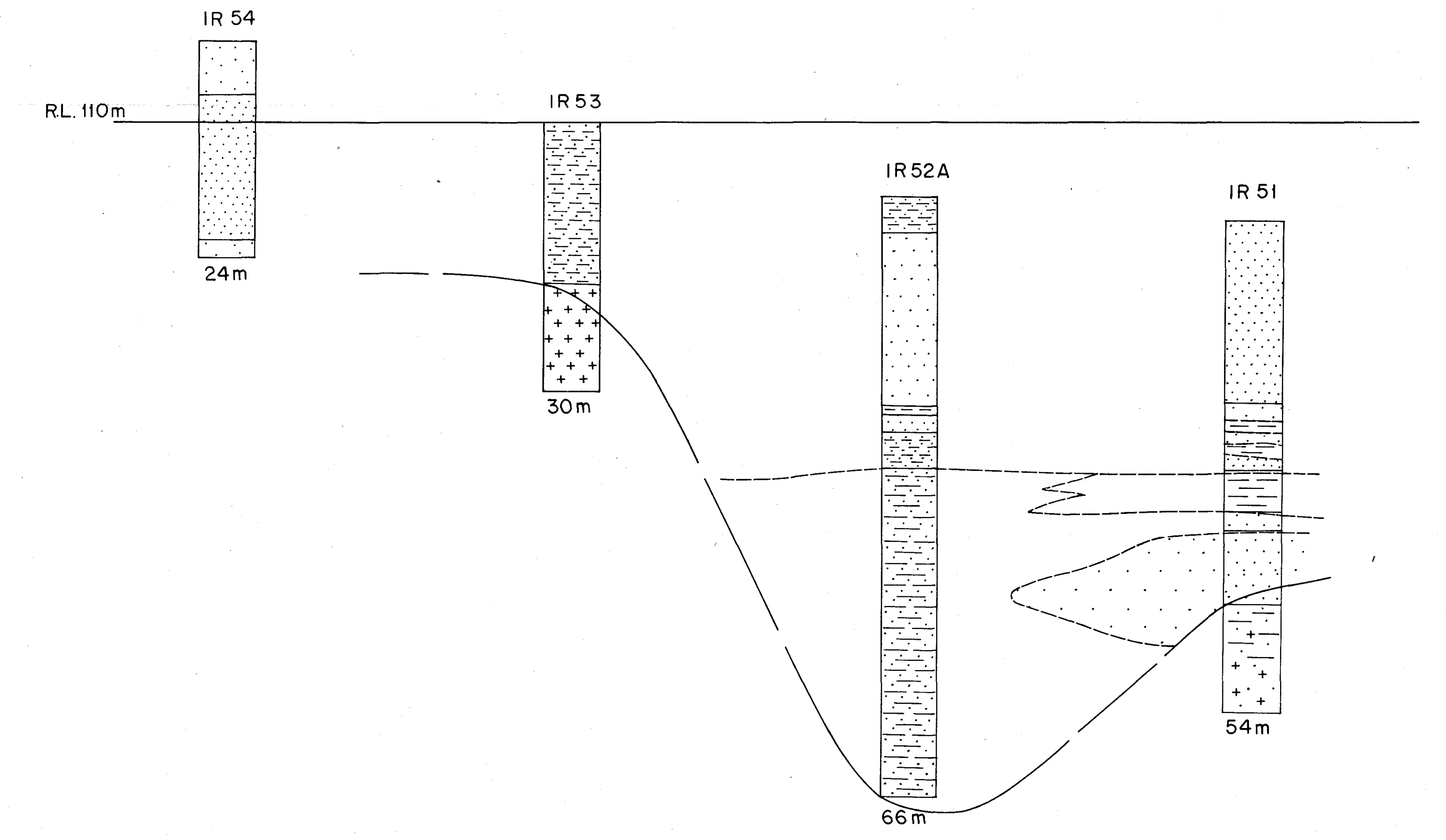
EL 442 ILKINA

SIMPLIFIED DIAGRAMATIC SECTION

CENTRAL TRAVERSE

DRG. Nº: 19982



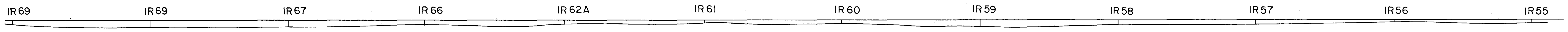


LEGEND

▨	SAND f-m grained
∴	SAND c grained
○	GRAVEL
☰	CLAY
☰	SILT
⊥	CALCAREOUS SILT minor KUNKAR
+ + +	GRANITIC BASEMENT
∧ ∧	ACID VOLCANIC ?
V V	PORPHYRY
> <	BASIC VOLCANIC
≈	SERICITE, CHLORITE, BIOTITE, SILICEOUS SCHIST
H	Humic staining occassional carbonaceous trash
P	Pyritic
He	Hematite staining

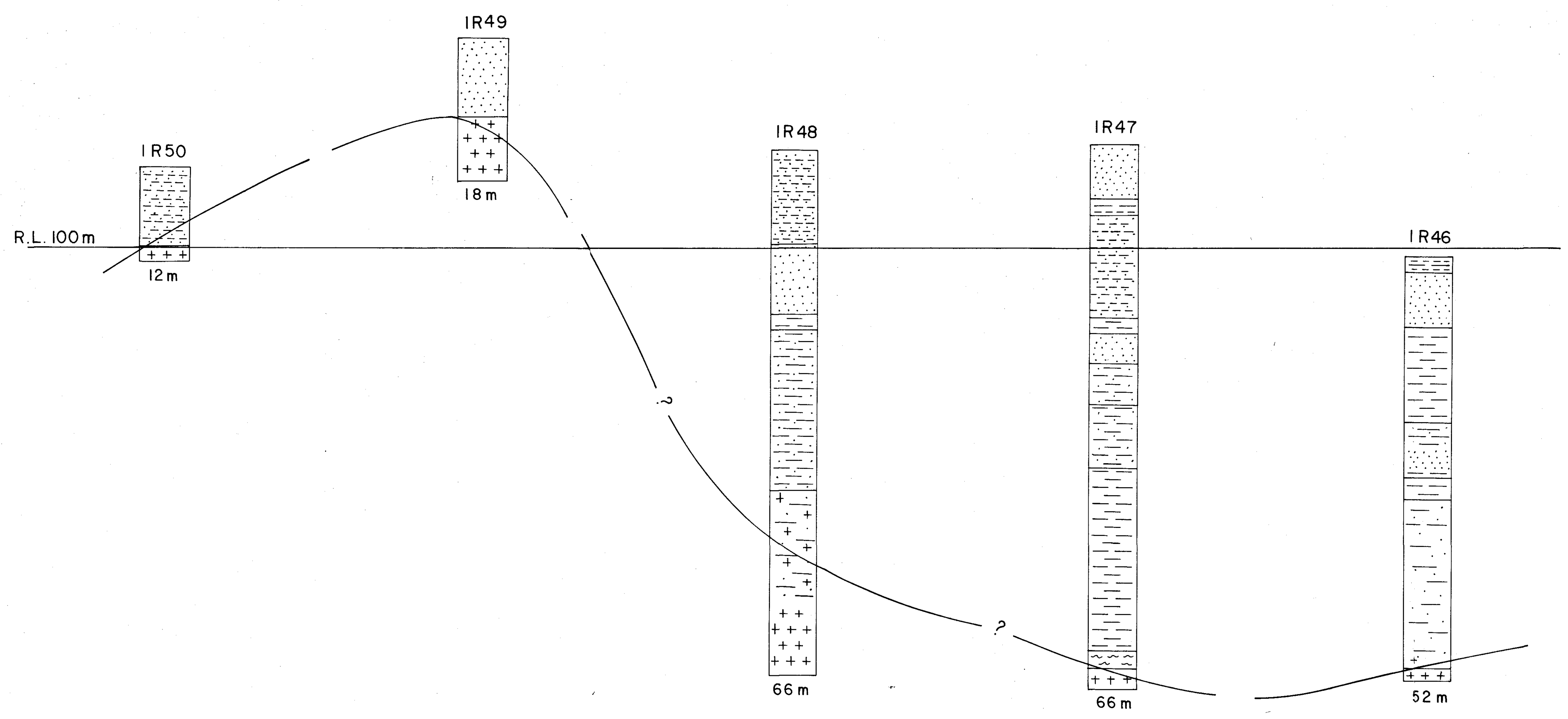
NOTE: R.L. of drill collars is only approximate being derived from the 1:50 000 Topographic sheets (contour interval 10m) combined with stratigraphic correlation between drillholes.

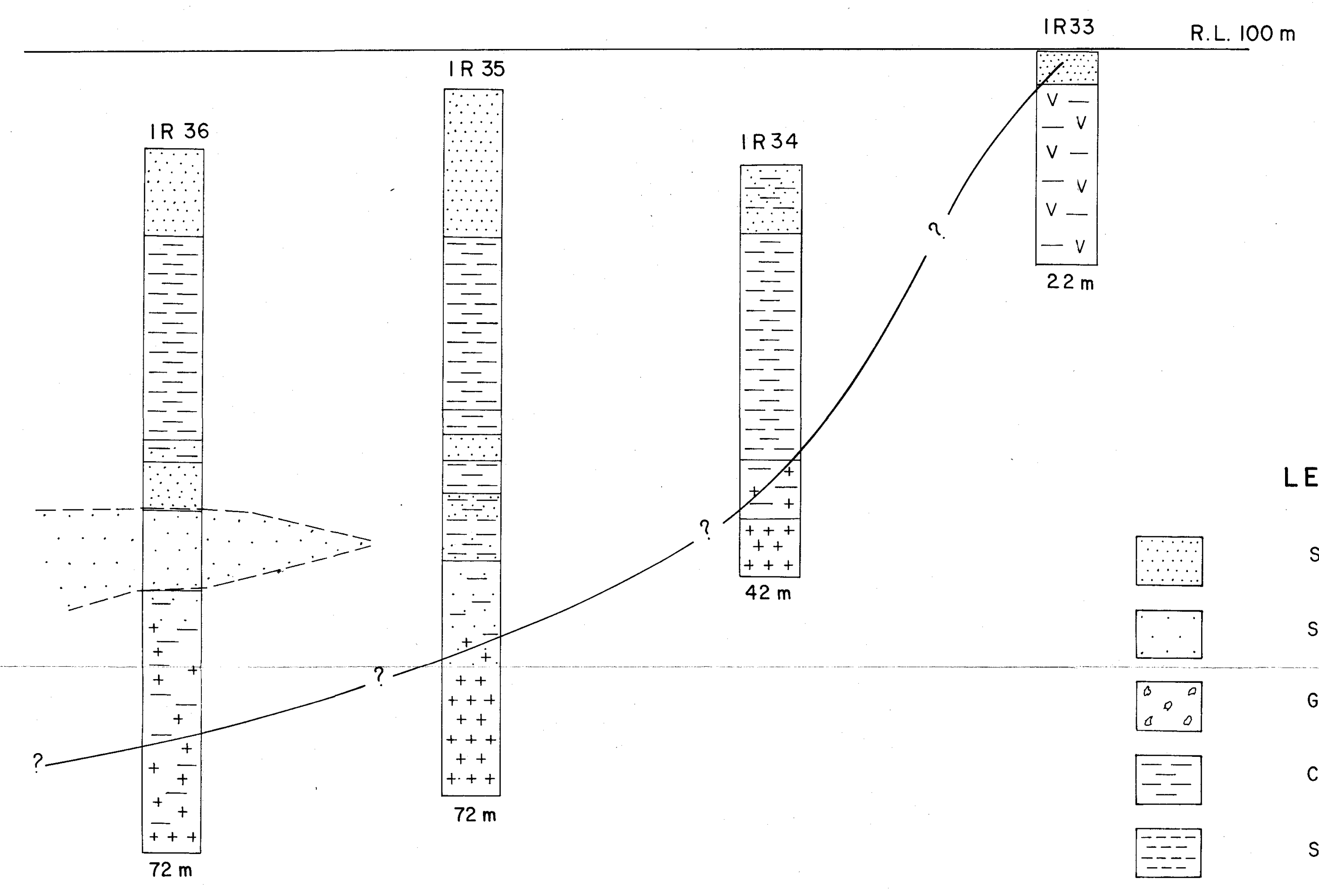
Drillhole spacing 3 km.

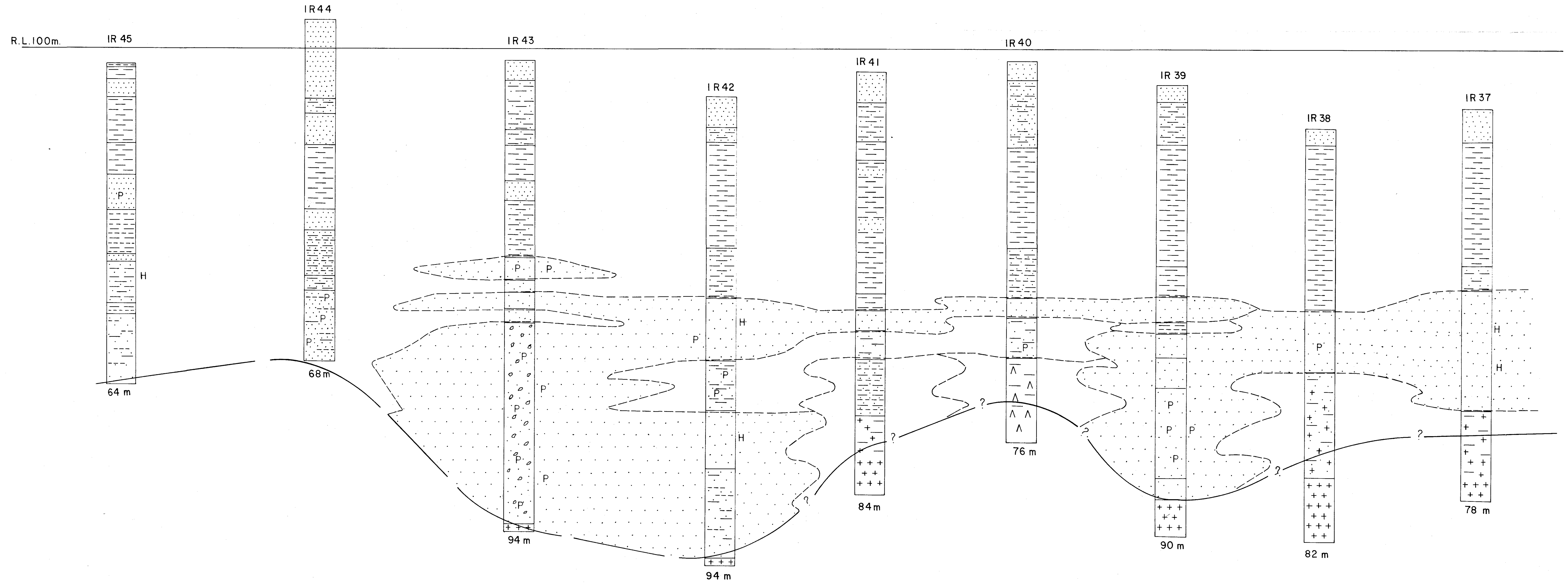


SECTION DRAWN TO SCALE (Horizontal & vertical scale 1:50000)

REVISION		SCALE: 1:500 (VERT.)	CARPENTARIA EXPLORATION COMPANY PTY. LTD.
		GEO G.J.H.	E.L. 442 ILKINA
		DRAFT: R.V.	
		CHECKED:	SIMPLIFIED DIAGRAMATIC SECTION
		DATE: August 1979	NORTH WESTERN TRAVERSE
		MICROFILMED:	
		ROLL Nº:	
		MINING FIELD OR DISTRICT: 3420(I)-4	DRG. Nº: 19 983







LEGEND

░	SAND f-m graired
⋯	SAND c grained
°	GRAVEL
—	CLAY
═	SILT
⊥	CALCAREOUS SILT minor KUNKAR
+ + +	GRANITIC BASEMENT
Λ Λ	ACID VOLCANIC ?
V V	PORPHYRY
> <	BASIC VOLCANIC
~ ~	SERICITE, CHLORITE, BIOTITE, SILICEOUS SCHIST
H	Humic staining occassional carbonaceous trash
P	Pyritic
He	Hematite staining.

NOTE: R.L. of drill collars is only approximate being derived from the 1:50,000 Topographic sheets (contours interval 10 m.) combined with some stratigraphic correlation between drillholes.

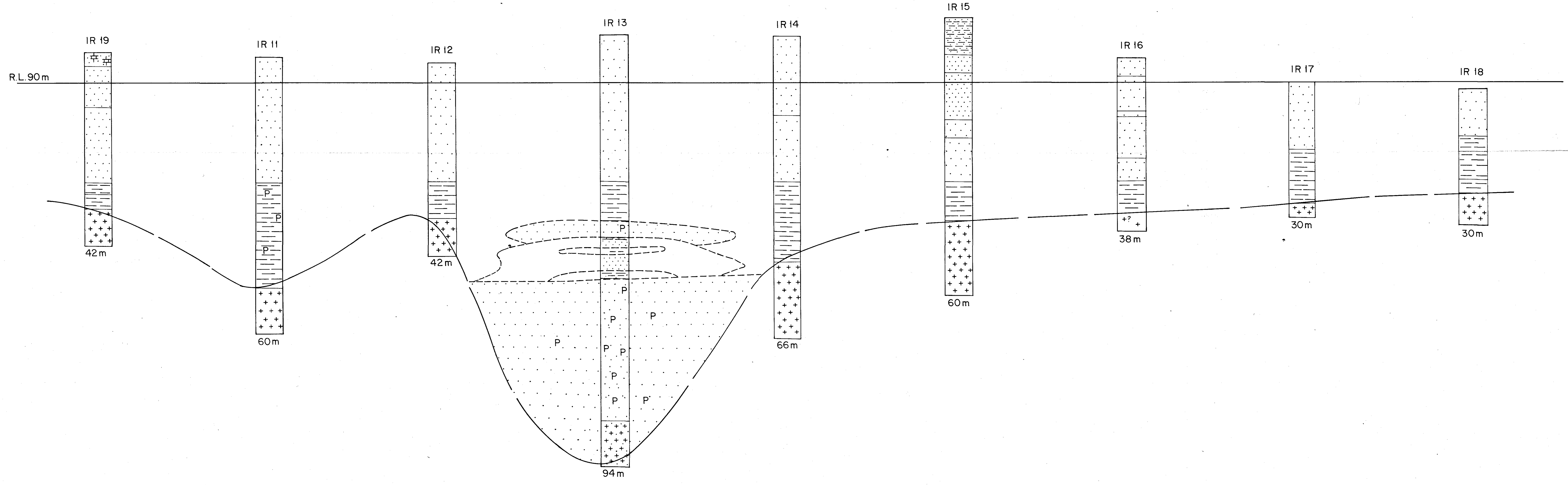
Drillhole spacing 2 km (IR 33 – IR 42)
3 km (IR 42 – IR 50)

REVISION
SCALE: 1:500 (VERT)
GEO G.J.H.
DRAFT:
CHECKED:
DATE:
MICROFILMED:
ROLL Nº:
MINING FIELD OR DISTRICT: 3420(I)-5

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EL 442 ILKINA
SIMPLIFIED DIAGRAMATIC SECTION
EASTERN TRAVERSE

DRG. Nº: 19 984



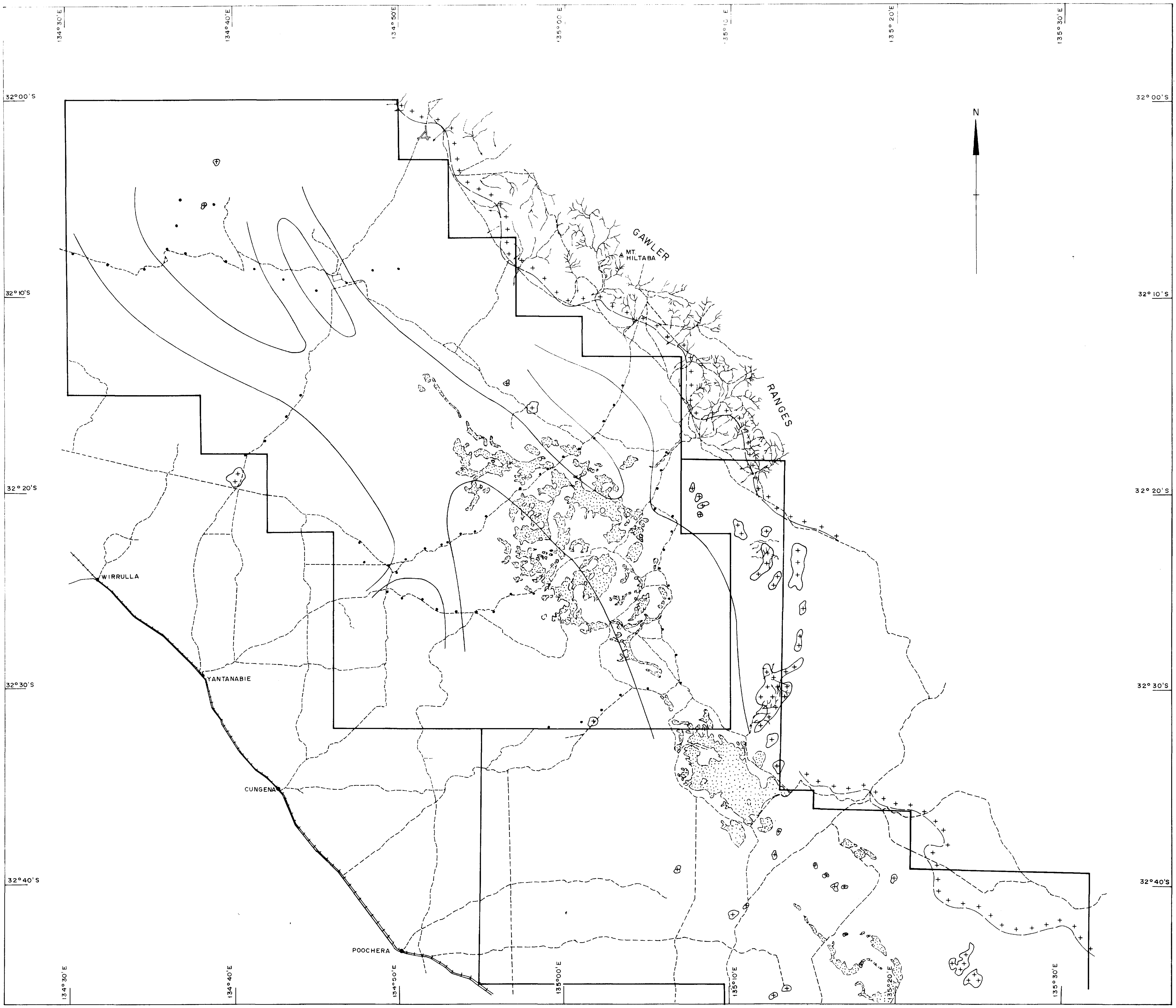
LEGEND

∴	SAND f-m grained
· ·	SAND c grained
o o	GRAVEL
≡	CLAY
☰	SILT
┴┬	CALCAREOUS SILT minor KUNKAR
+ + +	GRANITIC BASEMENT
Λ Λ	ACID VOLCANIC ?
V V	PORPHYRY
> <	BASIC VOLCANIC
≈ ≈	SERICITE, CHLORITE, BIOTITE, SILICEOUS SCHIST
H	Humic staining occassional carbonaceous trash
P	Pyritic
He	Hematite staining

NOTE: R.L. of drill collars is only approximate being derived from the 1:50000 Topographic sheets (contour interval 10m) combined with stratigraphic correlation between drillholes.

Drillhole spacing 2 km.

REVISION		SCALE: 1:500 (VERT.)	CARPENTARIA EXPLORATION COMPANY PTY. LTD.
		GEO G.J.H.	E.L. 442 ILKINA
		DRAFT: R.V.	
		CHECKED:	SIMPLIFIED DIAGRAMATIC SECTION
		DATE: August 1979	SOUTH-EASTERN TRAVERSE
		MICROFILMED:	
		ROLL Nº:	
		MINING FIELD OR DISTRICT: 3420 (I) – 6	DRG. Nº: 19 985



LEGEND

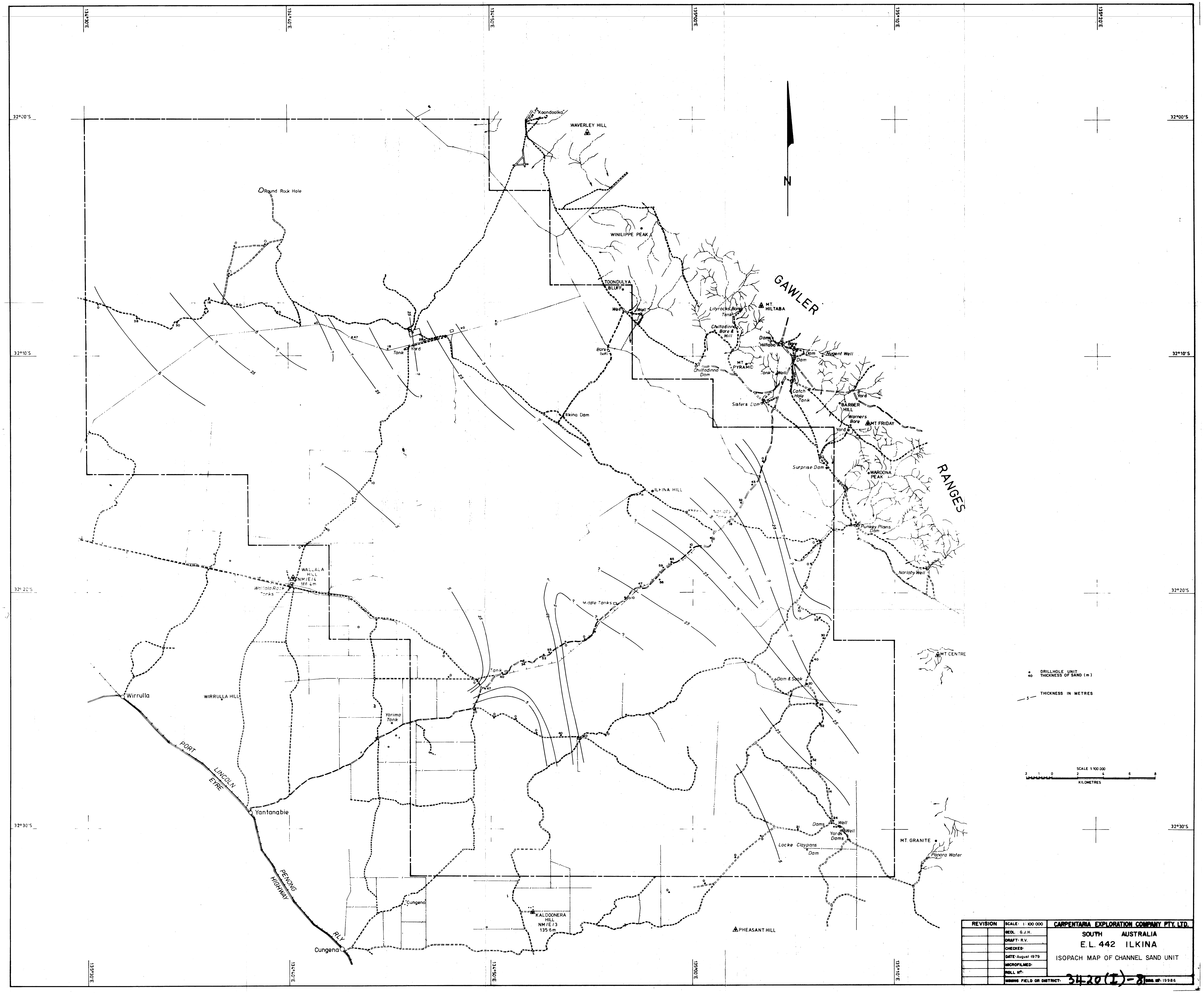
BASEMENT OUTCROPS

APPROX. EDGE OF BASEMENT (GRANITES, GAWLER RANGE VOLCANICS, AND CLEVE METAMORPHICS.)

INTERPRETED EDGE OF CHANNEL SYSTEM

● DRILL HOLES

REVISION	SCALE: 1: 250 000	CARPENTARIA EXPLORATION COMPANY PTY. LTD.
	GEO G.J.H.	E.L. 442 ILKINA SOUTH AUSTRALIA
	DRAFT: R.V.	
	CHECKED:	
	DATE: August 1979	MAJOR BASEMENT OUTCROPS & POSSIBLE CHANNEL LOCATION
	MICROFILMED:	
	ROLL Nº:	
	MINING FIELD OR DISTRICT: 3420(I)-7	DRG. Nº: 19 987



REVISION		SCALE: 1:100 000	CARPENTARIA EXPLORATION COMPANY PTY. LTD.
		GEOL. : G.J.H.	SOUTH AUSTRALIA E.L. 442 ILKINA ISOPACH MAP OF CHANNEL SAND UNIT
		DRAFT: R.V.	
		CHECKED:	
		DATE: August 1979	
		MICROFILMED:	
		ROLL Nº:	
		MINING FIELD OR DISTRICT: 3420(I)-8	DRG. Nº: 19986

II

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

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MINING TENEMENT

PROGRESS REPORT

EXPLORATION LICENCE NO.442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED JANUARY 7, 1980

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DEPT. OF MINES AND ENERGY
SECURITY
3420

DATE: January, 1980

COPY: Department of Mines &
Energy S.A.

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CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.442 "ILKINA"

STATEMENT OF EXPENDITURE FOR QUARTER ENDED JANUARY 7, 1980

	$	$
Administration	2 495	
Consultant Fees	(583)	
Operating Labour	4 243	
Stores	28	
Transport	25	
Total This Period	6 208	6 208
Already Reported - Current Term		
Quarter Ended April 7, 1979	4 958	
Quarter Ended July 7, 1979	87 314	
Quarter Ended October 7, 1979	24 221	
	116 493	116 493
TOTAL EXPENDITURE - CURRENT TERM		$ 122 701

R.E. Darlington,
Administration Manager

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.442 "ILKINA"

0 91

PROGRESS REPORT FOR QUARTER ENDED JANUARY 7, 1980

1. TERMS AND CONDITIONS

The Exploration Licence covers an area of 2388 km^2, approximately 100 km east of Ceduna. It was granted for a term of one year commencing on January 8, 1979. The expenditure requirement on the Licence is $70 000 for the full term.

An application to extend the term for a further one year was granted by the Department of Mines and Energy. The expenditure requirement is now $140 000 for the 2 year term.

2. EXPLORATION

2.1 Palynology

A selection of 18 samples was submitted to the South Australian Department of Mines and Energy for palynological age dating, the results of which are appended. The samples fall into 2 distinct age groups. The channel sediments are of Mid to Late Eocene age while the overlying lacustrine clays are Mid Pliocene in age, indicating the presence of a major disconformity at the top of the Ilkina channel.

2.2 Resistivity

The results of the resistivity traverses previously reported are included as Appendix 2.

3. EXPENDITURE

A statement of expenditure for the period is attached.

Darlington
....
R.E. Darlington,
Administration Manager

APPENDIX 1

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

0 94

Rept.Bk.No. 812

PALYNOLOGY OF SELECTED SAMPLES, E.L. 442 FOR CARPENTARIA EXPLORATION COMPANY PTY LTD.

SUMMARY REPORT.

GEOLOGICAL SURVEY

by

W.K. HARRIS
BIOSTRATIGRAPHY SECTION

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DEPT. OF MINES AND ENERGY
SECURITY
3420

November, 1979

E.L. No. 442
Biost.No. 10/9

CONTENTS PAGE

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

Rept.Bk.No. 812
E.L. No. 442
Biost. No. 10/9

PALYNOLOGY OF SELECTED SAMPLES, E.L. 442 FOR CARPENTARIA EXPLORATION COMPANY PTY LTD.

SUMMARY REPORT

INTRODUCTION

E.L. 442 is situated on western Eyre Peninsula north east of Streaky Bay and has been actively drilled by the Company in an attempt to define palaeodrainage channels. There is no surface expression of these except that the Corrobinnie Depression (Bourne et al., 1974) would appear to be a south easterly extension of the surface sand covered feature being investigated. The drill holes examined are representative of this feature both lengthwise and across it. All samples are cuttings and are thus subject to down hole contamination. No detailed palynology is presented in this report. The area lies between the Eucla Basin and Polda Basin where both Eocene and Late Tertiary assemblages have been recorded or described (Harris and Foster, 1974; Lindsay and Harris, 1975). More recently (Harris, 1979) an Eocene assemblage has been reported from the Streaky Bay town water supply bore.

RESULTS

Table 1 lists the bore number, depth and sample number and age determined by palynology, No palynological age determination is provided for barren samples.

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TABLE 1

Bore hole	Depth in metres	Sample No.	Age
IR6	34-36	S4795	Mid-Pliocene
IR10	62-65	S4805	Mid-Pliocene
IR10	89.5- 91.5	S4806	?Mid-Pliocene
IR10	95.5- 97.5	S4807	?Eocene
IR31	20-22	S4796	Mid-Pliocene
IR31	48-49.5	S4808	Indeterminate
IR42	60-62	S4809	Mid to Late Eocene
IR48	21-23	S4810	Mid-Pliocene
IR57	41-44	S4797	Mid to Late Eocene*
IR58	32.5- 34.0	S4811	Mid-Pliocene
IR58	50.5-52.0	S4812	?Late Eocene
IR58	58-60	S4813	Mid to Late Eocene
IR59	28-30	S4814	Barren
IR59	40-42	S4815	?Late Eocene
IR59	52-54	S4816	Mid to Late Eocene*
IR59	74-76	S4798	Mid to Late Eocene
IR60	36-38	S4817	Mid Pliocene
IR68	70-72	S4818	Mid to Late Eocene*

DISCUSSION

The assemblages fall into two distinct ages, one in the Eocene and the other in the late Tertiary. The Eocene assemblages are more or less typical of those in the lower part of the Pidinga Formation in the Eucla Basin and marginal areas and the Poelpena Formation of the Polda Basin. Nothofagidites spp. dominate the assemblages and marine microplankton (dinoflagellates) are recorded from three samples albeit in small numbers and low diversity. Samples asterisked indicate the presence of these marine indicators. In two other samples (IR58, 50.5-52.0 m and IR59, 40-42m) that are tentatively regarded as Eocene, sponge spicules have been recorded. These siliceous microfossils were recorded by the company on their logging sheets as "fine needle like mineral(s)".

From this brief study of the Eocene in this area it is apparent that initial sedimentation was in a fluvial valley or channel which was later subjected to marine influence by tidal effects such as might be expected on the upper delta plain environment. However, the regime was still dominantly under the influence of fluvial processes. The presence of sponge spicules is equivocal. Non-marine sponges are known to produce spicules and may be associated with diatomites, however the presence of marine dinoflagellates in the sections would favour a marine origin. A search for other marine indicators would confirm this opinion. Sponge spicules are widespread in marine sediments of this age (and occasionally in this facies) throughout southern Australia.

The younger group of sediments probably represents quite a different facies. The assemblage is entirely non-marine and of low diversity and algal debris is common. The lithotypes and palynology would suggest deposition in a low energy lacustrine regime. Similar age sediments occur in the Robinson Basin, the Polda Basin, Western Australia (near the western margin of the Eucla Basin) and in the Gippsland Basin. The age determination suggested here is by comparison with the latter province and from evidence kindly supplied by A.D. Partridge (Esso Australia Pty Ltd).

Thus this channel feature has been active since the middle Eocene when it was initiated along with many other palaeodrainage features bordering the emerging Southern Ocean. Its rejuvenation in the Pliocene during an apparent pluvial phase as indicated by the large proportion of cool and wet loving conifers in the assemblage, is of significance and has implications for the stratigraphy of late Tertiary sediments in central Australia.

WKH:GU

W.K. HARRIS

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Bourne, J.A., Twidale, C.R. and Smith, D.M., 1974. The Corrobinnie Depression, Eyre Peninsula, South Australia. Trans. R. Soc. S. Aust., 98: 139-152.

Harris, W.K., and Foster, C.B., 1974. Stratigraphy and palynology of the Polda Basin, Eyre Peninsula. Mineral Resour. Rev. S. Aust., 136: 56-78.

Harris, W.K., 1979. Streaky Bay town water supply. Palynology of carbonaceous clay from FOR 20A. S. Aust. Dept. Mines and Energy Rept. 79/91 (unpubl.).

Lindsay, J.M., and Harris, W.K., 1975. Fossiliferous marine and non-marine Cainozoic rocks from the eastern Eucla Basin, South Australia. Mineral Resour. Rev. S. Aust., 138: 29-42.

APPENDIX 2

A RECONNAISSANCE RESISTIVITY SURVEY AT WIRRULA, SOUTH AUSTRALIA FOR CARPENTARIA EXPLORATION COMPANY

Report by: R. Murdoch,
Murdoch Geophysics (Australia) Pty.Ltd.
21 Parker Street,
Maroochydore, Qld. 4558

Phone: (071) 43 3178
(071) 42 1229 After Hours

REPORT 349

OCTOBER 1979

CONTENTS

PLATES

SUMMARY

1. A reconnaissance resistivity survey has been carried out over a wide area north of the Eyre Highway, between Wirrula and Kyancutta in South Australia.

2. The work involved both soundings and profiles carried out over a number of nominated traverses. The aim of the survey was to locate areas where Tertiary channels may be incised into Precambrian basement.

3. Traverses were run over known channels (Lines 1 and 3) for correlation purposes and a close comparison between the sounding interpretation and the drillhole data was established.

4. On the other lines, the most likely channel anomalies were located on Line 7, near the southern end of Line 6; on Lines 5 and 9. A lower priority anomaly was located on Line 4. No worthwhile anomalies were located on Lines 2, 8 or 9A.

5. Within each of these channel anomalies, some comparison has been made as to whether the depth to basement is likely to be more or less than the quantitatively interpreted depth to the base of geo-electric Layer 2. Some prediction is also made on the possible chemical state of the bulk of the Tertiary sediments. However, the prediction should be treated with great caution. It is only made so that we can obtain feedback information to progressively improve that aspect of the interpretation and may not be of great value at this stage.

6. Eight preliminary drillholes are recommended on the five anomalies mentioned above. Predicted depths to basement vary from 70 - 120 metres. Following completion of these holes, and any additional step-out holes, the drilling results should be used to up-grade the interpretation. Later on, additional soundings could be used to follow prospective channels in much more detail.

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1. INTRODUCTION

1.1 A reconnaissance resistivity survey has been carried out in a wide area north of the Eyre Highway,between Wirrula and Kyancutta, west of Port Augusta in South Australia. The survey was conducted on behalf of Carpentaria Exploration Pty. Ltd.

1.2 The survey was conducted along traverses Line 1 to Line 9 and 9a at positions as shown on Plate 1. The traverse lines were a considerable distance apart and as can be seen on Plate 1, the survey covered several different E.L.'s.

1.3 Geologically, the area consists of Tertiary sediments, chiefly sands and clays overlying Precambrian igneous basement. As a result of previous drilling, it is known that Tertiary channels exist in the area. The sediments within the channels could be prospective for secondary uranium deposition.

1.4 The object of the survey was to locate areas where Tertiary channels incised into basement may exist, in areas where no drilling has previously been carried out. To provide some orientational information, traverse Lines 1 and 3 were run over known channels in areas that had been previously drilled. A second aim of the survey was to make some estimate of the likely chemical state of the material within the channel anomalies located.

1.5 The field work was undertaken between the 15th July and the 9th September 1979 by Mr. R. Godden aided by two field assistants.

1.6 This report assumes that the reader has a fundamental knowledge of the electrical resistivity technique. If any section is not clearly understood, the reader is advised to contact the author.

2. FIELD PROCEDURES

2.1 The field procedure adopted was designed to provide information on the approximate shape of the basement topography and to provide sufficient data to allow a quantitative interpretation,of the possible depth to basement and resistivity of the Lower Tertiary sediments.

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2.2 The work involved both resistivity profiling and soundings along the various traverses nominated. Profiling involves the gathering of data at the same current electrode separation but at different positions along the traverse. Soundings involve the gathering of data at gradually increasing electrode separations but at the same traverse position. Soundings were used to locate the depth to,and the resistivity of,the various geo-electric layers present. Profiling was used to delineate the edges of the channel anomalies.

2.3 Traverses conducted during the recent survey were Lines 1 to 9 and to 9a as marked on Plate 1. The lines were extended where the end of the line programmed coincided with what appeared to be the channel anomaly (viz: Line 6, 3 kms south and Line 9, 4 kms west). Soundings were conducted at a frequency of one every kilometre along the traverses and they were expanded outwards from a half current electrode separation of 10 metres to a maximum of 250 metres. The expansion was in accordance with the Schlumberger Array with an average of twenty individual readings being recorded on each sounding completed. The position of each sounding was marked with a labelled peg. On Lines 1 to 6, the distance between soundings was measured using the 250 metres profile wire, while on the other lines it was measured using the vehicle speedometer.

2.4 Resistivity profiling was initially carried out over the total length of Lines 1 to 6. From Line 7 to 9a, profiling was restricted to those areas,which appeared from the initial interpretation,to be areas of relatively deeper basement. The reading station interval on all the profile lines was 250 metres. Three measurements were taken between each sounding.

The profiling was carried out with a half current electrode separation (r) of 250 metres and a half potential electrode separation of 20 metres.

2.5 The quantity read at each individual profile or sounding station is called apparent resistivity. Apparent resistivity at any particular r separation is the sum effect that all the true resistivities of all the various sub-surface geo-electric layers present, have on the measuring electrode. At narrow r separations, near surface resistivities dominate

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the result. However, as the r separation increases, the near surface resistivities have progressively less effect on the result and the deeper resistivities have a progressively greater effect.

3. PRESENTATION OF RESULTS

3.1 Soundings

Copies of all the individual sounding curves are presented at the end of this report. Individual field readings of apparent resistivity are shown by either a cross or dot. The sounding curve is an imaginary line of best fit passing through as many of the individual field readings as possible.

The sounding curves can be integrated into a number of horizontal geo-electric layers for which values of thickness and resistivity can be assigned. However, the thickness and resistivity interpreted for any particular layer are dependent variables and hence the solution derived is not necessarily unique. All solutions that will generate a theoretical curve that almost exactly fits the smoothed sounding curve are called "equivalent solutions". The "optimum equivalent solution",or the equivalent solution that appears to best fit the current geological knowledge of the area,at this stage of exploration,is shown on each sounding graph by the dashed line. The "optimum equivalent solution" selected fits the imaginary field curve very closely, the only exceptions being in those areas where some distortion of the curve has resulted from local inhomogenuities near the measuring electrode.

3.2 Profiles

The results of profiling are plotted as log-linear graphs of apparent resistivity (vertical axis) against line position (horizontal axis). The vertical scale is 1 cycle equals 6.25 cms. The horizontal scale is 1 cm equals 250 metres. The field data is denoted by a cross and is joined by a dashed line. Short, sharp (high frequency) variations on the profile are likely to result from near surface inhomogenuities close to the measuring electrode. The broader or low frequency changes in the apparent resistivity are more likely to reflect the deeper variations in the geo-electrical properties of interest to us.

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3.3 Pseudo-Sections

Pseudo-sections have been constructed from the sounding data along each of the traverse lines conducted. Pseudo-sections are two-dimensional displays of the data along any given traverse line. Apparent resistivity results are plotted at their respective r separation vertically below their sounding position. The vertical scale is 1 cm equals 20 metres of r separation, and the horizontal scale is 1 cm equals 250 metres. The apparent resistivities recorded at each point are represented by the typewritten numbers. These have been contoured using a logarithmic scale. The ultimate equivalent solution selected has been plotted over the top to show variations in the topography of the various geo-electrical layers resolveable. The boundaries between the geo-electrical layers resolveable are shown as dashed lines. It will be shown later that the geo-electric contact along the base of the minima is of particular interest and consequently it has been shown as a heavy line.

3.4 Location and Interpretation Plan (Plates 1 & 2) - Scale 1:2,500,000

Plate 1 shows the location of the traverses relative to the various small villages situated along the Eyre Highway and relative to the various E.L. boundaries and to each other. The interpreted depth to base of geo-electric Layer 2 has been strip contoured and the various depth ranges occurring have been separately coloured. The contour interval is 20 metres.

Plate 2 is a second base plan, on which the total horizontal conductance per metre (in Seimons per metre) for Layers 1 and 2 combined have been strip contoured. The total conductance for Layers 1 and 2 combined is equal to the sum of the interpreted thicknesses of each of the individual layers occurring above the Layer 2/3 interface,divided by their interpreted resistivities. The total conductance per metre is the total conductance calculated above, divided by the interpreted depth to the Layer 2/3 interface. A plan of this type has a dual role. It gives us some idea of the likely chemical nature of the Tertiary sediments, but more importantly, it will also tell us whether the actual depth to basement is likely to be shallower or deeper than the depth interpreted to the Layer 2/3 interface.

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4. INTERPRETATION BACKGROUND

4.1 The interpretation of soundings can be -

(a) Qualitative - The identification of particular layers relative to other layers, their approximate lateral and vertical continuity as well as the overall integration of the quantitative interpretation with other known exploration information.

(b) Quantitative - The division of the sub-surface into distinct horizontal layers having a particular resistivity and thickness.

4.2 The interpretation of the profiles is purely qualitative. They provide closer spaced information on the likely edges of the channel anomalies and other geo-electrical features of interest.

4.3 In any resistivity interpretation it is necessary for the quantitative interpretation to be guided by the qualitative interpretation and not vice-versa. The main reason for this is the problem of equivalence, or equivalent solutions mentioned previously. As a result of this inherent problem, the quantitative interpretation generates precise information about an inprecise situation, and hence there is danger in using the quantitative solutions alone. However, used in conjunction with the qualitative interpretation they become a useful guide and provide a rough idea of the depth to particular layers that might be of interest and also their likely thickness and possible variations in resistivity of that layer from place to place.

4.4 The procedure used to generate an equivalent solution for each sounding was as follows:

(a) Initial manual interpretation using partial curve matching techniques.

(b) Test solution by generating a theoretical sounding curve on a small computer for the solution interpreted.

(c) If the first theoretical curve does not fit the field curve satisfactorily, then the solution is progressively modified until ultimately a fit is obtained.

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(d) In generating a curve fit, allowances have to be made for curve distortions and data offset at positions where potential electrode positions are altered.

(e) However, in curve matching, particular emphasis is placed on as clearly matching as possible the curve interfaces that qualitatively are considered of primary importance.

(f) The theoretical curve that provides a satisfactory fit is called an "equivalent solution".

4.5 Where drilldata is available near a sounding position, we can use the known thickness of a particular geological layer to see if we can generate an equivalent solution that can be correlated with the known geology. Hence, at this location we remove one of the unknowns (thickness) and the true resistivities can be calculated. This resistivity can then be used wherever possible,out along the pseudo-sections to see if an equivalent solution exists that fits that resistivity value.

4.6 Where no drillholes exist, then the initial equivalent solutions of each sounding are compared and generally some pattern of layering will emerge. Solutions that do not fit the pattern are tested to see if there is any equivalent solution that does fit the pattern. If there is, then it is used and the pattern gradually extended. However, previous experience in similar environments plays a large part in layer patterning recognition.

4.7 In the South Australian Tertiary areas, the majority of sounding curves can generally be quantitatively resolved into four layers as follows -

Layer 1 - Usually resistive: Superficial layer above the water table.

Layer 2 - Conductive: Tertiary sediments.

Layer 3 - Slightly more resistive than Layer 2 (often partially suppressed): First basement layer.

Layer 4 - Resistive: Usually deep basement.

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Often other layers are present, particularly in the intra-basinal section. Typical of those to watch for are -

(a) A resistive layer between Layers 1 and 2, generally reflecting either depressed water table or a thicker section of Quaternary sands (considered as part of Layer 1 in this report).

(b) A layer of intermediate resistivity between Layers 2 and 3, usually partially, and at times totally, suppressed. This layer can reflect a thick sand sequence at the base of Tertiary, particularly when the top part of the Tertiary is very argillaceous. In particular, this layer can be suspected to be of significance where the resistivity of Layer 2 is very low (say less than 1 ohm metre). Elsewhere, it is likely to be suppressed (i.e. very thin).

5. QUANTITATIVE INTERPRETATION

5.1 The sounding curves at Wirrula are generally resolveable into the four main layer groupings as described above. However, where basement is very shallow, Layers 1 and 2 may combine to form one layer. On a number of soundings, Layer 3 has not been interpreted. It probably exists but is suppressed between Layer 2 and Layer 4.

5.2 It has been found in similar surveys elsewhere in South Australia, that it is the Layer 2/3 interface that most closely reflects the position of the basement topography. This is confirmed when we compare soundings on Lines 1 and 3 with existing drill results as follows:-

		LAYER NUMBER	RESISTIVITY (OHM METRES)	DEPTH INTERVAL (METRES)
IR1		Line 100		
0 - 27	Sand (Aoelian)	1	12	0 - 8.5
27 - 38	Clay	2(1)	5	8.5 - 23
38 +	Granite	2(2)	0.6	23 - 43
		3	2.5	43 - 73
		4	High	73 +

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IR2

0 - 54	Sand (aeolian) sand and clay below 40 metres
54 - 102	Sand

Line 1 2000

1	13	0 - 11
2(1)	6	11 - 29
2(2)	0.5	29 - 52
2(3)	1	52 - 102
3	2.5	102 - 137
4	High	137 +

IR3

0 - 58	Silty sand, silt and clay, clay and aeolian sand sections
58 - 100	Sand

Line 1 4000

1	8	0 - 25
2(1)	0.6	25 - 55
2(2)	1.0	55 - 100
3	1.5	100 - 150
4	High	150 +

IR4

0 - 65	Silt, clay, sand and silty sand
65 - 96	Sand
96 +	Basement

Line 1 6000

1	12	0 - 7.5
2(1)	5.5	7.5 - 32
2(2)	0.5	32 - 98
3	0.9	98 - 178
4	High	178 +

IR5

0 - 73	Clayey silt, silt, sand and clay
73 - 128	Sand and clay
128 +	Basement

Line 1 7750

1(1)	11	0 - 5
1(2)	16	5 - 30
2	1	30 - 125
3	1.3	125 - 195
4	High	195 +

IR10

0 - 58	Sand (aeolian)
58 - 128	Sand and clay
128 +	Amphibolite

Line 1 8750

1	11.5	0 - 42
2(1)	0.5	42 - 62
2(2)	1.0	62 - 127
3	1.2	127 - 207
4	High	207 +

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IR6		Line 1 9750		
0 - 70	Silt and clay	1	13	0 - 10
70 +	Weathered volcanics	2(1)	3	10 - 20
		2(2)	0.5	20 - 40
		2(3)	0.7	40 - 70
		4	1.2	70 - 115
		5	High	115 +

IR7		Line 1 11750		
0 - 25	Silt, sand and clay	1	12.5	0 - 2.8
		2	0.4	2.8 - 27
		3	1.0	27 - 58
		4	High	58 +

IR58		Line 3 00		
0 - 32	Clayey silt	1	9	0 - 20
32 - 82	Clay, sand and sandy clay	2	0.45	20 - 85
		3	2.5	85 - 135
82 +	Granite	4	High	135 +

IR57		Line 3 3000		
0 - 22	Sand, silty sand, clay and sandy clay	1	28	0 - 4
		2	0.6	4 - 58
22 - 73	Clayey sand, clay and sand.	3	2.5	58 - 120
73 +	Granite	4	High	120 +

IR56		Line 3 6000		
0 - 30	Sandy silt, clay sand	1	7.5	0 - 2.8
30 +	Granite	2	1.5	2.8 - 33
		3	2.5	33 - 58
		4	High	58 +

IR55		Line 3 8000		
0 - 40	Sand, silt, clay, sandy clay	1	19	0 - 5.3
		2(1)	3.9	5.3 - 32
40 +	Granite	2(2)	2	32 - 40

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IR55 (Continued)	3	5	40 - 95
	4	High	95 +

The above results show that a satisfactory correlation between the depth to the base of Layer 2 and the interpreted depth to basement, can be generated. The interpreted resistivity of the lower Tertiary section (either Layer 2 or 2(2)) is in the range 0.4 - 1.0 ohm metre on Line 1 and 0.4 - 2.0 ohm metres on Line 3.

5.3 The rest of the soundings interpreted are listed in Appendix I. Obviously, without the nearby drill data, the correlation between the base of Layer 2 and the depth to basement will not necessarily be as accurate. A lot will depend upon the resistivity value of Layer 2. In a reduced environment, such as exists on Lines 1 and 3, we do not expect the resistivity of the Tertiary sediments to rise much above 2 ohm metres. However, in an oxidised environment they are more likely to be in the order of 5 ohm metres.

5.4 Hence, a sounding with a Layer 2 interpreted resistivity of 5 ohm metres in Appendix I may reflect an oxidised environment within the Tertiary or alternatively the true resistivity of Layer 2 may well be less than interpreted, and hence the depth to basement will then be shallower than the depth interpreted to base of Layer 2.

5.5 Where the interpreted resistivity of Layer 2 is in the order of 10 ohm metres, the overstatement of depth to basement is likely to be maximised. In fact where the values are so high, most, if not all, of Layer 2 may well be weathered basement. Hence, interpreted lows in such area are of low priority as drilling targets.

5.6 Conversally, where the interpreted resistivity of Layer 2 is very low (i.e. less than 1 ohm metre), the true resistivity of the Tertiary may well be higher and hence the depth to basement will be greater than the interpreted depth.

5.7 However, we have to have some starting point, and the quantitative solutions offered in Appendix I are considered to be the best interpretations at this stage of exploration knowledge. However, as new drill data becomes

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available, that information can be used to determine more accurately the true resistivity of Layer 2 and hence place the shape of the Layer 2/3 interface closer to that of the basement topography.

6. QUALITATIVE INTERPRETATION

6.1 The contours of apparent resistivity on the pseudo-sections reflect three features -

(a) Shallow contours - variations in the resistivity and thickness of the Layer 1 superficial layer.

(b) Low resistivity semi-horizontal zone through about the middle of the pseudo-section (best example of this zone - see Plate 3) - reflects variations in the resistivity and thickness of Layer 2, and perhaps changes in the resistivity of Layer 3.

(c) Deep contours, whilst obviously influenced by the shallower geo-electric changes, do also reflect changes in basement resistivities (vertical contour gradients show approximate position of contacts).

6.2 Increases in the conductivity of Layers 2 and 3 are reflected by circular lows occurring at or below the position of the interpreted Layer 2/3 interface. Basement conductors do not have closure of the contours at the bottom of the pseudo-section. Superficial conductors do not have closures of contours at the surface.

6.3 The soundings indicate that the profile readings will be -

High - Where Layer 3 is shallow and Layers 1 and 2 relatively resistive (low S per metre).

Low - Where Layer 3 is deep, Layers 2, 3 and/or 4 relatively conductive (high S per metre).

6.4 We are interested therefore in the profile lows (deep Layer 3). However, to determine the cause of the low we have to look at the pseudo-sections and the quantitative interpretation. We discuss the integration of the qualitative and quantitative interpretation, line by line, below.

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6.5 Line 1 -

(a) Pseudo-sections - The sub-horizontal low in the middle lower part of the section reflects the shape of the basement topography. Interpreted depth to base of Layer 2 is much shallower than the low, because of the relatively resistive near-surface sediments.

(b) Profiles - The profile also roughly shows the shape of the basement. The low from 5000N and 8750N is due to deep basement (northern part) and Layer 3 conductor (southern part).

(c) Quantitative - The deepest basement is interpreted from 7000N to 8750N. Drillholes show its depth to be in the order of 120 - 130 metres. The total conductance per metre of the Tertiary sediments in the channel area is 0.7 - 0.8 seimons/metre, increasing to well over 1.0 seimon/metre on the banks. The total section is likely to be reduced.

6.7 Line 3 -

(a) Pseudo-sections - The sub-horizontal low is near the top of the section over most of the line, but dips to be near the middle of the section west of 3000E.

(b) Profiles - Lowest values occur west from 2750E reflecting the deeper sediments. The high amplitude, high frequency data between 500E and 1500E is largely noise and should be filtered out when considering the profile.

In the eastern part of the pseudo-sections, lowest values occur from 8250E to 10000E.

(c) Quantitative - Interpreted depths to basement are greatest at 00E - 2000E and are in the order of 80 - 90 metres. The total conductance per metre is in the range of 1.3 - 1.7 seimons per metre. Drill evidence confirms the interpretation and the section is likely to be reduced.

Drill evidence shows that the eastern low on the profile is due to thick Layer 3 and hence of little interest. Greatest interpreted depth to base of Layer 2 on the eastern part of the line occurs at 12000E. However, we estimate that the depth to basement at that point may be in the order of 20 - 30 metres less than interpreted depth to base of Layer 2. The low is unlikely to be of significant interest at this stage of exploration.

There is a progressive change in the total conductance per metre of the sediments between 4000E and 6000E, which may reflect a change in their chemical state. (cf IR56 and IR55 with other holes on Line 3).

6.10 Line 6 (North) -

(a) Pseudo-sections - The sub-horizontal low is very close to the

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surface over most of the section. A one sounding low occurs at 6000N. Other lows to the north are deeper and are likely to reflect conductive basement.

(b) Profiles - Apparent resistivities are fairly high on this line, reflecting the shallow basement. Lowest values occur between 8000N and 11250N and from 17750N to 18750N.

(c) Quantitative - The interpreted low at 6000N is likely to be mainly basement. The depth to basement in this low may be up to 40 metres less than the depth interpreted to base of Layer 2. The S per metre along the line is very low, indicating that what sediments do occur are likely to be oxidised. The profile low from 8000N - 11250N appears to reflect thick conductive basement (resistivities of 5 - 10 ohm metres).

A local low centred on 18000N has interpreted depths to base of Layer 2 in the order of 70 - 80 metres. We anticipate that the depth to basement here may be up to 20 metres less than the depth to base of Layer 2.

6.11 Line 6 (South) -

(a) Pseudo-sections - Again the sub-horizontal low is not necessarily continuous and occurs near the top to middle part of the section.

(b) Profiles - Only 00S - 18000S available. The profile is fairly flat with lowest values from 250S - 3000S and from 17000S - 18000S+. South of 18000S, the r = 250 metres readings taken on the soundings have been plotted and show a low south of 23000S.

(c) Quantitative - Interpreted depths to base of Layer 2 are greatest at the southern end of the line, where the S per metre is also slightly higher. However, depth to basement may be uniformly 20 - 30 metres shallower than the interpreted base of Layer 2. The greatest depth to basement is likely to be at 26000S (in the order of 90 - 100 metres).

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Most of the section along Line 6 South is likely to be oxidised? However, from 23000S, values rise and hence some of the section may be reduced?

The interpreted depths to base of Layer 2 in the order of 90 metres also occur from 1000S - 2000S. Depths to basement may be up to 20 - 30 metres shallower than the interpreted depth to base of Layer 2. The S per metre is 0.16 and the section is likely to be oxidised.

6.12 Line 6 (South) Extended -

(a) Pseudo-sections - To adequately cover the possible basement deep at 26000S on Line 6 South, the line was later extended to 29000S and the results shown on a separate pseudo-section.

(b) Quantitative - The interpreted depth to base of Layer 2 is about 90 metres at 27000S, decreasing to 80 metres to the south (estimated depth 100 metres). The section may be either oxidised or reduced as the S per metre value is intermediate in value?

APPENDIX I - QUANTITATIVE SOUNDING INTERPRETATION

	Layer Number	Resistivity (ohm metres)	Depth Interval (metres)
1/0000	1	12	0 - 8.5
	2(1)	5	8.5 - 23
	2(2)	0.6	23 - 43
	3	2.5	43 - 73
	4	High	73 +
	S per metre = 0.85		
1/1000	1	16	0 - 15
	2(1)	0.5	15 - 30
	2(2)	1.2	30 - 80
	3 & 4	High	80 +
	S per metre = 0.91		
1/2000	1	13	0 - 11
	2(1)	6	11 - 29
	2(2)	0.5	29 - 52
	2(3)	1.0	52 - 102
	3	2.5	102 - 137
	4	High	137 +
	S per metre = 0.98		
1/3000	1	10	0 - 23
	2(1)	0.5	23 - 48
	2(2)	0.9	48 - 98
	3	2	98 - 138
	4	High	138 +
	S per metre = 1.10		
1/4000	1	8	0 - 25
	2(1)	0.6	25 - 55
	2(2)	1.0	55 - 100
	3	1.5	100 - 150
	4	High	150 +
	S per metre = 0.98		

.../2

1/5000	1	7	0 - 5.5
	2(1)	12	5.5 - 30
	2(2)	0.5	30 - 60
	2(3)	0.9	60 - 115
	3	1.5	115 - 175
	4	High	175 +
	S per metre = 1.07		
1/6000	1	12	0 - 7.5
	2(1)	5.5	7.5 - 32
	2(2)	0.5	32 - 98
	3	0.9	98 - 178
	4	High	178 +
	S per metre = 1.39		
1/7000	1(1)	8	0 - 5
	1(2)	14	5 - 27
	2(1)	0.5	27 - 55
	2(2)	1.0	55 - 105
	3	1.5	105 - 185
	4	High	185 +
	S per metre = 1.03		
1/7750	1(1)	11	0 - 5
	1(2)	16	5 - 30
	2	1	30 - 125
	3	1.3	125 - 195
	4	High	195 +
	S per metre = 0.74		
1/8750	1	11.5	0 - 42
	2(1)	0.5	42 - 62
	2(2)	1.0	62 - 127
	3	1.2	127 - 207
	4	High	207 +
	S per metre = 0.86		

.../3

1/9750	1	13	0 - 10
	2(1)	3	10 - 20
	2(2)	0.5	20 - 40
	2(3)	0.7	40 - 70
	4	1.2	70 - 115
	5	High	115 +

S per metre = 1.24

1/10750	1	28	0 - 5
	2	0.5	5 - 48
	3	1.0	48 - 88
	4	High	88 +

S per metre = 1.80

1/11750	1	12.5	0 - 2.8
	2	0.4	2.8 - 27
	3	1.0	27 - 58
	4	High	58 +

S per metre = 2.25

LINE 3

3/0000	1R58	1	9	0 - 20
		2	0.45	20 - 85
		3	2.5	85 - 135
		4	High	135 +
		S per metre = 1.72		
3/1000		Poor data. Sounding not interpreted.		
3/2000		1	23	0 - 3.6
		2	0.7	3.6 - 79
		3	1.5	79 - 180
		4	High	180 +
		S per metre = 1.35		
3/3000	1R57	1	28	0 - 4
		2	0.6	4 - 58
		3	2.5	58 - 120
		4	High	120 +
		S per metre = 1.55		
3/4000		1	4.2	0 - 2.8
		2	0.85	2.8 - 55
		3	5	55 - 102
		4	High	102 +
		S per metre = 1.12		
3/5000		1 & 2	1.15	0 - 18
		3	5	18 - 50
		4	High	50 +
		S per metre = 0.86		
3/6000	1R 56	1	7.5	0 - 2.8
		2	1.5	2.8 - 33
		3	2.5	33 - 58
		4	High	58 +
		S per metre = 0.62		

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3/7000		1	7	0 - 2.7
		2	3.8	2.7 - 23
		3 & 4	High	23 +
		S per metre = 0.24		
3/8000	1R 55	1	19	0 - 5.3
		2(1)	3.9	5.3 - 32
		2(2)	2	32 - 40
		3	5	40 - 97
		4	High	97 +
		S per metre = 0.28		
3/9000		1	14.5	0 - 30
		2	2.5	30 - 65
		3	5	65 - 140
		4	High	140 +
		S per metre = 0.25		
3/10000		1(1)	23	0 - 3
		1(2)	5.7	3 - 18.5
		1(3)	15	18.5 - 40
		2	1.7	40 - 75
		3	5	75 - 115
		4	High	115 +
		S per metre = 0.33		
3/11000		1(1)	3.8	0 - 2.5
		1(2)	11.5	2.5 - 16
		2	3.5	16 - 48
		3	7.5	48 - 76
		4	High	76 +
		S per metre = 0.23		
3/12000		1 & 2	5	0 - 75
		3 & 4	High	75 +
		S per metre = 0.2		

.../8

3/13000	1	12	0 - 8
	2	6	8 - 60
	3	7.5	60 - 114
	4	High	114 +

S per metre = 0.15

3/14000	1	90	0 - 3.8
	2	7.5	3.8 - 40
	3	15	40 - 130
	4	High	130 +

S per metre = 0.12

3/15000	1	10	0 - 30
	2	3.5	30 - 70
	3	7.5	70 - 106
	4	High	106 +

S per metre = 0.20

LINE 6 NORTH

6/1000N	1	10	0 - 5
	2	6	5 - 50
	3	10	50 - 89
	4	High	89 +
	S per metre = 0.16		
6/2000N	1	14	0 - 3.4
	2(1)	4.6	3.4 - 17
	2(2)	6	17 - 37
	3	10	37 - 87
	5	High	87 +
	S per metre = 0.18		
6/3000N	1	16.5	0 - 3
	2	6.6	3 - 18
	3(1)	10	18 - 26
	3(2)	20	26 - 49
	5	High	49 +
	S per metre = 0.14		
6/4000N	1	18	0 - 3.8
	2	9	3.8 - 15
	3(1)	10	15 - 26
	3(2)	20	26 - 82
	3(3)	40	82 - 112
	4	High	112 +
	S per metre = 0.09		

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6/5000N	1	20	0 - 4.6
	2	13	4.6 - 32.2
	3(1)	15	32.2 - 64
	3(2)	30	64 - 99
	4	High	99 +

S per metre = 0.07

6/6000N	1	42	0 - 4.8
	2	8	4.8 - 75
	3	15	75 - 125
	4	High	125 +

S per metre = 0.15

6/7000N	1	42	0 - 4.2
	2	9	4.2 - 29
	3(1)	15	29 - 109
	3(2)	30	109 - 149
	4	High	149 +

S per metre = 0.10

6/8000N	1(1)	18.5	0 - 4.2
	2	9	4.2 - 20
	3(1)	15	20 - 50
	3(2)	5	50 - 80
	3(3)	30	80 - 100
	4	High	100 +

S per metre = 0.10

6/9000N	1	35	0 - 4
	2	8.5	4 - 39
	3(1)	10	39 - 109
	3(2)	12	109 - 199
	4	High	199 +

S per metre = 0.11

6/10000 N	1	25	0 - 4
	2	7.5	4 - 26

.../18

6/10000N(Continued)	3 & 4	20	26 +
	S per metre = 0.12		
6/11000N	1(1)	15	0 - 6.5
	1(2)	12	6.5 - 30
	2(1)	2	30 - 36
	2(2)	6	36 - 60
	3	8.2	60 - 140
	4	High	140 +
	S per metre = 0.16		
6/12000N	1	14	0 - 9
	2	8.5	9 - 25
	3	15	25 - 65
	4	High	65 +
	S per metre = 0.10		
6/13000N	1	18	0 - 9
	2	8.5	9 - 19
	3 & 4	120	19 - 36
	4	25	36 +
	S per metre = 0.09		
6/14000N	1 & 2	24	0 - 15
	3 & 4	High	15 +
	S per metre = 0.04		
6/15000N	1 & 2	9.5	0 - 29
	3 & 4	High	29 +
	S per metre = 0.11		
6/16000N	1 & 2	15.5	0 - 17
	3 & 4	High	17 +
	S per metre = 0.06		
6/17000N	1 & 2	11	0 - 28
	3 & 4	High	28 +
	S per metre = 0.09		

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6/18000N	1(1)	15	0 - 4.2
	1(2)	9.7	4.2 - 34
	2	3	34 - 79
	3(1)	5	79 - 115
	3(2)	10	115 - 145
	4	High	145 +
	S per metre = 0.23		
6/19000N	1	11	0 - 30
	2	8	30 - 55
	3(1)	10	55 - 130
	3(2)	20	130 - 180
	4	High	180 +
	S per metre = 0.11		
6/20000N	1	10	0 - 8
	2	8.5	8 - 58
	3	20	58 - 146
	4	High	146 +
	S per metre = 0.12		
LINE 6 SOUTH			
6/0000S	1	9	0 - 7
	2	5.6	7 - 59
	3	10	59 - 94
	4	High	94 +
	S per metre = 0.17		
6/1000S	1	10.5	0 - 28
	2	5.5	28 - 93
	3	10	93 - 138
	4	High	138 +
	S per metre = 0.16		
6/2000S	1	12	0 - 4
	2	6	4 - 89
	3	10	89 - 139

.../20

6/2000S(Continued)	4	High	139 +
	S per metre = 0.16		
6/3000S	1(1)	10	0 - 15
	1(2)	32	15 - 36
	2	4	36 - 81
	3	10	81 - 116
	4	High	116 +
	S per metre = 0.17		
6/4000S	1	26	0 - 4.6
	2	10	4.6 - 40
	3 & 4	High	40 +
	S per metre = 0.09		
6/5000S	1 & 2	7.5	0 - 7
	3 & 4	High	7 +
	S per metre = 0.13		
6/6000S	1(1)	9	0 - 3.4
	1(2)	40	3.4 - 23
	2	7	23 - 48
	3	18	48 - 88
	4	High	88 +
	S per metre = 0.09		
6/7000S	1	48	0 - 3.6
	2	7.2	3.6 - 46.8
	3	15	46.8 - 71
	4	High	71 +
	S per metre = 0.13		
6/8000S	1	18	0 - 4.4
	2	7.2	4.4 - 54
	3	15	54 - 114
	4	High	114 +
	S per metre = 0.13		

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6/9000 S	1(1)	12	0 - 5
	1(2)	24	5 - 32
	2	5	32 - 62
	3	15	62 - 124
	4	High	124 +
	S per metre = 0.12		
6/10000 S	1(1)	10	0 - 12
	2(2)	20	12 - 44
	2	5	44 - 54
	3	15	54 - 94
	4	High	94 +
	S per metre = 0.09		
6/11000 S	1(1)	40	0 - 4
	1(2)	12	4 - 24
	2	5	24 - 54
	3	10	54 - 84
	4	High	84 +
	S per metre = 0.14		
6/12000 S	1	38	0 - 6
	2	5.7	6 - 61
	3	10	61 - 101
	4	High	101 +
	S per metre = 0.16		
6/13000 S	1	17	0 - 15
	2(1)	4.5	15 - 47
	2(2)	6.6	47 - 60
	3	10	60 - 125
	4	High	125 +
	S per metre = 0.17		
6/14000 S	1	22	0 - 12
	2	6.6	12 - 54
	3	10	54 - 118

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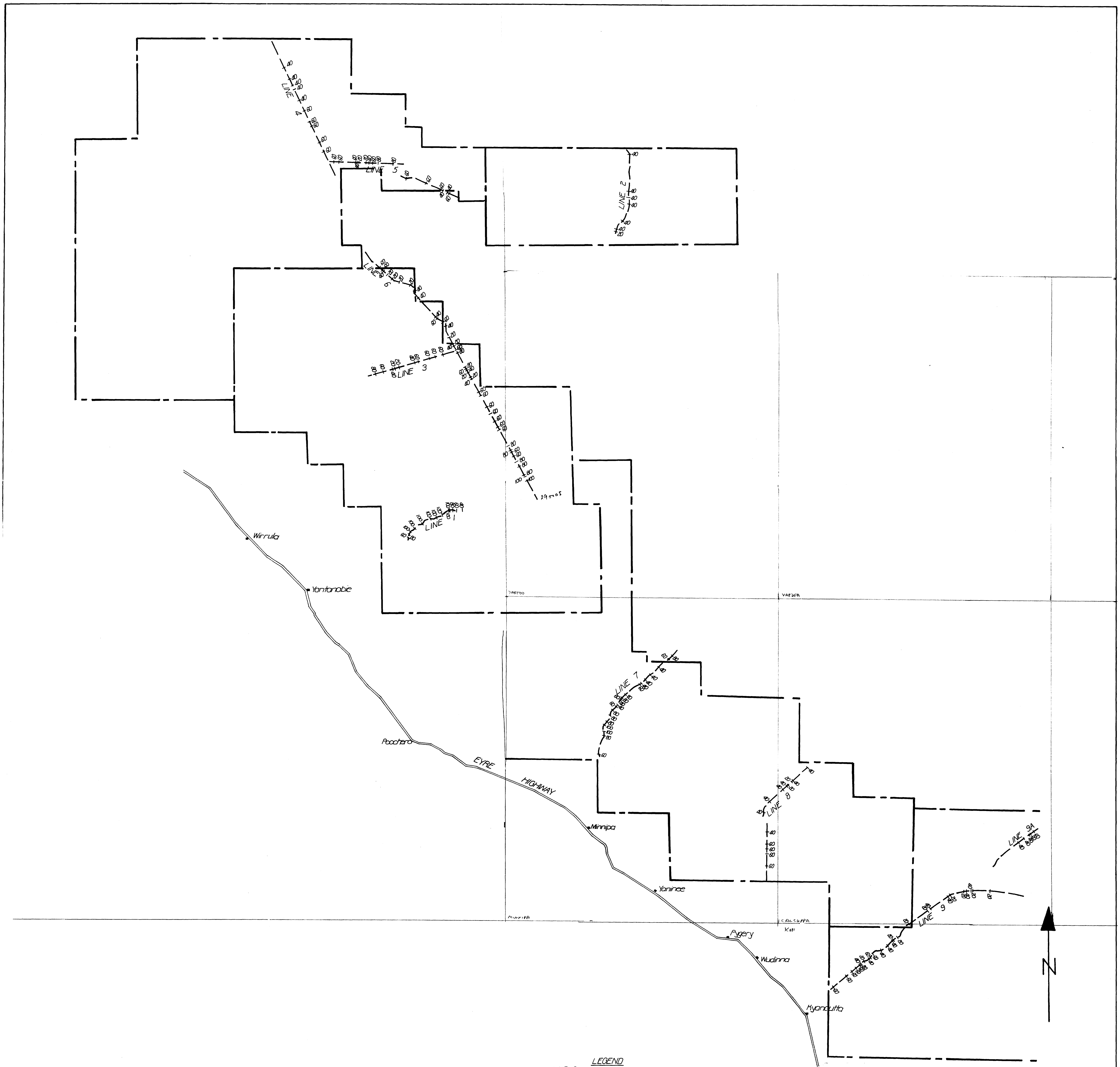
6/14000S(Continued)	4	High	118 +
	S per metre = 0.13		
6/15000S	1(1)	11	0 - 12
	1(2)	15	12 - 30
	2	3	30 - 65
	3	10	65 - 132
	4	High	132 +
	S per metre = 0.21		
6/16000S	1	12.5	0 - 4.4
	2	6.2	4.4 - 59
	3	7.5	59 - 91
	4	High	91 +
	S per metre = 0.16		
6/17000S	1	13	0 - 5.4
	2(1)	6	5.4 - 32
	2(2)	3.4	32 - 77
	3	10	77 - 132
	4	100	132 +
	S per metre = 0.28		
6/18000S	1	10	0 - 4
	2	6.5	4 - 74
	3(1)	7.5	74 - 114
	? 3(2)	1.5	114 - 179
	4	High	179 +
	S per metre = 0.15		
6/19000S	1	23	0 - 2.8
	2	7	2.8 - 66
	3	15	66 - 86
	4	High	86 +
	S per metre = 0.14		

.../23

6/20000S	1(1)	20	0 - 5
	1(2)	7.5	5 - 75
	2	4	75 - 90
	3	7	90 - 125
	4	100	125 +
	S per metre = 0.15		
6/21000S	1	75	0 - 4.2
	2	7.2	4.2 - 51
	3 & 4	25	51 +
	S per metre = 0.13		
6/22000S	1	120	0 - 3
	2	5.3	3 - 73
	3	7	73 - 143
	4	High	143 +
	S per metre = 0.18		
6/23000S	1	32	0 - 3.5
	2(1)	9	3.5 - 26
	2(2)	3.2	26 - 86
	3	5	86 - 154
	4	High	154 +
	S per metre = 0.35		
6/24000S	1	7	0 - 3.2
	2(1)	3.5	3.2 - 34
	2(2)	2.8	34 - 79
	3	5	79 - 119
	4	High	119 +
	S per metre = 0.32		
6/25000S	1	7	0 - 20
	2	4	20 - 70
	3	6	70 - 155
	4	High	155 +
	S per metre = 0.22		

..../24

6/26000S	1	8.5	0 - 11
	2	2.5	11 - 100
	3	3	100 - 176
	4	High	176 +
	S per metre =	0.37	
6/27000S	1	20	0 - 6.5
	2	2.7	6.5 - 90
	3	9	90 +
	S per metre =	0.35	
6/28000S	1	15	0 - 11
	2	2	11 - 80
	3 & 4	35	80 +
	S per metre =	0.44	
6/29000S	1	25	0 - 9.5
	2	2.2	9.5 - 85
	3 & 4	50	85 +
	S per metre =	0.40	



LEGEND

LINE 9 — Traverse lines.

40 — Strip contours interpreted depth to base of layer 2.

MURDOCH GEOPHYSICS (AUSTRALIA) PTY LTD.

RESISTIVITY SURVEY

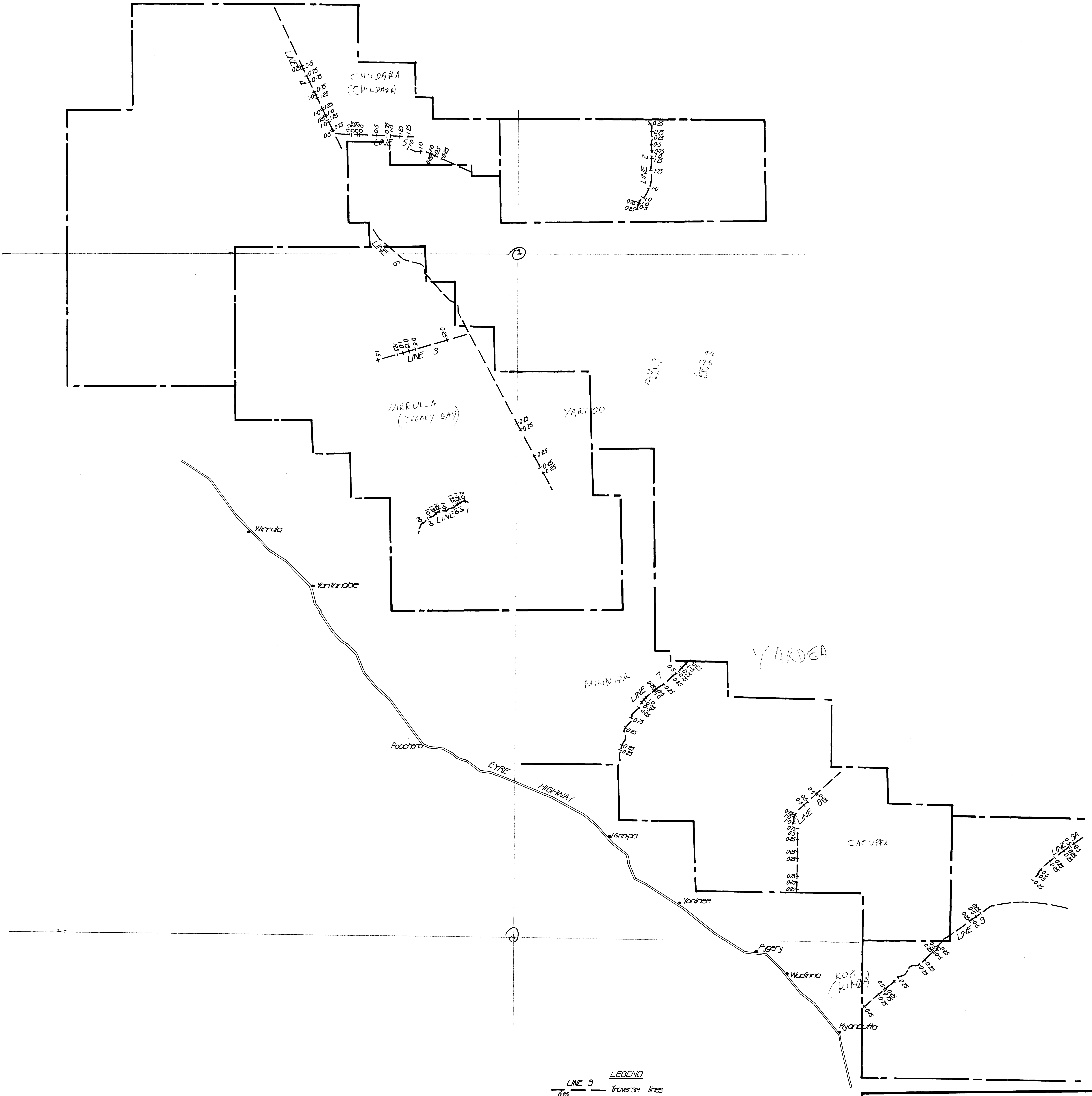
CLIENT: Carpentaria Exploration
LOCATION: Wirrula – South Australia

(a) Location plan showing traverses.
(b) Strip contours of interpreted depth to base layer 2.

Scale - 1 : 25000 1:250000

3420(II)-1

Plate No: 1 Report No: 349 Date: October 79



LEGEND

LINE 9 — Traverse lines.

0.25 — Strip contours of total conductance per metre for layers 1 & 2.

Rest. traverses

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RESISTIVITY SURVEY

CLIENT: Carpentaria Exploration
LOCATION: Wirrula - South Australia.

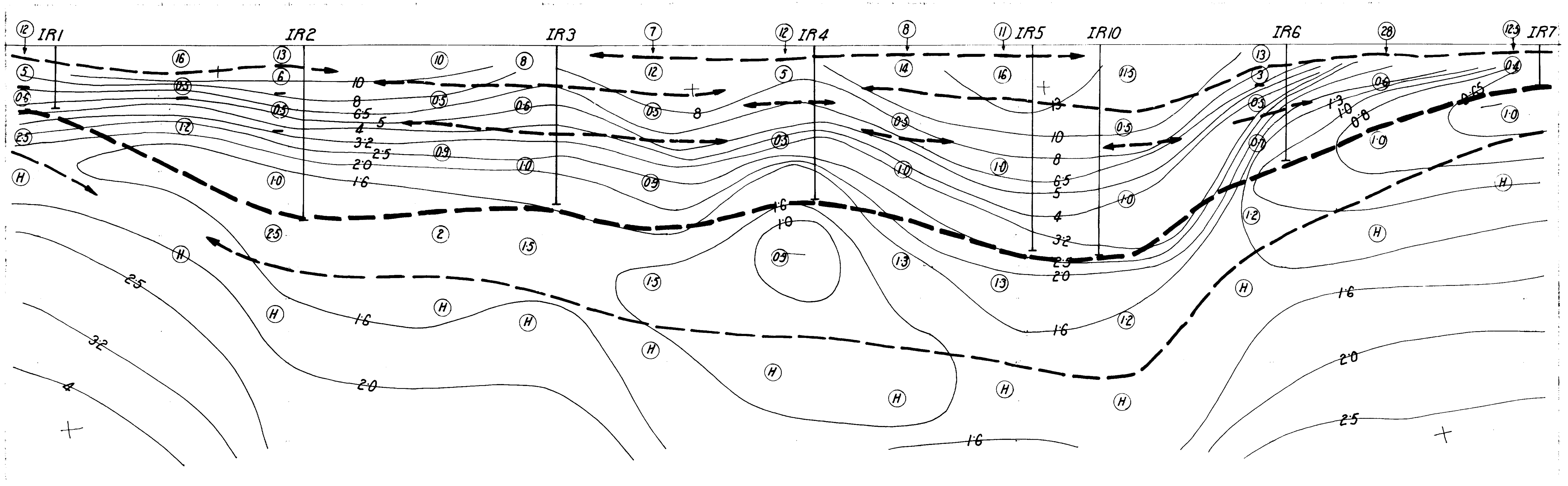
Strip contour plan of total conductance per metre for layers 1 & 2.

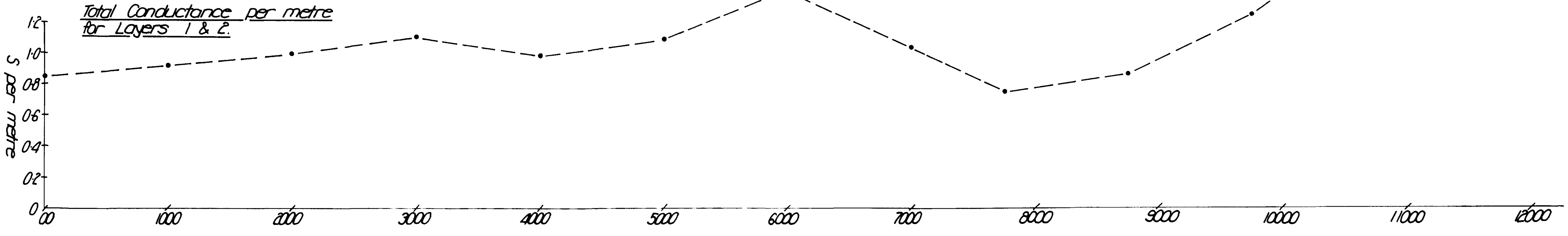
Scale - 1:25,000 ? 1:250 000

3420(II)-2

Plate No: 2 Report No: 349 Date: October 79

WIRRULLA - LINE 1





MURDOCH GEOPHYSICS (AUSTRALIA) PTY LTD.

RESISTIVITY SURVEY

CLIENT: Carpentaria Exploration
LOCATION: Wirrula - South Australia

Pseudo Section
Line: 1

SCALES: VERTICAL 1cm = 20 metres of current electrode separation (r)
HORIZONTAL 1cm = 250 metres

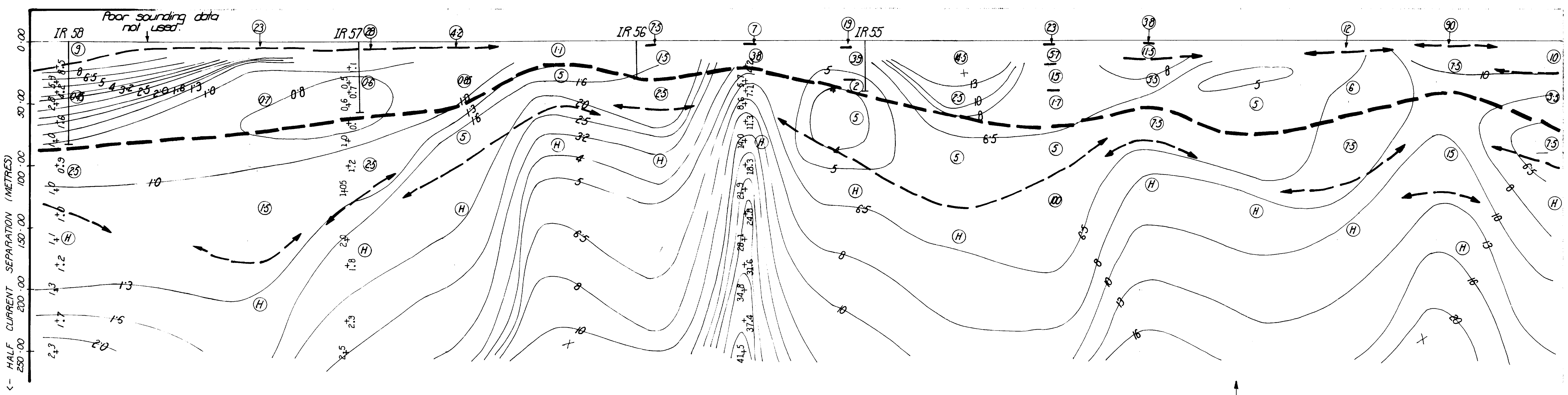
Plate No: 3 Report No: 349 Date: October 79

LEGEND

- Interpreted geo-electrical boundary.
- Interpreted geo-electrical boundary at base of layer 2.
- ⑤ Interpreted resistivity.

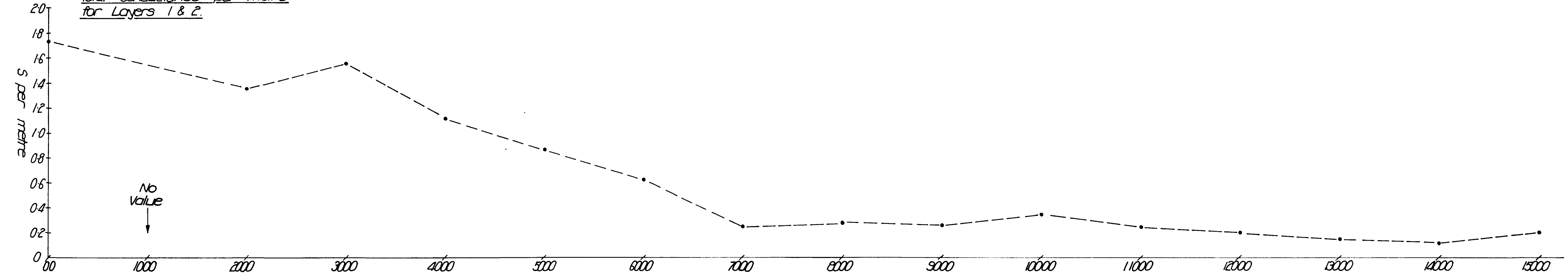
3420(II)-3

WIRRULA - LINE 3



Possible overstatement of depth to basement at 12000E is 20 - 30metres

Total Conductance per metre for Layers 1 & 2.



LEGEND

- – – Interpreted geo-electrical boundary.
- ▬ ▬ Interpreted geo-electrical boundary at base of layer 2.
- ⑤ Interpreted resistivity.

MURDOCH GEOPHYSICS (AUSTRALIA) PTY LTD.

RESISTIVITY SURVEY

CLIENT: Carpentaria Exploration
LOCATION: Wirrula - South Australia

Pseudo Section
Line: 3

SCALES:
VERTICAL
1cm = 20 metres of current electrode separation (r)
HORIZONTAL
1cm = 250 metres

Plate No: 5
Report No: 349
Date: October 79

3420(II)-4

WIRRULA - LINE 6 (NORTH)

Low is expected to be mainly weathered basement. (Depth to basement could be about 50 metres less).

Depth to basement may be 20 metres less.

Total Conductance per metre for Layers 1 & 2.

MURDOCH GEOPHYSICS (AUSTRALIA) PTY LTD.

RESISTIVITY SURVEY

CLIENT: Carpentaria Exploration
LOCATION: Wirrula - South Australia

Pseudo Section
Line: 6 (North)

SCALES:
VERTICAL
1cm = 20 metres of current electrode separation (r)
HORIZONTAL
1cm = 250 metres

Plate No: 8
Report No: 349
Date: October 79

LEGEND
- Interpreted geo-electrical boundary.
- Interpreted geo-electrical boundary at base of layer 2.
- ⑤ Interpreted resistivity.

3420 (#)-5

WIRRULA - LINE 6 - SOUTH

Depth to basement may be up to 20-30 metres less.

← Depth to basement may be 20-30 metres shallower. →

Total Conductance per metre for Layers 1 & 2

MURDOCH GEOPHYSICS (AUSTRALIA) PTY LTD.

RESISTIVITY SURVEY

CLIENT: Carpentaria Exploration
LOCATION: Wirrula - South Australia

Pseudo Section
Line: 6 - South (00S - 28000S)

SCALES:
VERTICAL
1cm = 20 metres of current electrode separation (r)
HORIZONTAL
1cm = 250 metres

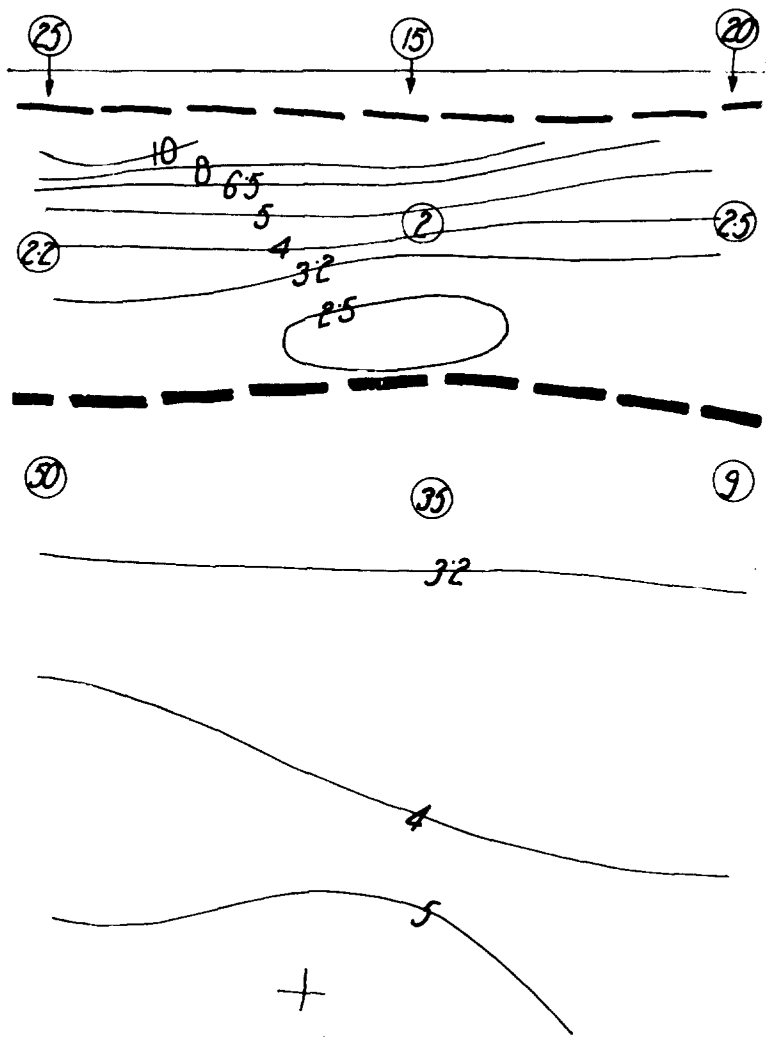
Plate No: 9
Report No: 349
Date: October 79

LEGEND

- — — Interpreted geo-electrical boundary.
- — — Interpreted geo-electrical boundary at base of layer 2.
- ⑤ Interpreted resistivity.

3420(II)-6

WIRRULA - LINE 6 (SOUTH)



MURDOCH GEOPHYSICS (AUSTRALIA) PTY LTD.

RESISTIVITY SURVEY

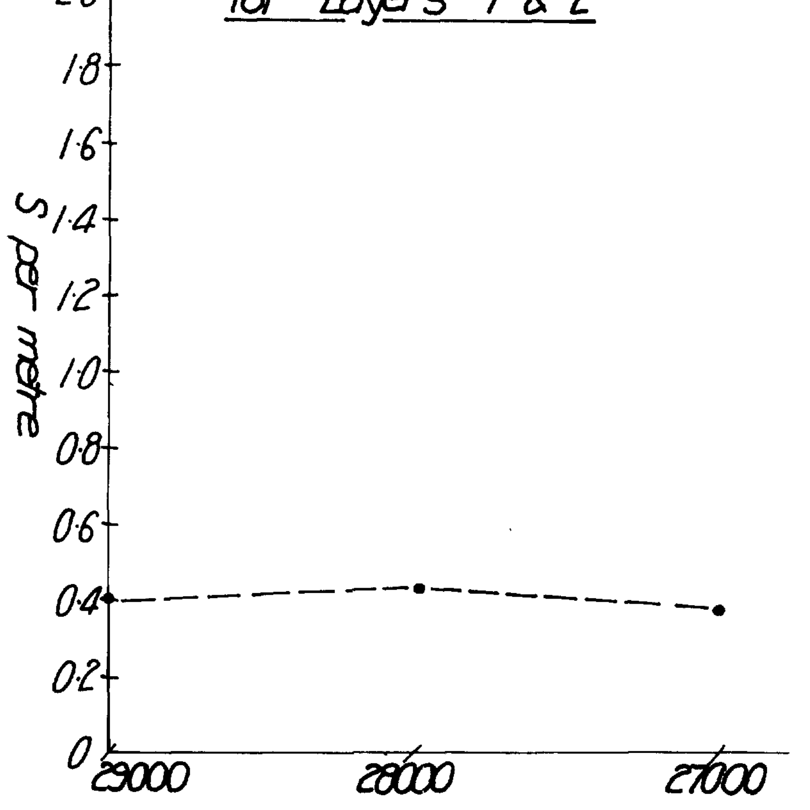
CLIENT: Carpentaria Exploration
LOCATION: Wirrula - South Australia

Pseudo Section
Line: 6 (South) 27000S - 29000S extension

SCALES:
VERTICAL
1 cm = 20 metres of current electrode separation (r)
HORIZONTAL
1 cm = 250 metres

Plate No: 10
Report No: 349
Date: October 79

Total Conductance per metre for Layers 1 & 2



LEGEND

- — — Interpreted geo-electrical boundary.
- ━ ━ Interpreted geo-electrical boundary at base of layer 2.
- ⑤ Interpreted resistivity.

3420 (II) - 7

RESISTIVITY PROFILES - WIRRULA

MURDOCH GEOPHYSICS (AUSTRALIA) PTY LTD.

RESISTIVITY SURVEY

CLIENT: Carpentaria Exploration
LOCATION: Wirrula - South Australia

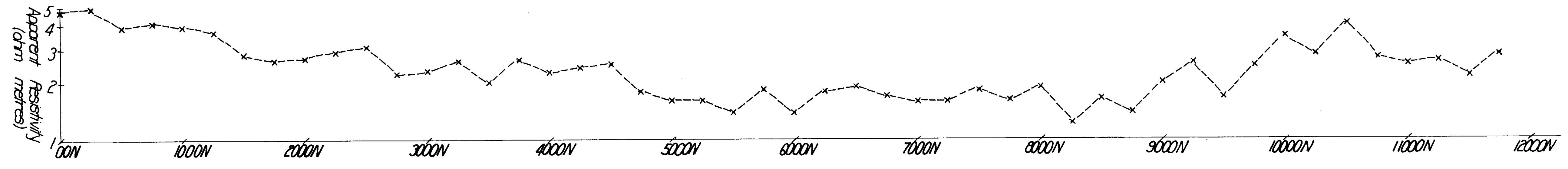
Resistivity Profiles
Lines: 1, 2, 3 & 4

3420(II)-8

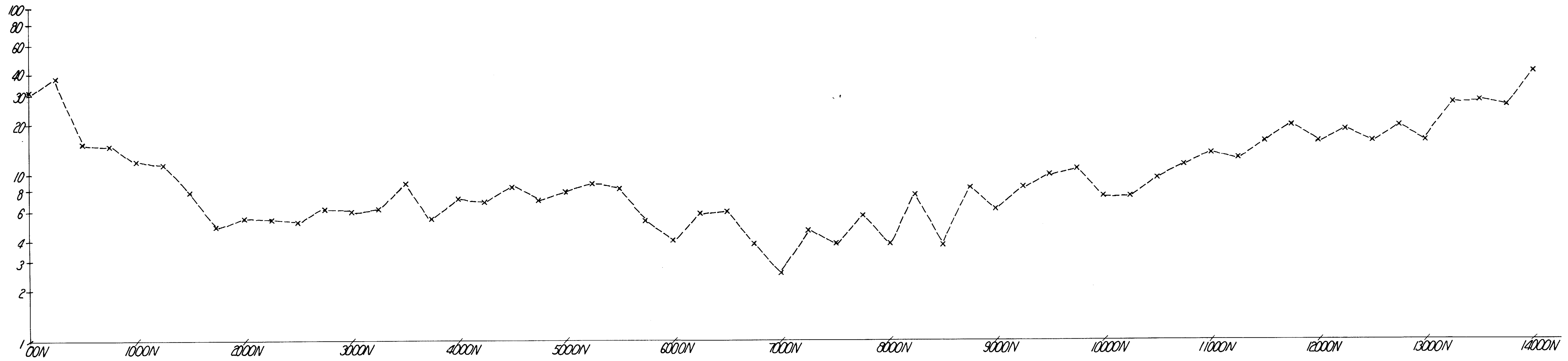
SCALES:
VERTICAL: logarithmic, 1 cycle = 6·25 cms
HORIZONTAL: 1 cm = 250 metres

Plate No: 15
Report No: 349
Date: October 79

LINE 1



LINE 2

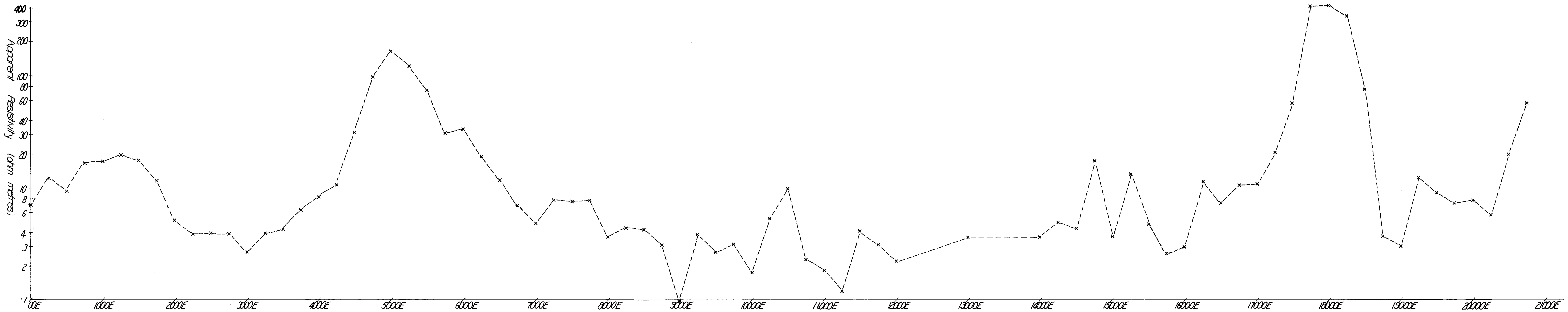


LINE 3

LINE 4

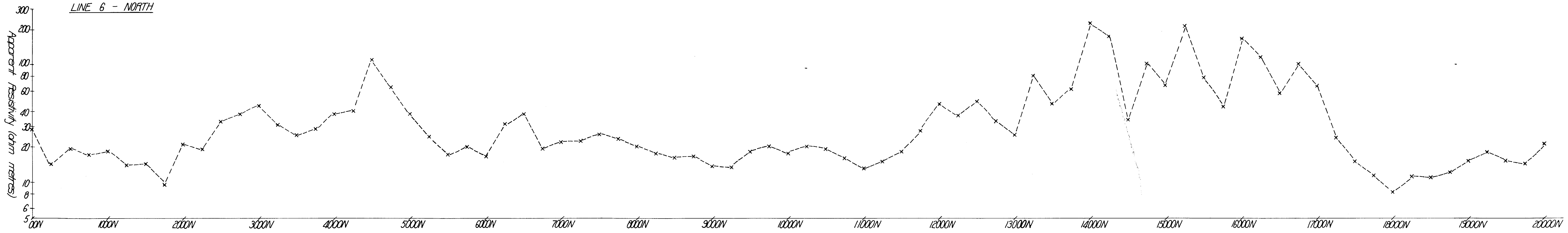
RESISTIVITY PROFILES - WIRRULA

LINE 5



LINE 6 - SOUTH

LINE 6 - NORTH



MURDOCH GEOPHYSICS (AUSTRALIA) PTY LTD.

RESISTIVITY SURVEY

CLIENT: Carpentaria Exploration
LOCATION: Wirrula - South Australia

Resistivity Profiles
Lines: 5, 6 (South) & 6 (North)

3420(II)-9

SCALES:

VERTICAL
logarithmic
1 cycle = 6·25 cms

HORIZONTAL
1 cm = 250 metres.

Plate No: 16
Report No: 349
Date: October 79

II

0136

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED APRIL 7, 1980

1. TERMS AND CONDITIONS

The Exploration Licence covers an area of 2 388 km^2 and lies approximately 100 km east of Ceduna. It was granted on January 8, 1979 for a term of one year. This term was subsequently extended for a further year.

The amended expenditure requirement is $140 000 for the two-year term.

2. EXPLORATION

No field work has been carried out during the quarter. A major drilling programme is underway on adjoining licences. Information gained from this, combined with a reappraisal of previous work, will be used to plan future drilling programmes in the area.

3. EXPENDITURE

A statement of expenditure for the period is attached.

for, ...
G.J. Hooper
Project Geologist

RECEIVED
10 APR 1980
DEPT. OF MINES
AND ENERGY
SECURITY
3420 - II

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

STATEMENT OF EXPENDITURE FOR QUARTER ENDED APRIL 7, 1980

	$	$
Administration	333	
Assaying	216	
Total This Period	$799	799
TOTAL - CURRENT TERM		799
Previously Reported		122 701
Total Project Expenditure to Date		$123 500

R.E. Darlington
Administration Manager

II

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

MINING TENEMENT

PROGRESS REPORT

EXPLORATION LICENCE NO.442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED JULY 7, 1980

DATE: July 30, 1980.

COPY: DEPARTMENT OF MINES
& ENERGY

6 AUG
DEPT. OF MINES
AND ENERGY
SECURITY
3420-II

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.442 "ILKINA"

STATEMENT OF EXPENDITURE FOR 3 MONTHS ENDED JULY 7, 1980

	$	$
Administration	289	
Aerial Surveys	466	
Operating Labour	174	
Total This Period	$929	929
Already Reported - Current Term		
Quarter Ended April 7, 1980	$799	799
TOTAL - CURRENT TERM		$ 1 728
Previously Reported		$122 701
Total Project Expenditure to Date		$124 429

R.E. Darlington
Administration Manager

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED JULY 7, 1980

1. TERMS AND CONDITIONS

The Exploration Licence covers an area of 2 388 km^2 and lies approximately 100 km east of Ceduna. It was granted on January 8, 1979 for a term of one year. This term was subsequently extended for a further year.

The amended expenditure requirement is $140 000 for the two-year term.

2. EXPLORATION

Three airborne magnetometer-spectrometer lines have been flown over the area to determine if the Narlaby Palaeo-channel could be detected beneath younger sediments. The survey was carried out by Geoex in April of this year. Final results have not been delivered yet. Locations of the flight lines are shown on Drawing No. 20 426.

A ground magnetometer survey over sections of the palaeo-channel was also carried out in April. A vehicle borne ceasium-vapour magnetometer, leased and operated by the Geophysical Research Institute of the University of New England, was used for this survey. Results have not yet been received.

One rotary-mud hole was drilled in the west of the area in May. This hole, IR 390, was part of a series of holes which were drilled on our adjacent licence (E.L. 539) to test for uranium mineralisation

.../2.

in the western part of the Narlaby Palaeo-channel. The geological log, together with the reduced wire-line log, is presented in the Appendix and the position of the hole is shown on Drawing No. 19975.

3. EXPENDITURE

A statement of expenditure for the quarter is attached.

....
P.J. Binks
Senior Geologist

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

E.L. NO. 442 "ILKINA"

APPENDIX

- oOo -

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

ROTARY DRILL HOLE LOG

PROSPECT: YARRANNA HILL

LOCATION: 24km NE Nunjikompita

CO-ORDS:

AIR: FROM .... TO ....

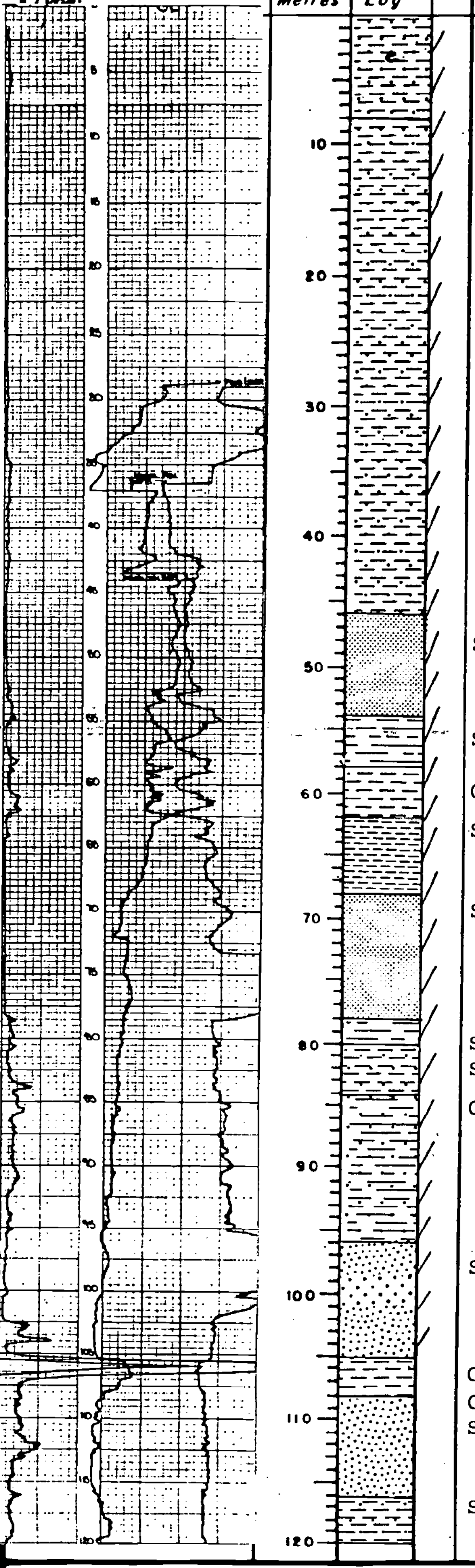
WATER: FROM 0 TO 132m

HOLE Nº IR 390

RL COLLAR: ....

A.M.G: 52800E, 47900N

Geophysical Log Type: Geoex	Depth Metres	Strip Log	Ox	Lithological Log 0143



SANDY CLAY red brown, yellow brown
fine grained, rounded, with calcrete

CLAYEY SAND orangy brown, fine grained, sand

pinky red

SAND fine grained, rounded quartz, pinky red, reddy orange

SILTY CLAY pinky red and white

CLAY grey green

SILT yellow brown with minor medium grained, rounded quartz, fractions and clay

SAND fine grained, rounded quartz, pinky red deepening in colour towards base

SILTY CLAY yellow brown and white

SAND CLAY purply red

CLAYEY SILTY SAND medium grained, sub angular sand, clean sand, overall brown colour with matrix of silt and clay

SAND sub rounded medium grained, clean, oxidised quartz, grey white
coarse grained
medium grained, white

CLAY black brown, humic

CLAY brown humic

SAND medium grained, sub rounded, pyritic, humic stained

SAND & CLAY sand with grey brown clay lenses pyritic

SAMPLE Nos:

REASON FOR HOLE:

OTHER DETAILS:

DRILL TYPE:

DRILLER:

SCALE: 1:500

LOGGED BY:

DATE DRILLED:

DRG./CODE No:

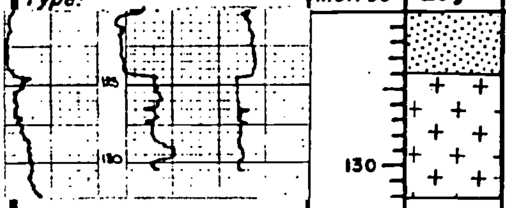
CARPENTARIA EXPLORATION COMPANY PTY. LTD.
ROTARY DRILL HOLE LOG

HOLE Nº IR 390
(Cont)

0144

Geophysical Log Type:

Depth Metres | *Strip Log* | *Ox* | *Lithological Log*



SAND medium grained, sub rounded, pyritic, humic stained, clay lense (brown)

GRANITE white clay and angular sand and pyrite

140
150
160
170
180
190
200

SAMPLE Nos: 581901-581966

REASON FOR HOLE:

DRILL TYPE: MAYHEW 1000
LOGGED BY: P.OWEN
DRILLER: W.L. SIDES
DATE DRILLED 14/5/80

Airborne Mag

134°20'
135°30'E

WIRRULLA & YARTOO 1:100 000's

(22)

REVISION		SCALE: 1 : 100 000	CARPENTARIA EXPLORATION COMPANY PTY. LTD.
		GEOL	SOUTH AUSTRALIA E.L. 442 "ILKINA" FLIGHT LINES APRIL 1980 MAGNETOMETER SURVEY
		DRAFT:	
		CHECKED:	
		DATE: Oct. 1978	
		MICROFILMED:	
		ROLL Nº:	
		MINING FIELD OR DISTRICT: 3420(II)-10	DRG. Nº: 20 426

III

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED OCTOBER 7, 1980

1. TERMS AND CONDITIONS

The Exploration Licence covers an area of 2 388 km^2 and lies approximately 100 km east of Ceduna. It was granted on January 8, 1979 for a term of one year. This term was subsequently extended for a further year.

The amended expenditure requirement is $140 000 for the two year term.

2. EXPLORATION

Results have been received for the airborne magnetometer-spectrometer survey flown earlier this year. The flight line locations, aeromagnetic profiles and radiometric profiles are presented on Drawing Nos. 15717-15719, 15722-15724, 15732-15734, 15737-15739, 15742-15744 and 15747-15749. Company geophysicists are currently evaluating these results.

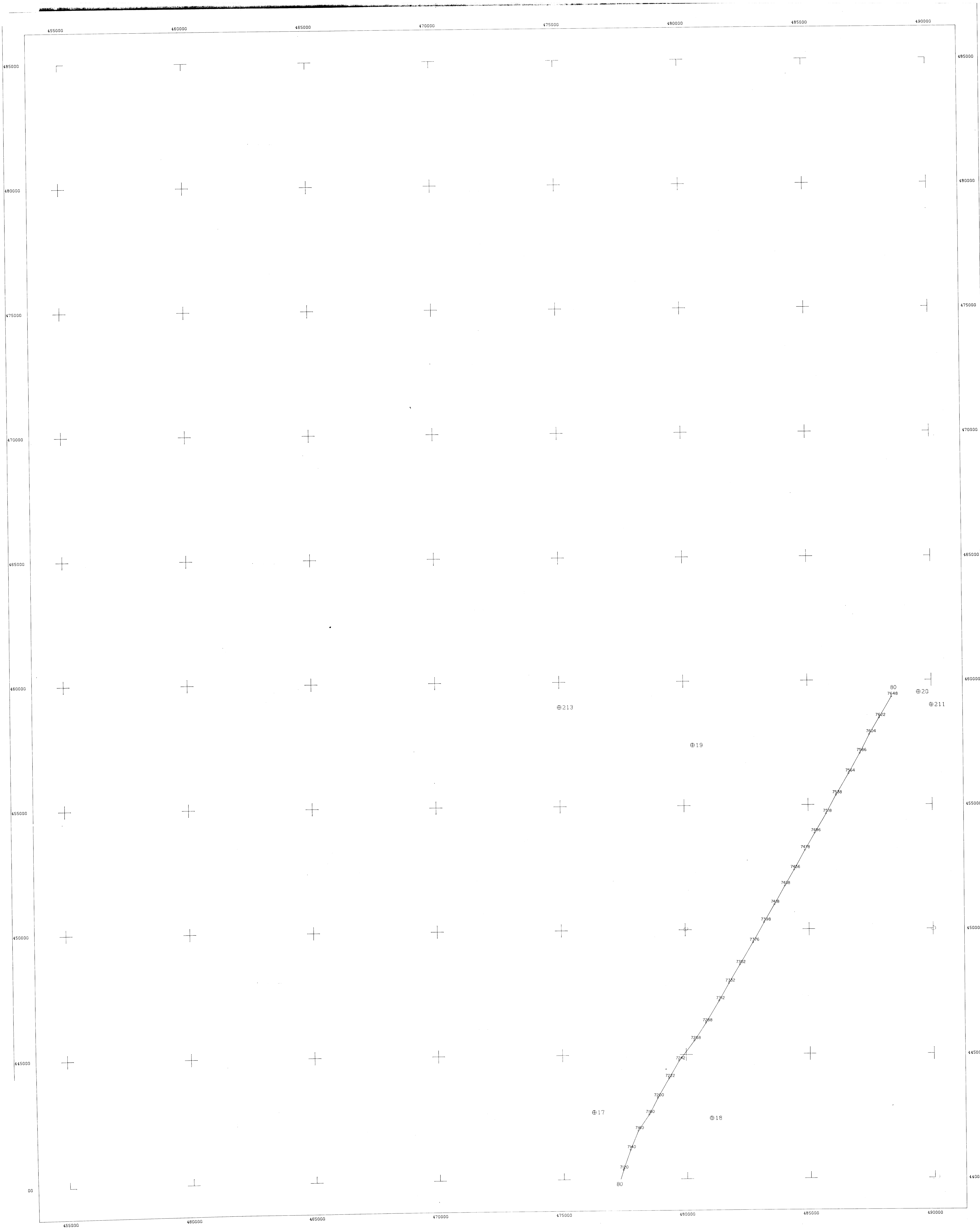
No results have been received yet from the vehicle borne ceasium-vapour magnetometer survey.

Dozing of access tracks will commence early next quarter. This will be followed by 4 000-5 000 m of open hole rotary mud drilling

3. EXPENDITURE

A statement of expenditure for the quarter is attached.

....
for G.J. Hooper
Project Geologist



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

CARPENTARIA EXPLORATION COMPANY PTY LTD

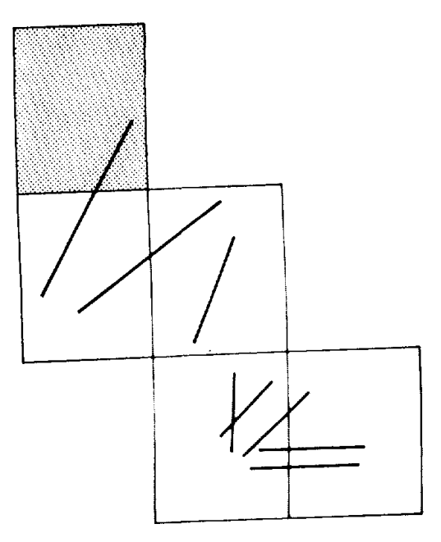
MINNIPA AREA SOUTH AUSTRALIA

FLIGHT PATH PLOT

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES

SURVEY LOCATION



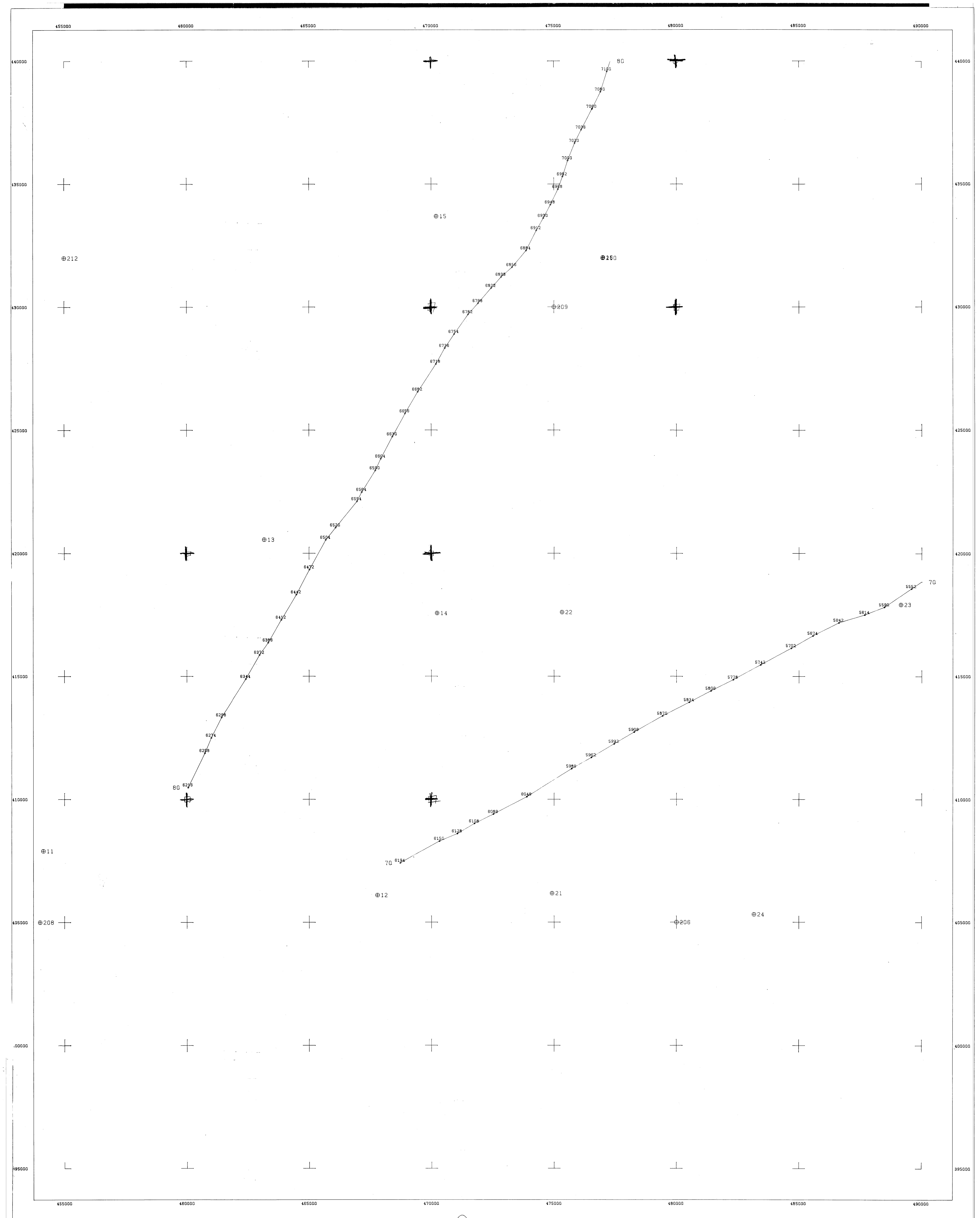
SHEET INDEX

Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples , such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre , and only recovered fiducials are shown on the map.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

⊕ Registration point identified on photomosaic.
+ 5000 metre Australian Metric Grid.

PROJECT NUMBER 80376 SURVEYED MARCH 1980

CEC DRAWING NUMBER 15717 3420(III)-1



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

STREAKY BAY 1:250 000

for

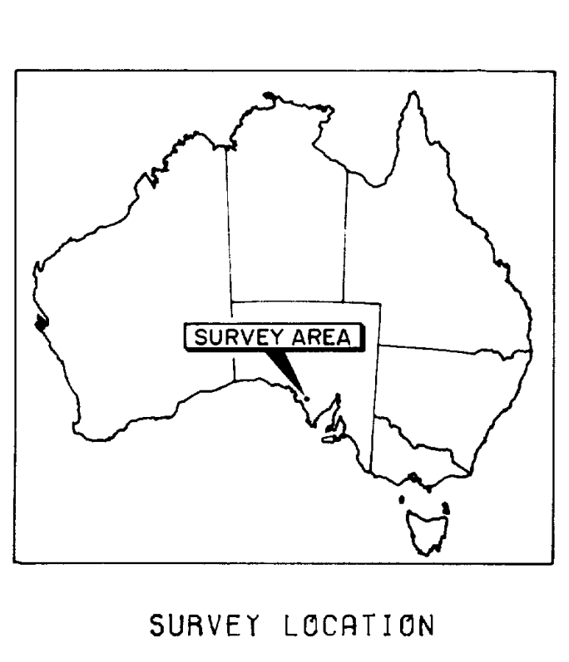
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

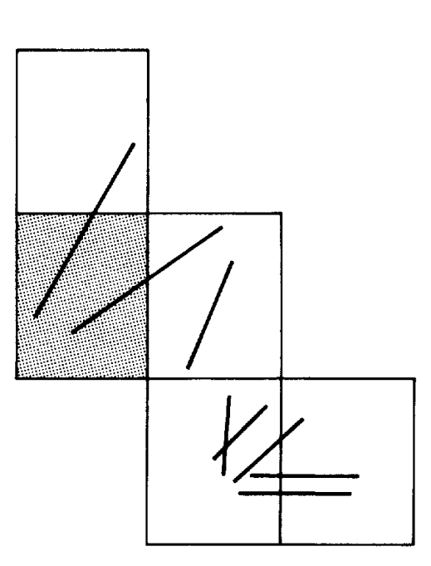
FLIGHT PATH PLOT

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples , such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre , and only recovered fiducials are shown on the map.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

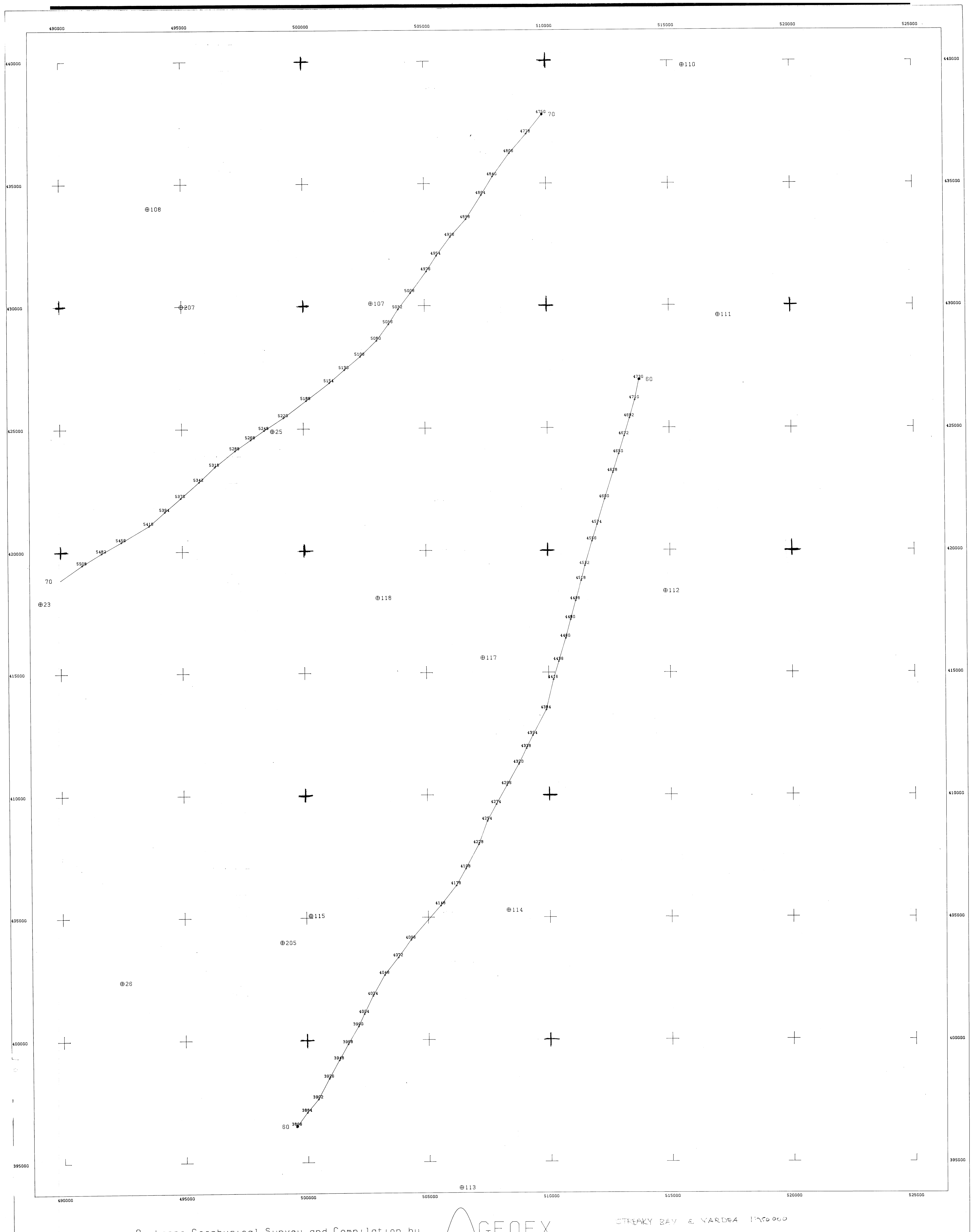
⊕ Registration point identified on photomosaic.

┼ 5000 metre Australian Metric Grid.

PROJECT NUMBER 80376 SURVEYED MARCH 1980

CEC DRAWING NUMBER 15718

3420(III)-2



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

STREAKY BAY & YARDEA 1:250 000

for

CARPENTARIA EXPLORATION COMPANY PTY LTD

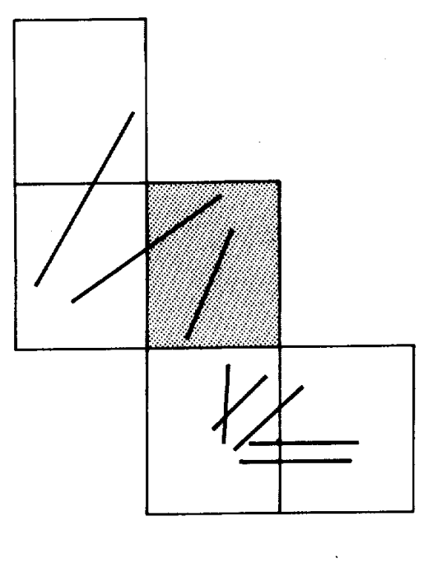
MINNIPA AREA SOUTH AUSTRALIA

FLIGHT PATH PLOT

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES

SURVEY LOCATION



SHEET INDEX

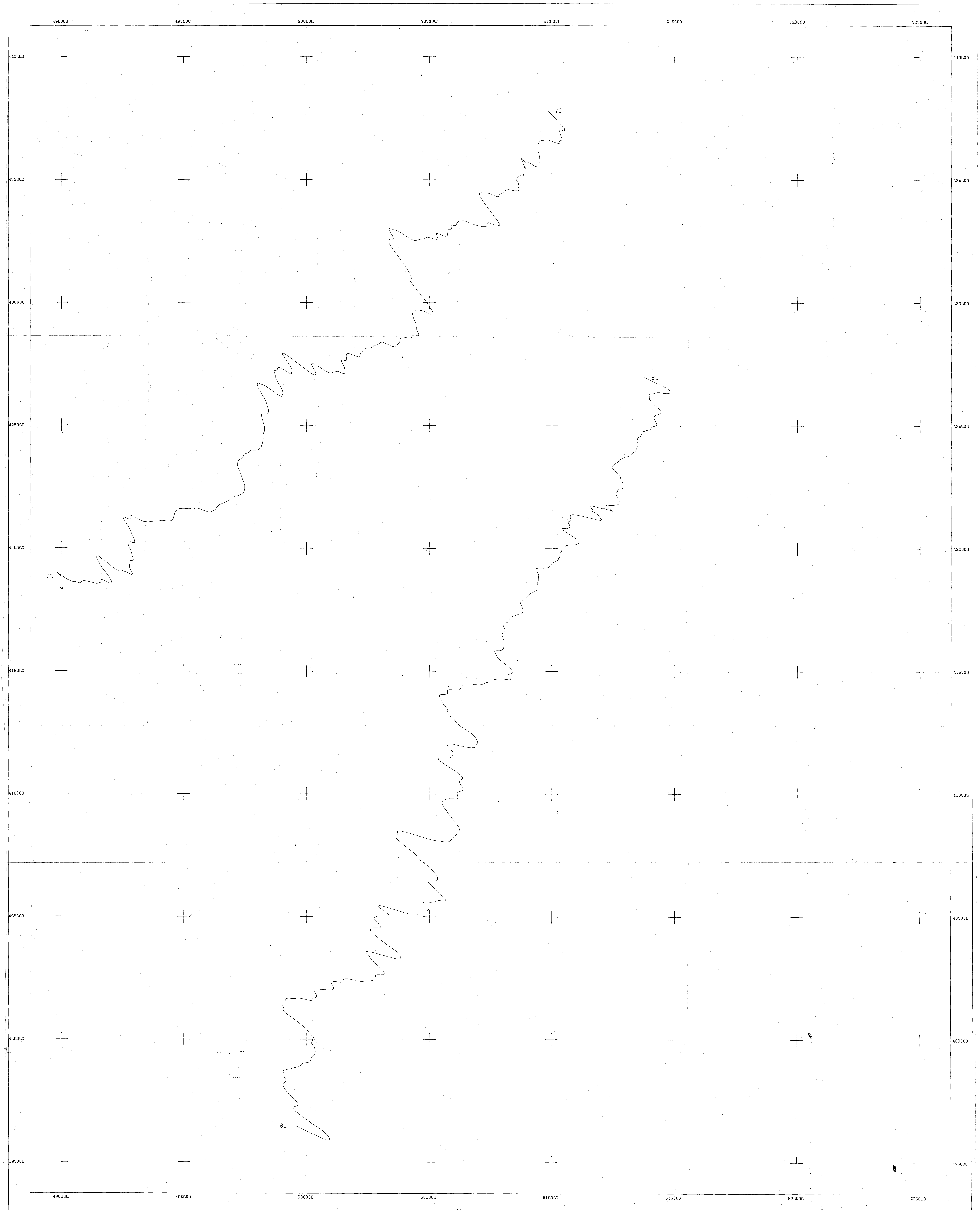
Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples , such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre ,
and only recovered fiducials are shown on the map.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

⊕ Registration point identified on photomosaic.
+ 5000 metre Australian Metric Grid.

3420 (III)-3

PROJECT NUMBER 80376 SURVEYED MARCH 1980

CEC DRAWING NUMBER 15719



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

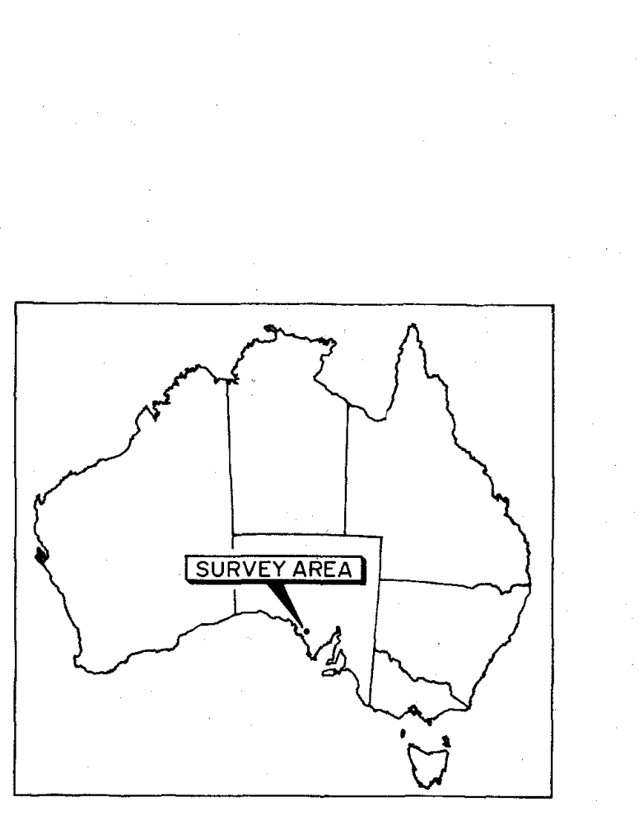
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

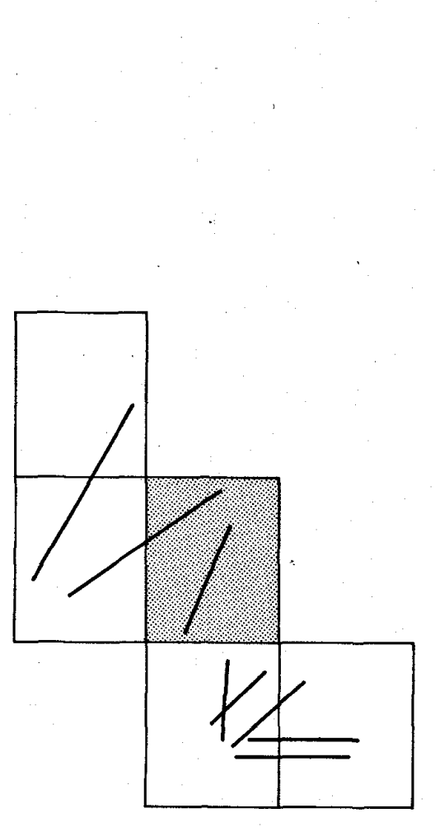
PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



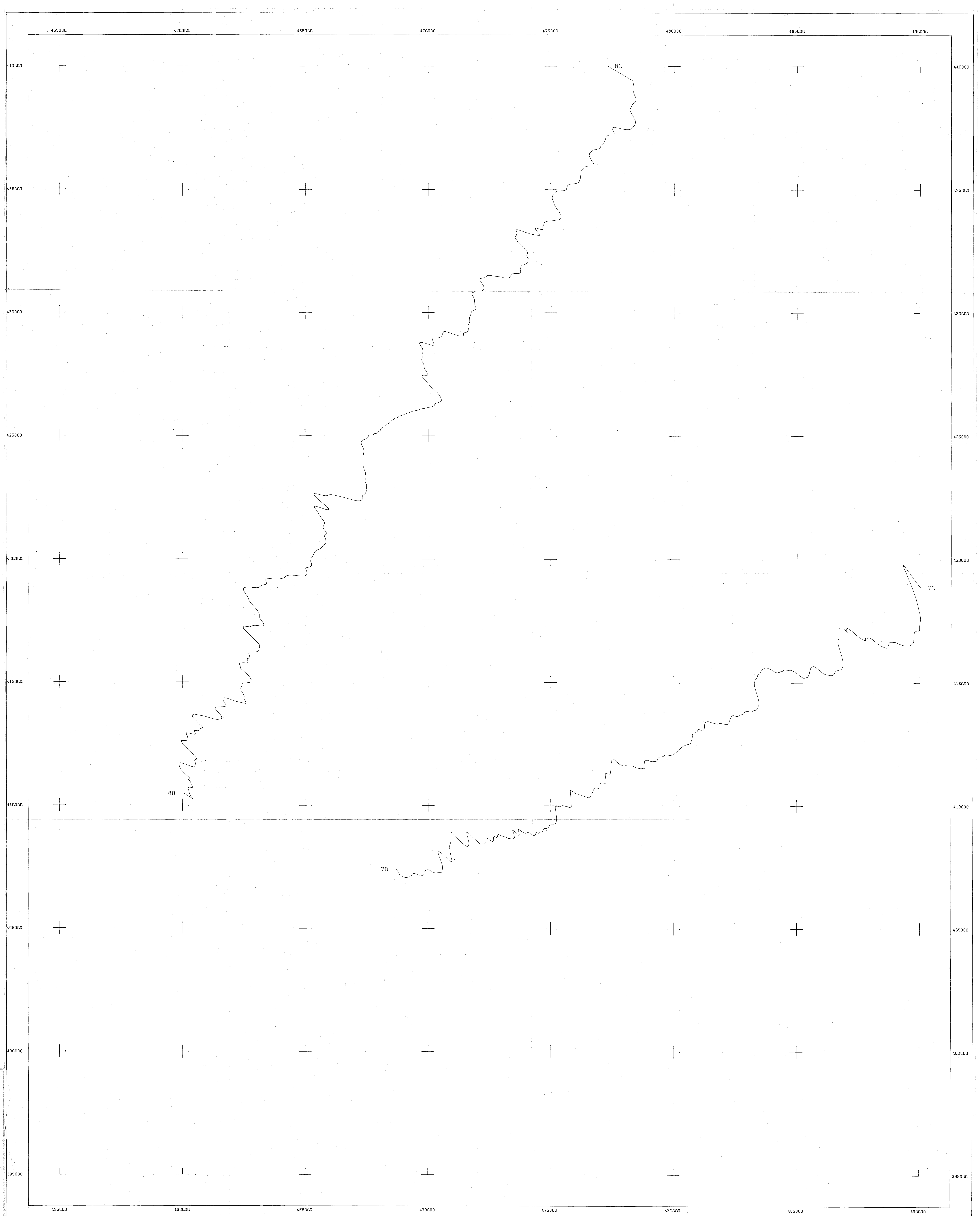
SHEET INDEX

Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples, such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

+ 5000 metre Australian Metric Grid.

Vertical scale 100nT. per cm.
Base value 59500nT.
Sensor height 30Metres AMT

PROJECT NUMBER 80376 SURVEYED MARCH 1980
CEC DRAWING NUMBER 15722 3420(III)-4



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

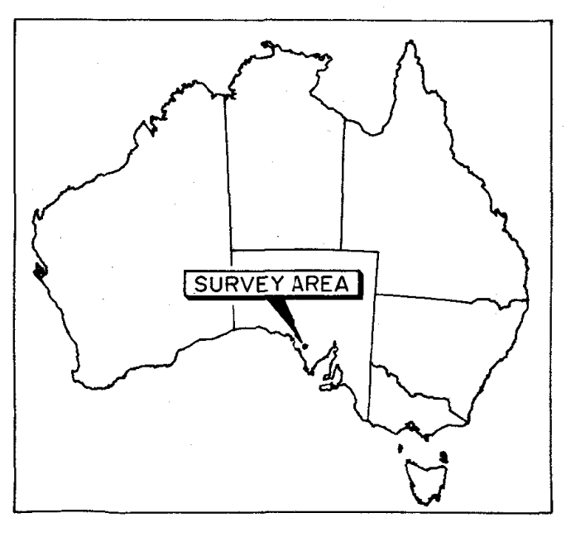
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

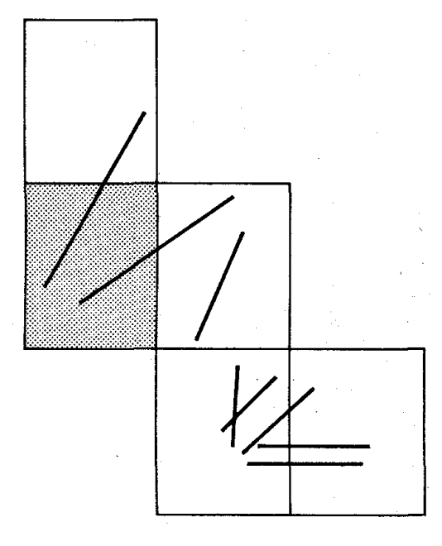
PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples, such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

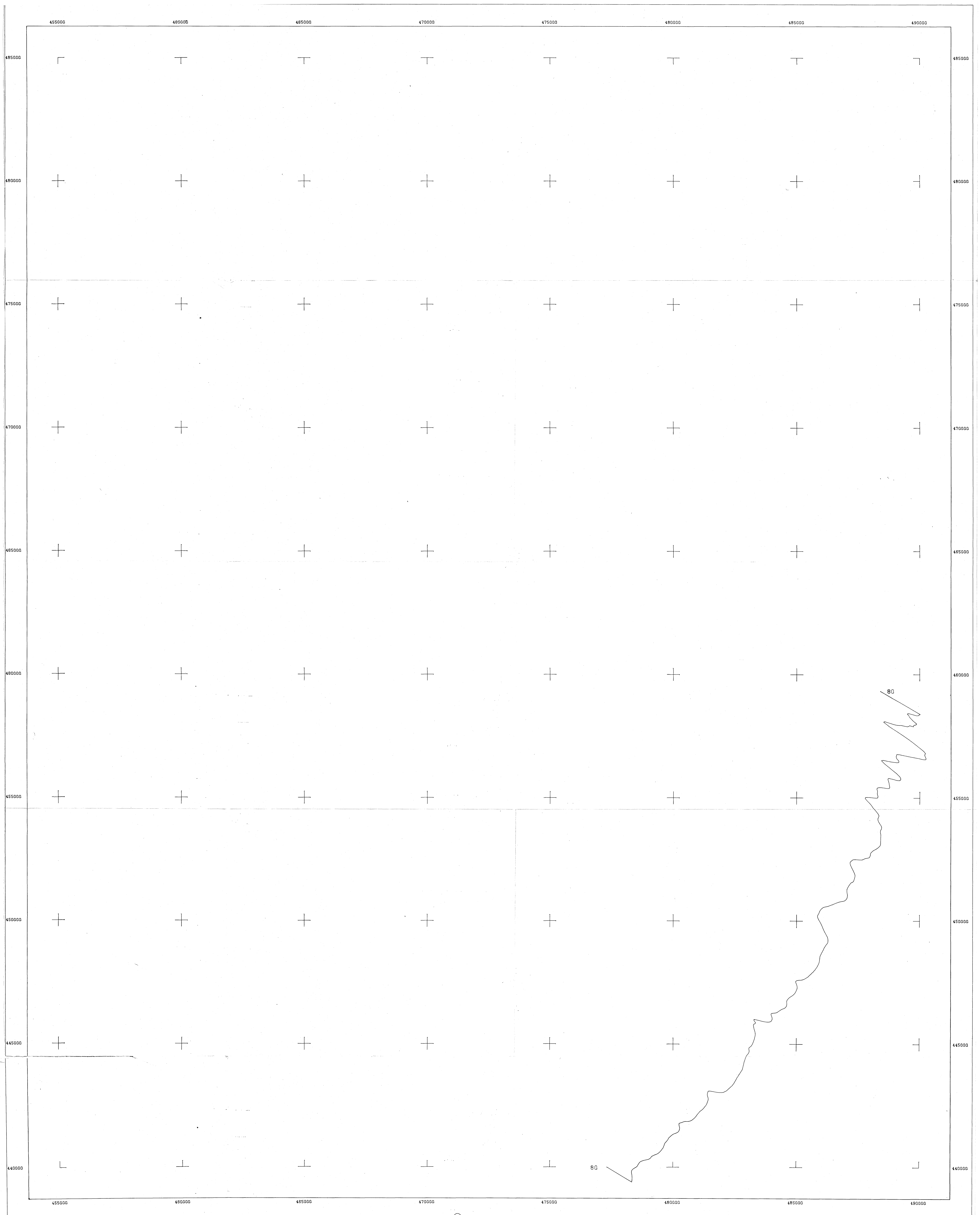
+ 5000 metre Australian Metric Grid.

Vertical scale 100nT. per cm.
Base value 59500nT.
Sensor height 30 Metres AMT

PROJECT NUMBER 80376 SURVEYED MARCH 1980

CEC DRAWING NUMBER 15723

3420(III)-5



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

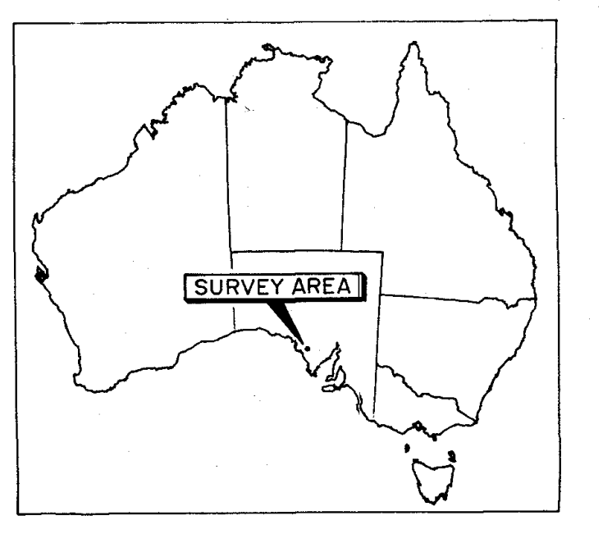
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

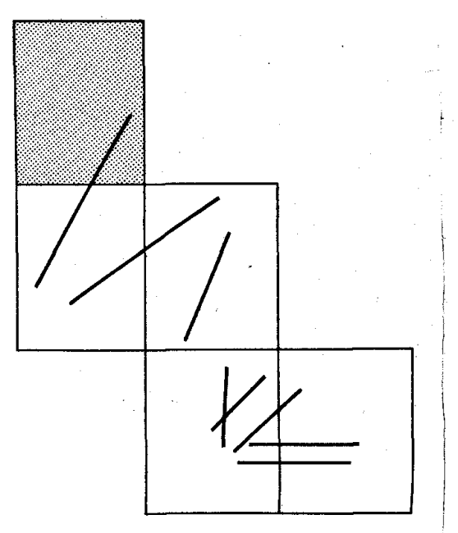
PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

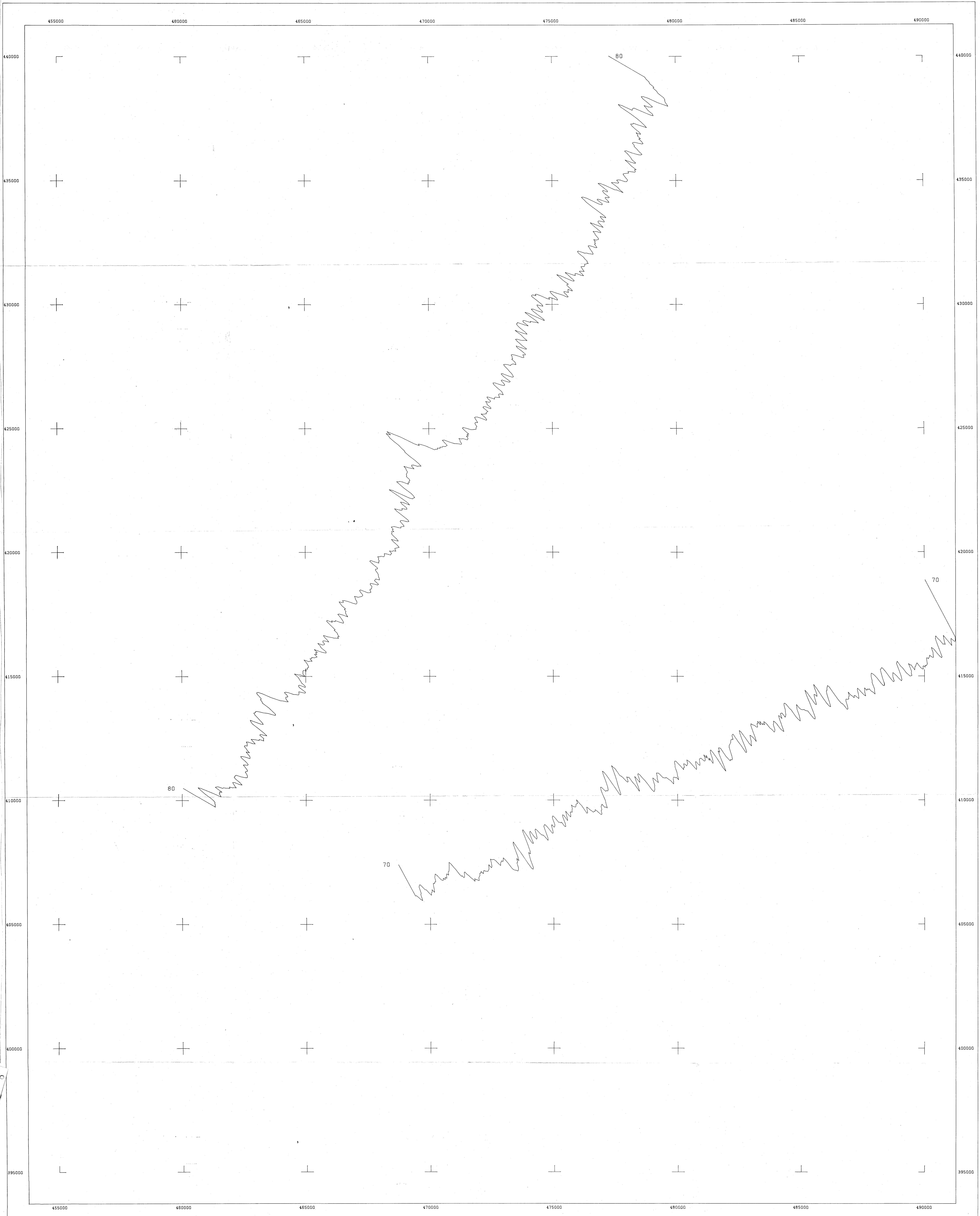
Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples, such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

+ 5000 metre Australian Metric Grid.

Vertical scale 100nT. per cm.
Base value 59500nT.
Sensor height 30Metres AMT

PROJECT NUMBER 80376 SURVEYED MARCH 1980

CEC DRAWING NUMBER 15724 3420(III)-6



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

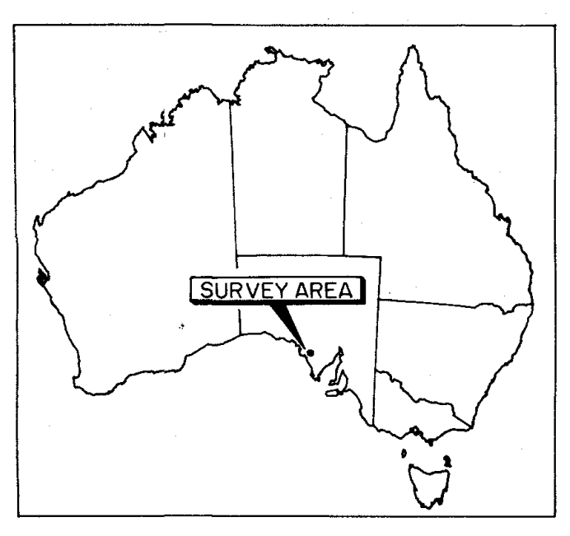
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

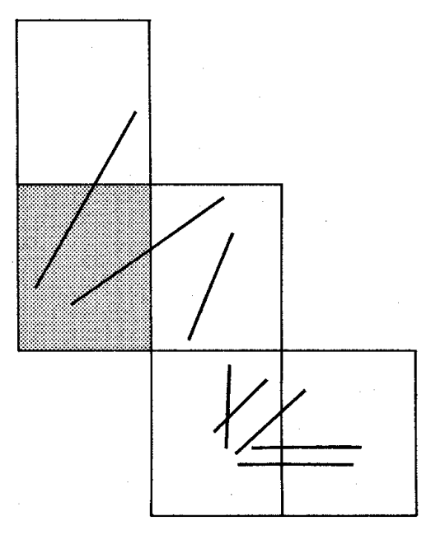
PROFILES OF TOTAL RADIOMETRIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

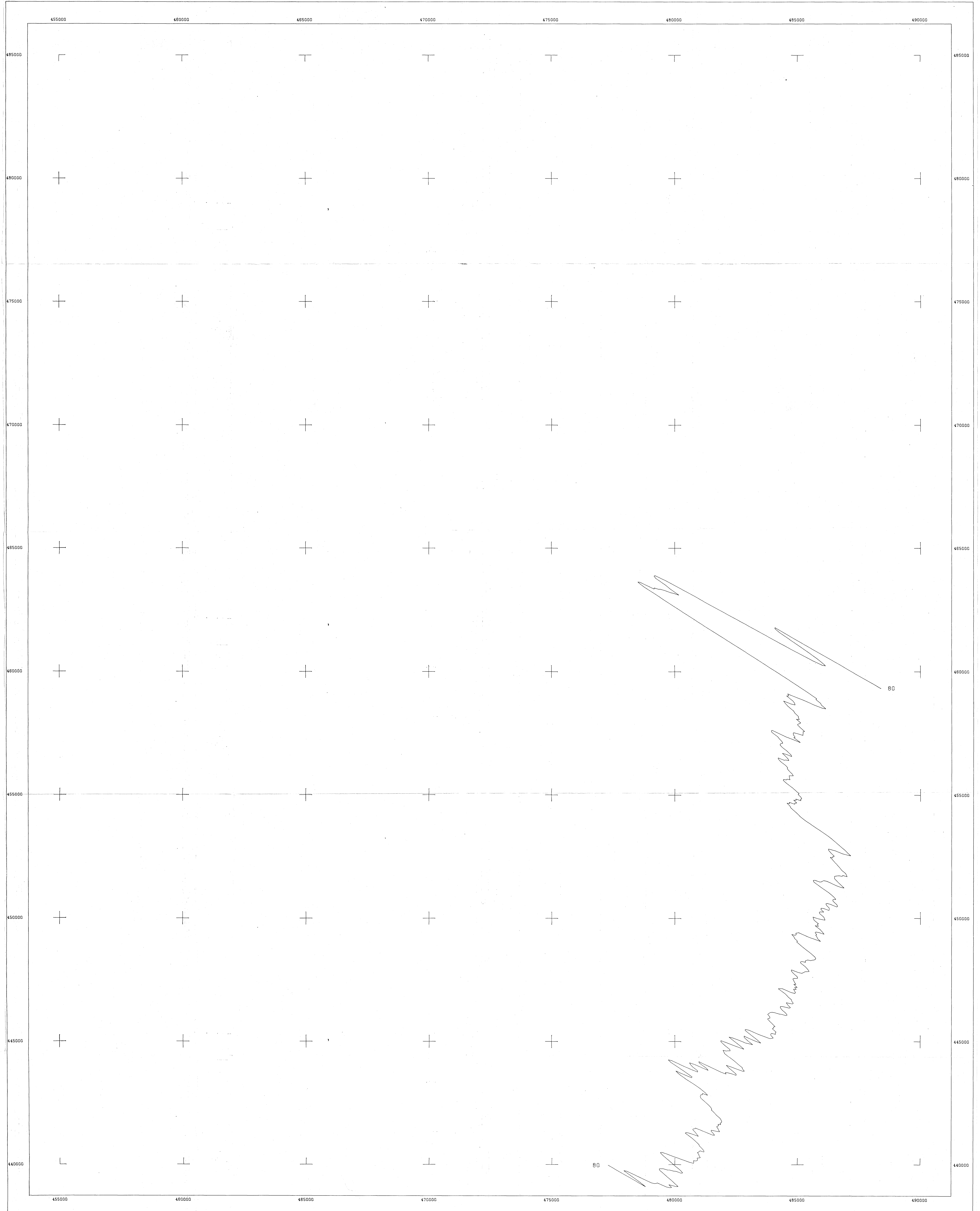
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 500 c.p.s.

VERTICAL SCALE 50 c.p.s per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15732

3420(III)-7



Airborne Geophysical Survey and Compilation by

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PTY LTD

for

CARPENTARIA EXPLORATION COMPANY PTY LTD

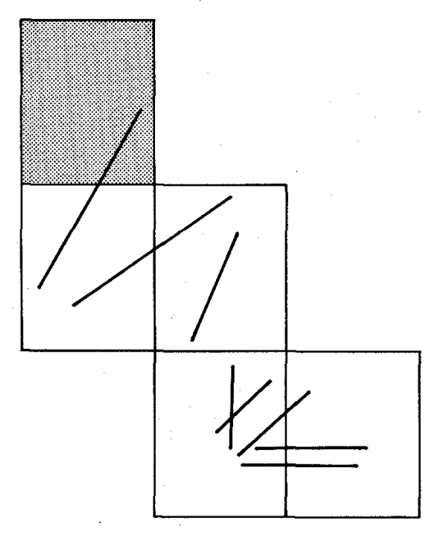
MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF TOTAL RADIOMETRIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES

SURVEY LOCATION



SHEET INDEX

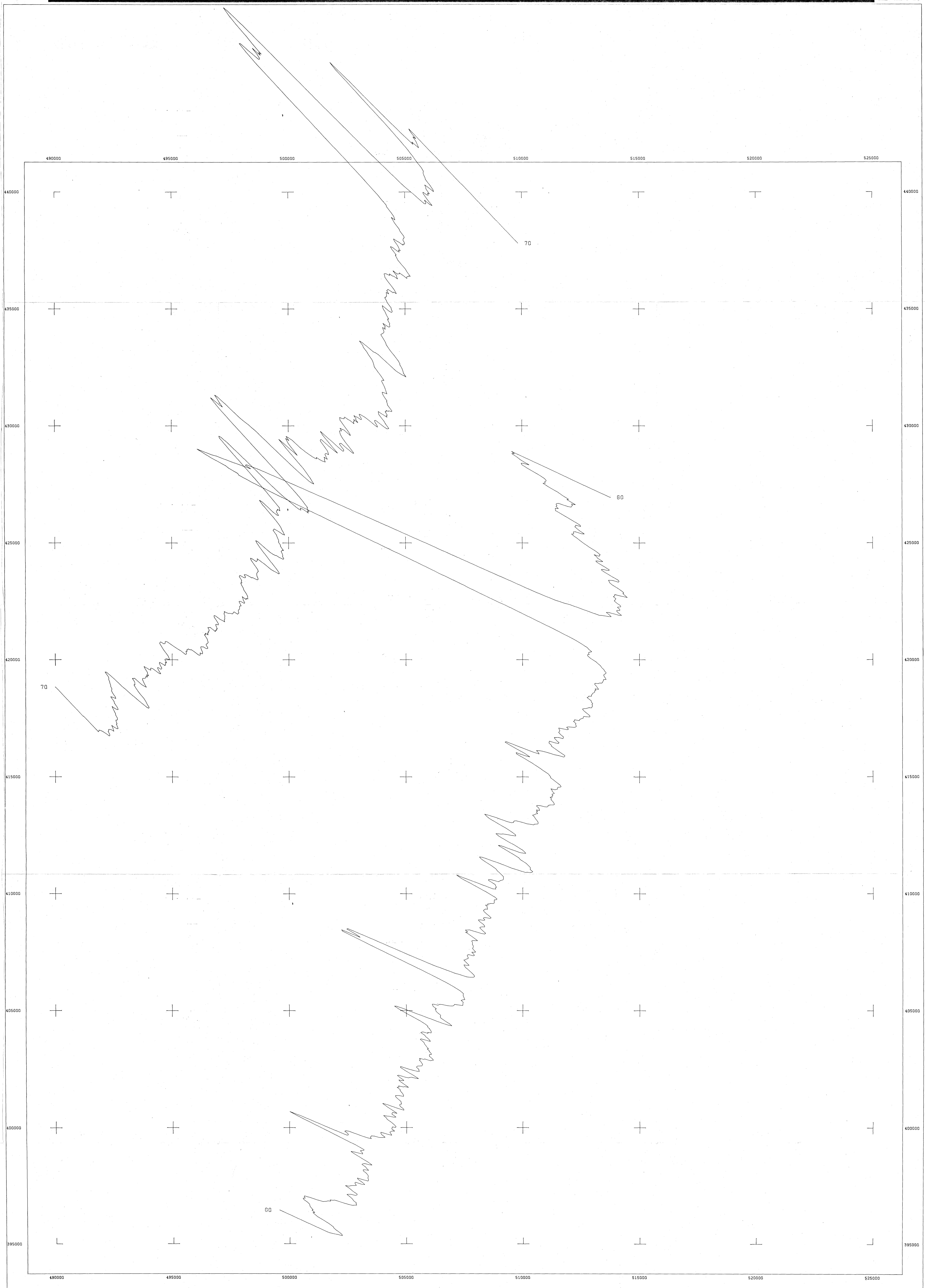
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 500 c.p.s.

VERTICAL SCALE 50 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 **CEC DRAWING NUMBER 15733**

3420 (III)-8



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

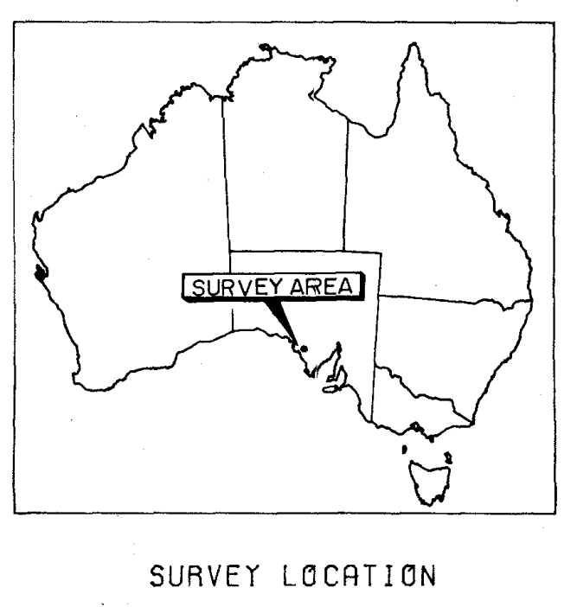
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

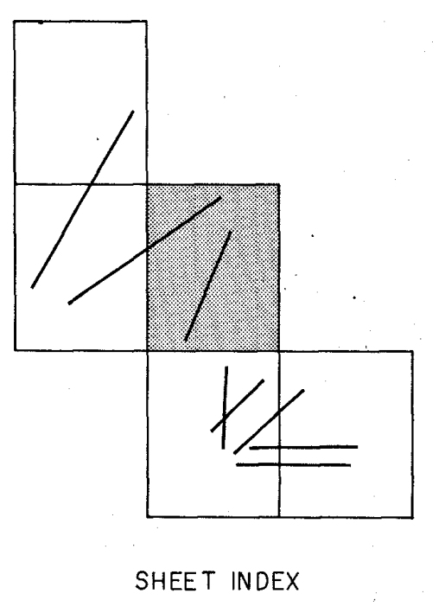
PROFILES OF TOTAL RADIOMETRIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

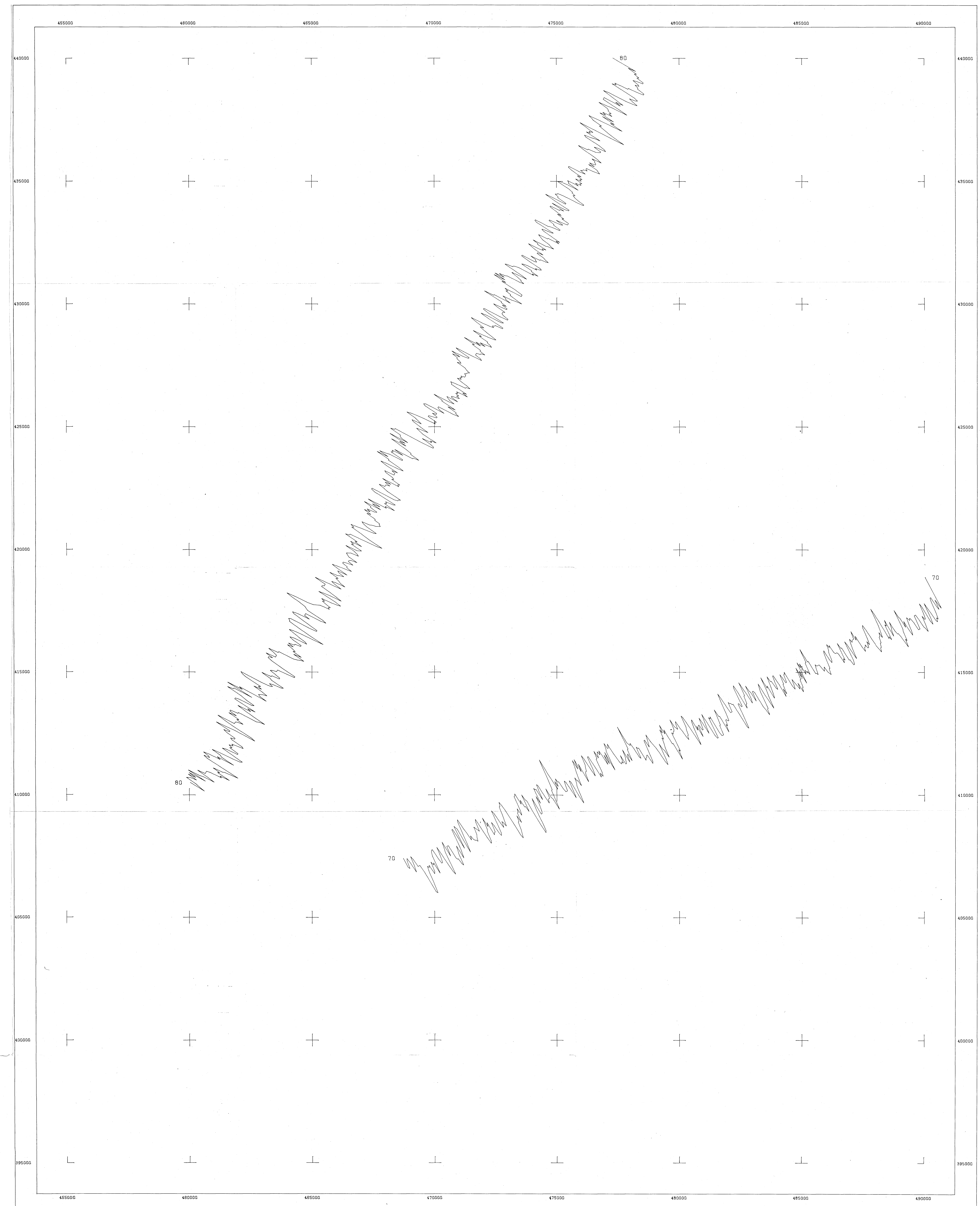
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 500 c.p.s.

VERTICAL SCALE 50 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15734

3420(III)-9



Airborne Geophysical Survey and Compilation by

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PTY LTD

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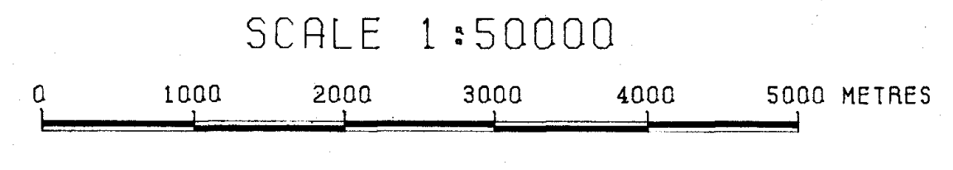
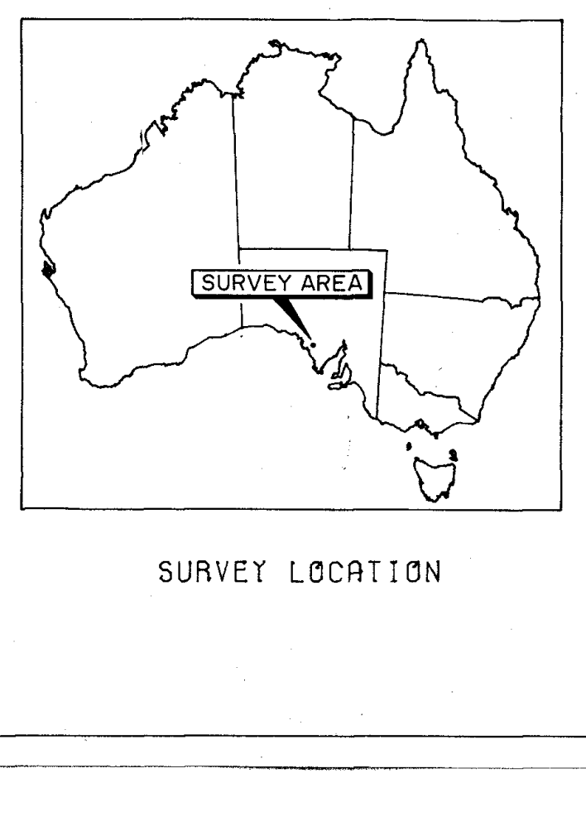
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

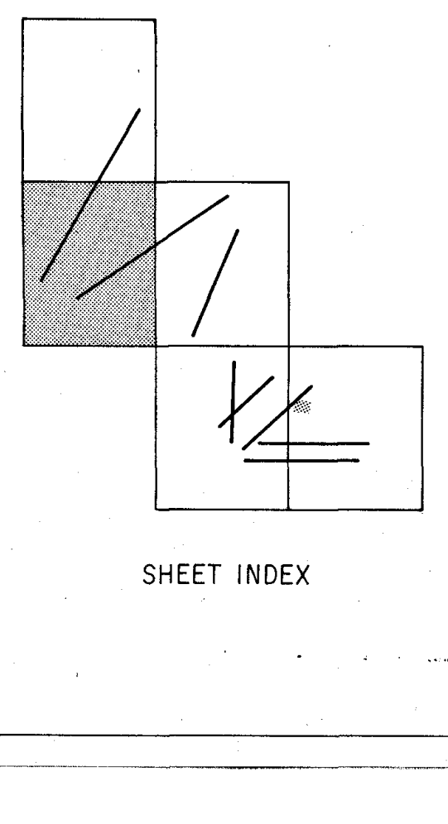
PROFILES OF URANIUM CHANNEL INTENSITY

SCALE 1:50000





SURVEY LOCATION



SHEET INDEX

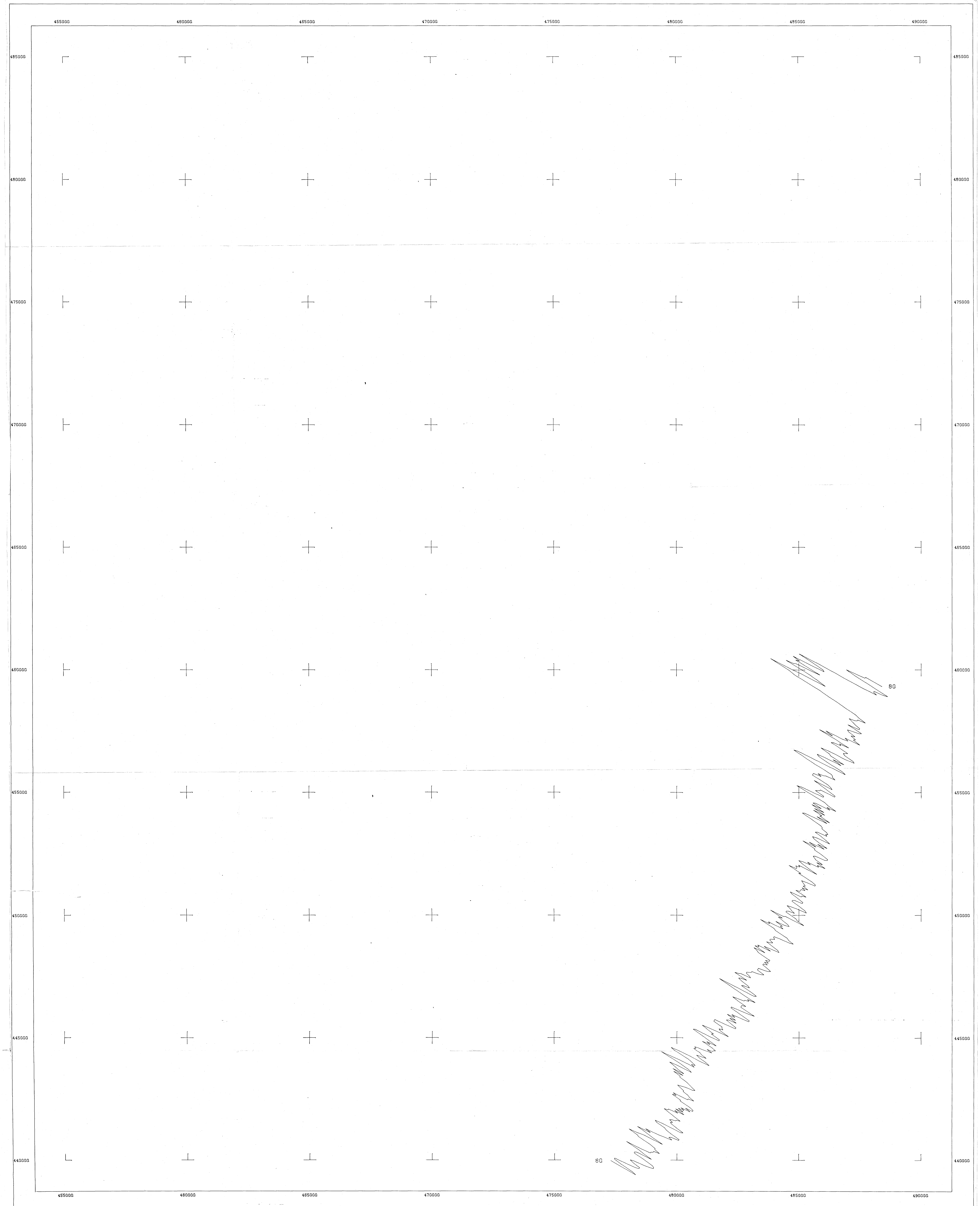
AIRCRAFT HEIGHT 40m. AMT

BASE LINE VALUE 10 c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 **CEC DRAWING NUMBER 15737**

3420(III)-10



Airborne Geophysical Survey and Compilation by

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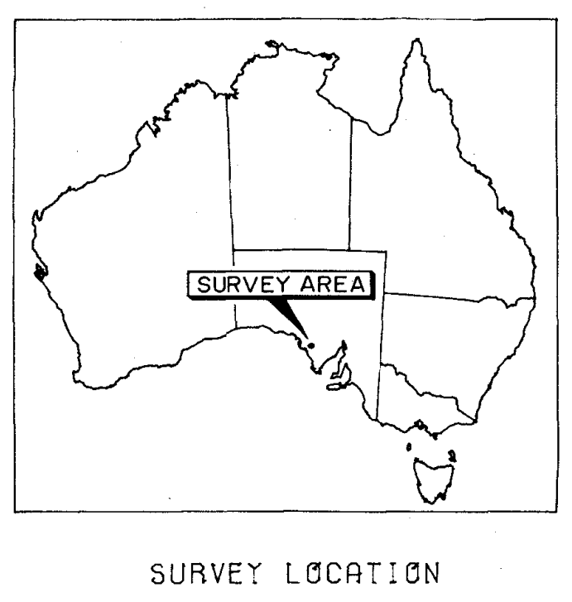
CARPENTARIA EXPLORATION COMPANY PTY LTD

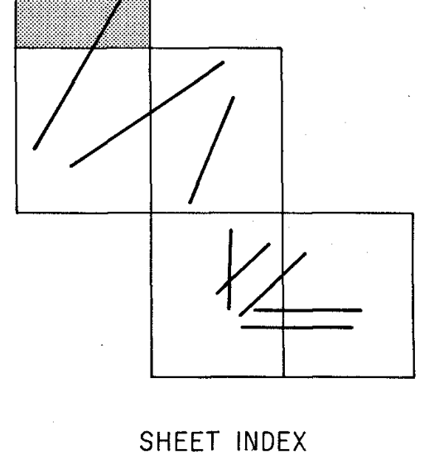
MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF URANIUM CHANNEL INTENSITY

SCALE 1:50000



SURVEY LOCATION



SHEET INDEX

AIRCRAFT HEIGHT 40m. AMT

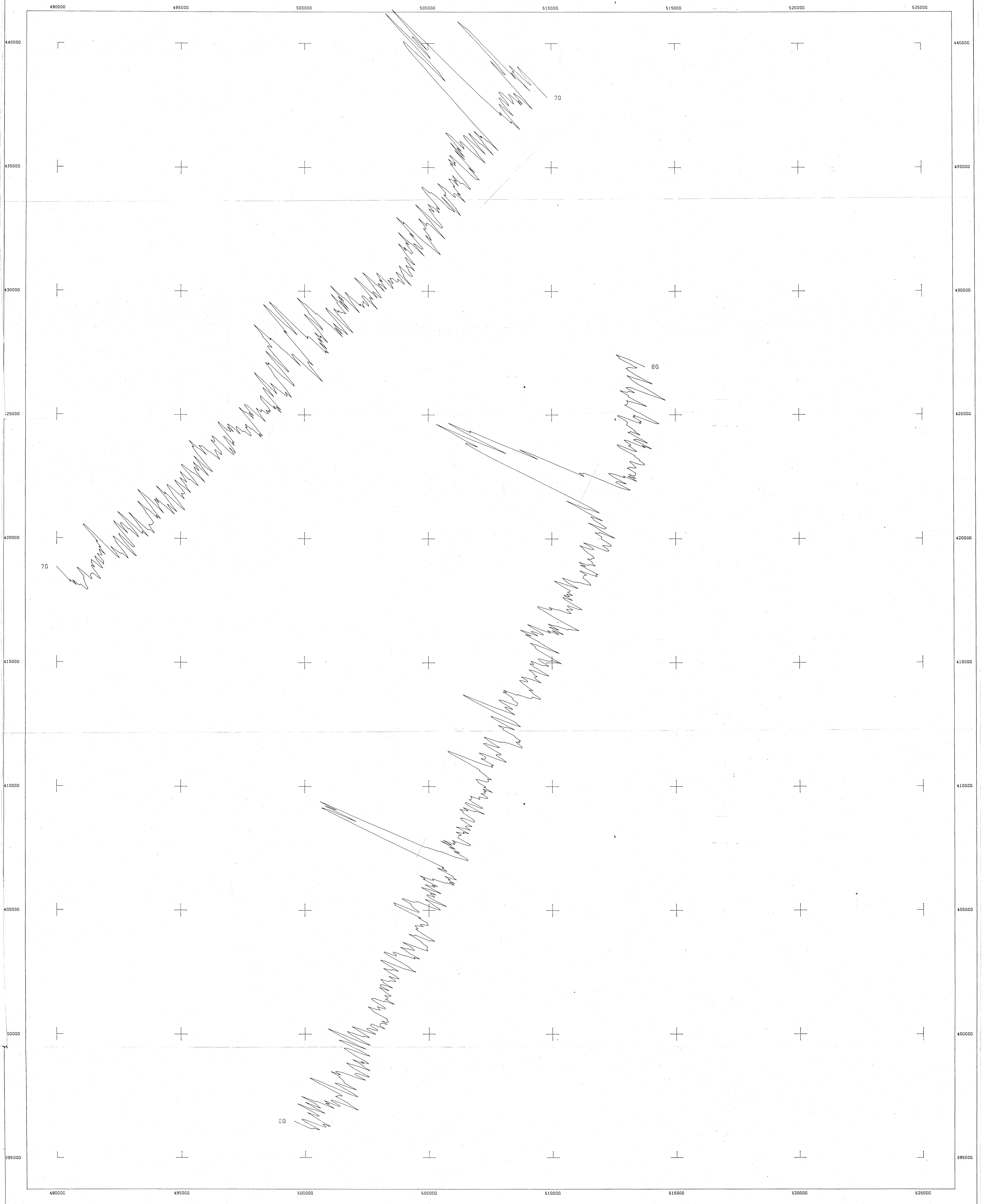
BASE LINE VALUE 10 c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980

3420(III)-11

CEC DRAWING NUMBER 15738



Airborne Geophysical Survey and Compilation by

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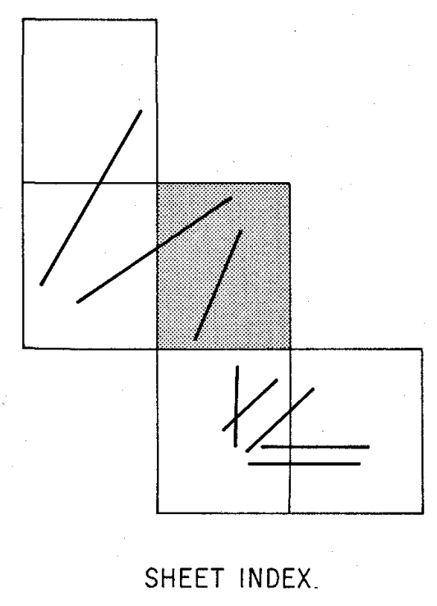
MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF URANIUM CHANNEL INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES

SURVEY LOCATION



SHEET INDEX

AIRCRAFT HEIGHT 40m. AMT

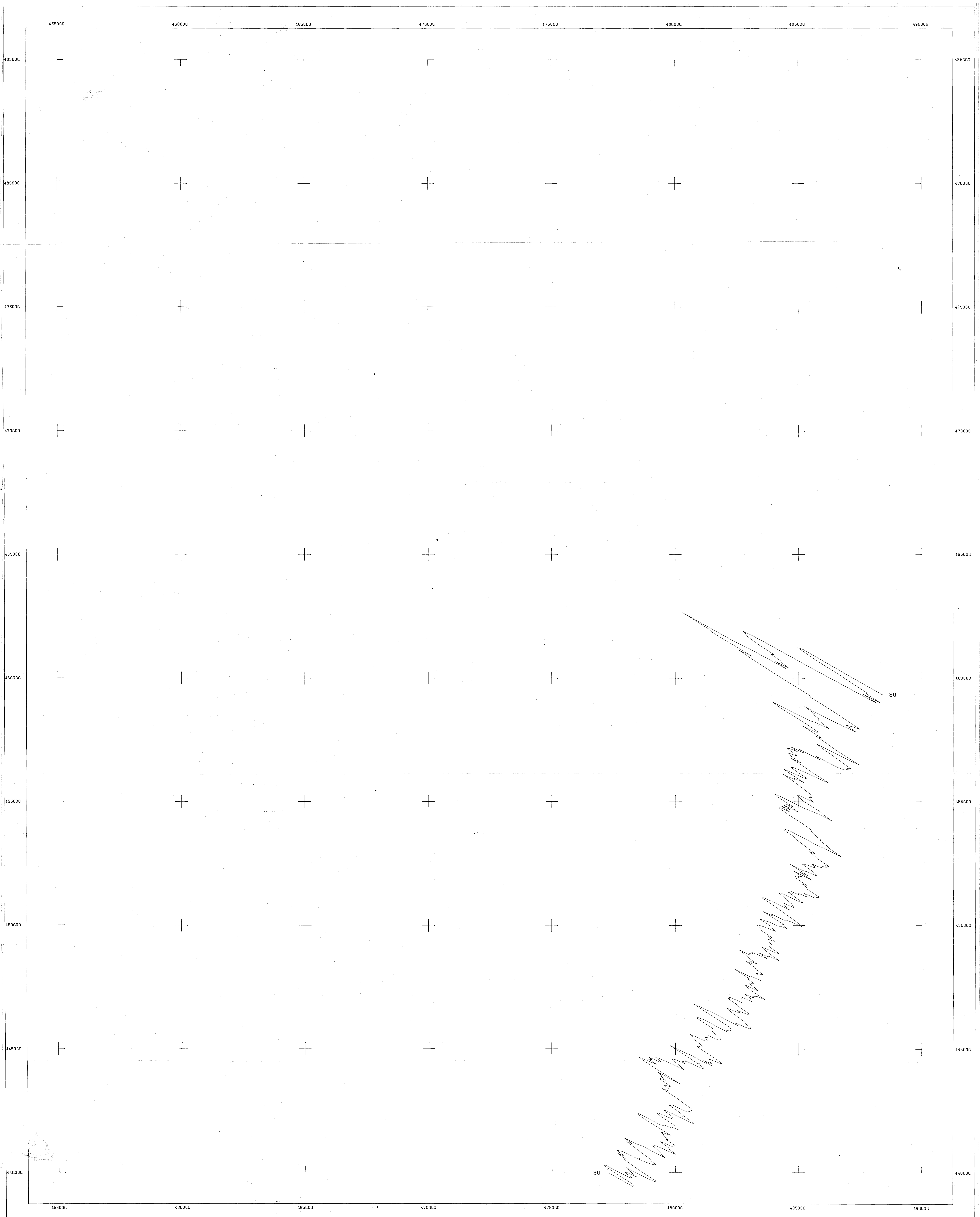
BASE LINE VALUE 10 c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980

3420(III)-12

CEC DRAWING NUMBER 15739



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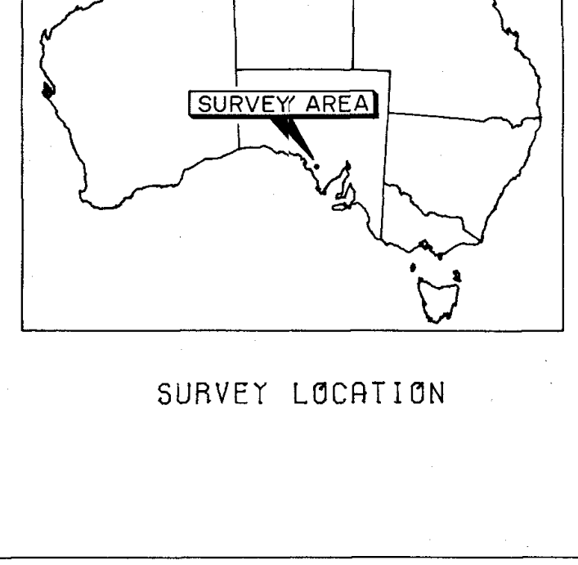
MINNIPA AREA SOUTH AUSTRALIA

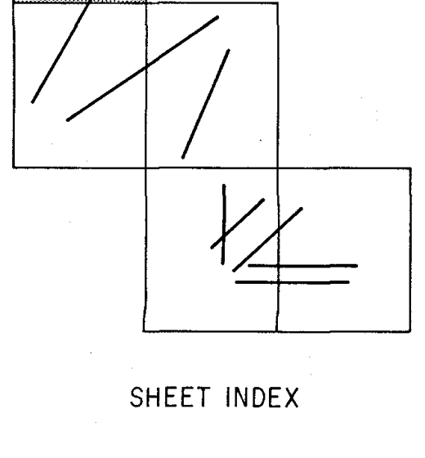
PROFILES OF THORIUM CHANNEL INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

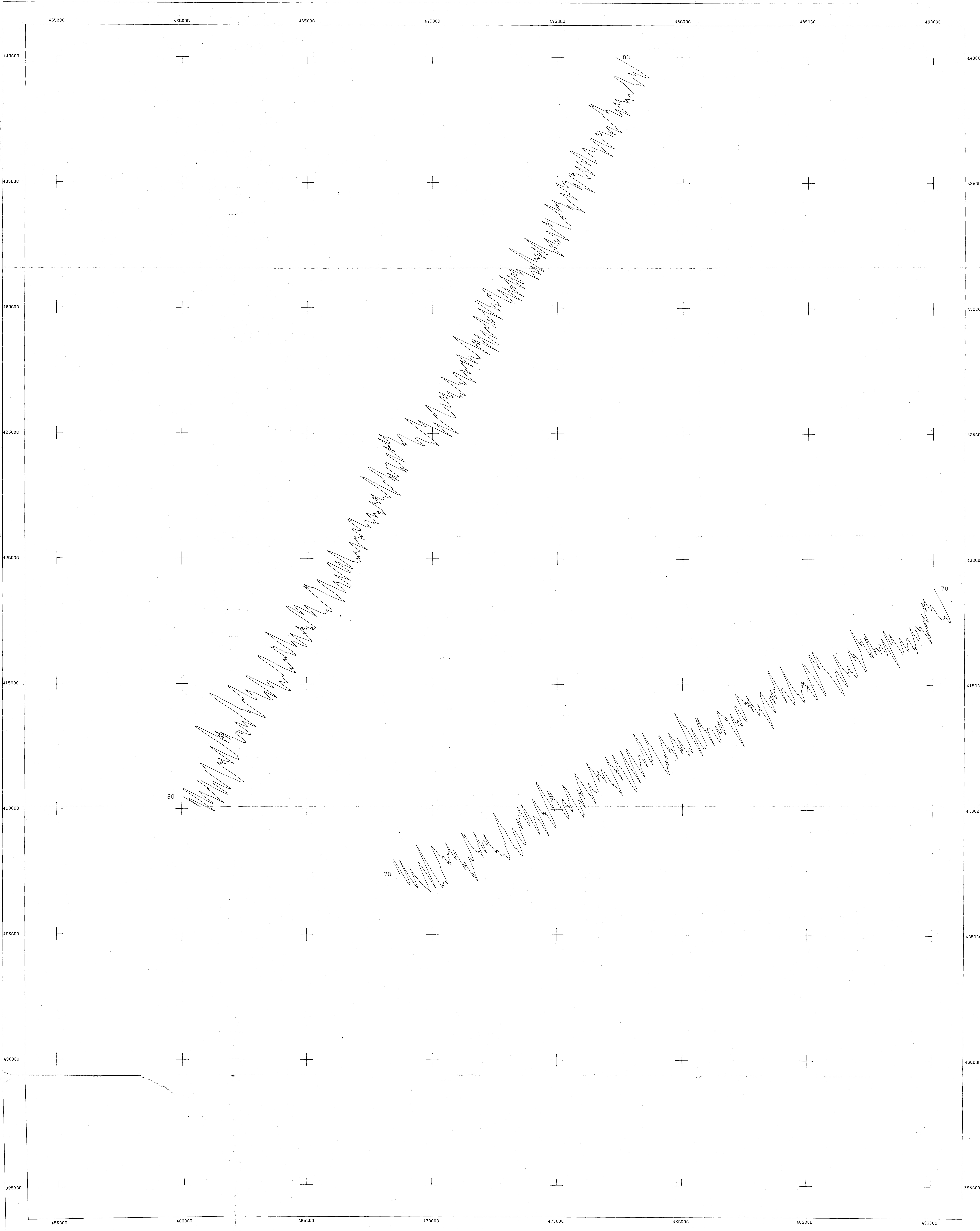
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 10 c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15742

3420(III)-13



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for

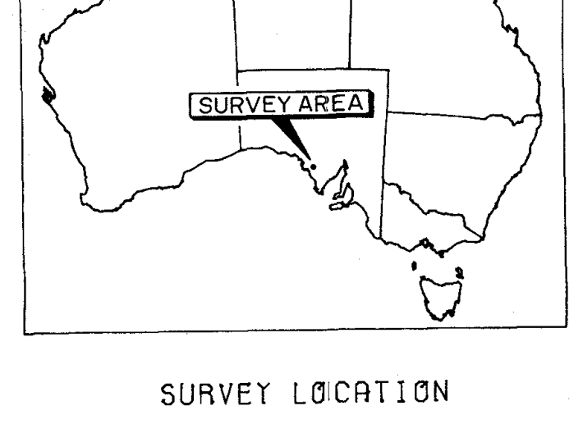
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF THORIUM CHANNEL INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



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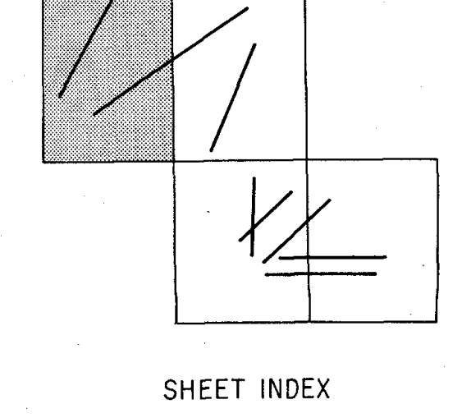


SHEET INDEX

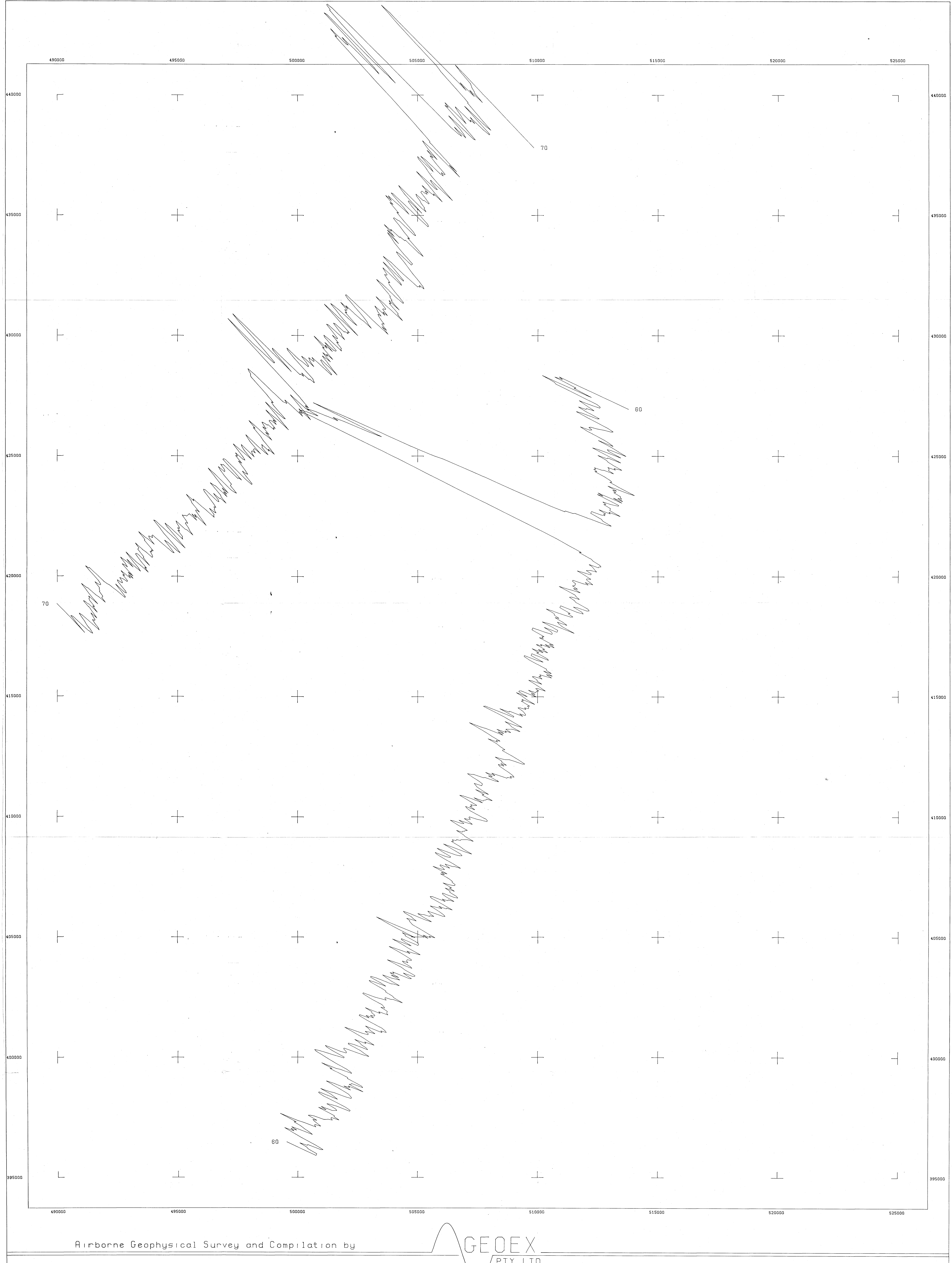
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 10c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15743

3420(III)-14



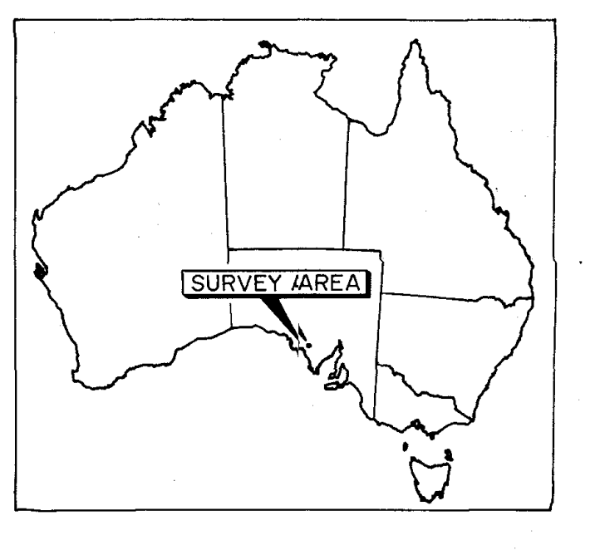
Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

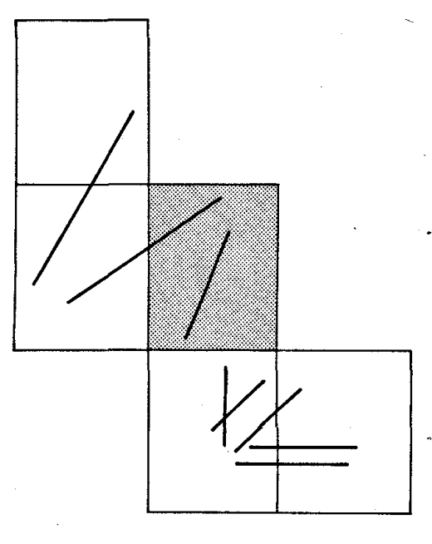
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF THORIUM CHANNEL INTENSITY



SURVEY LOCATION



SHEET INDEX

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES

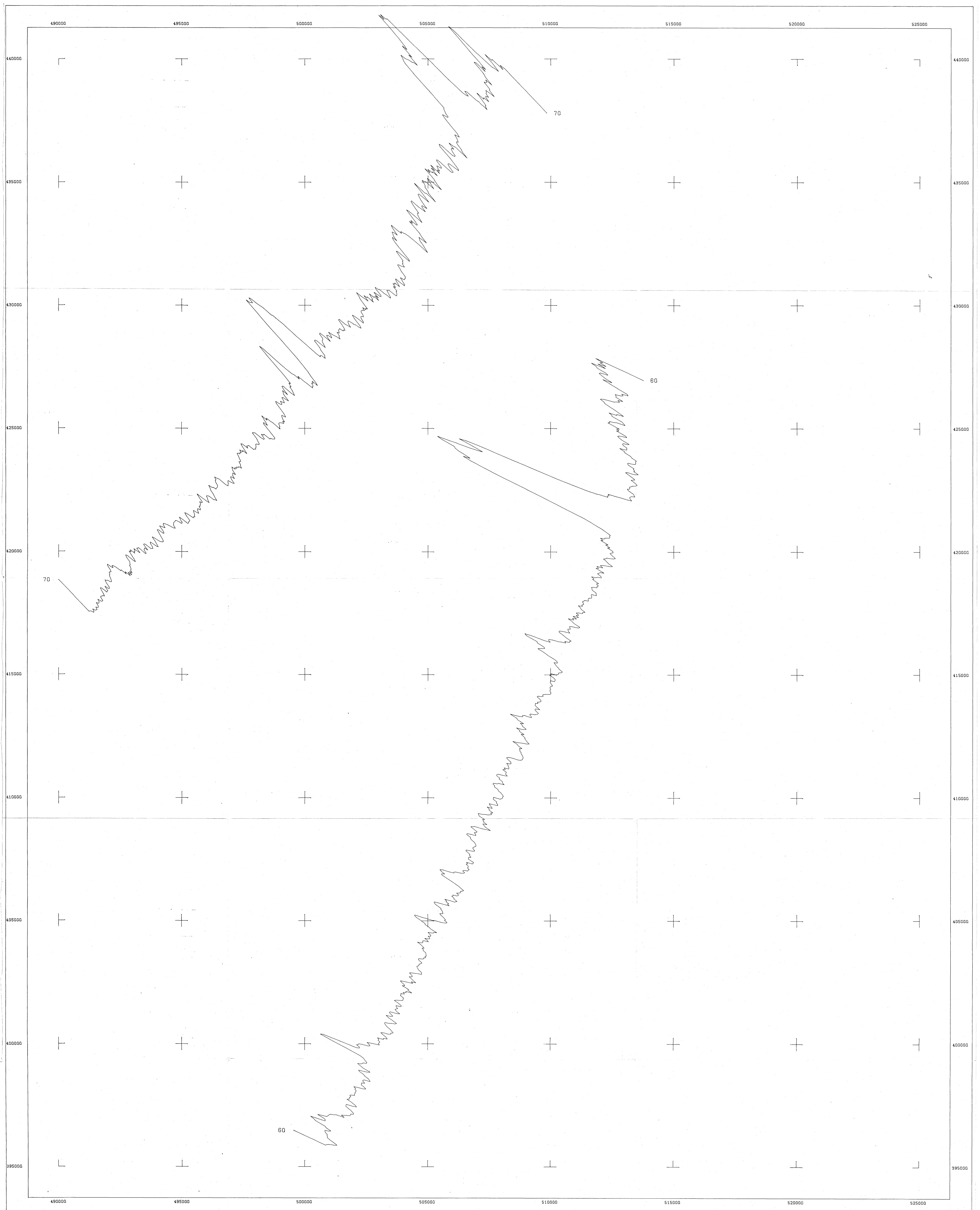
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 10 c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 **CEC DRAWING NUMBER 15744**

3420 (III)-15



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

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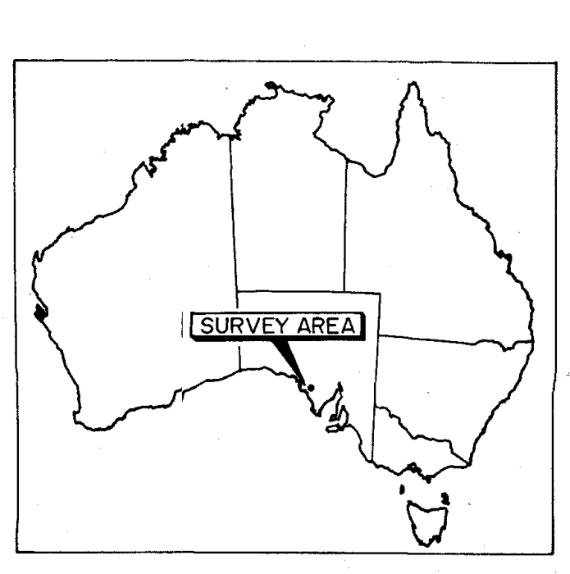
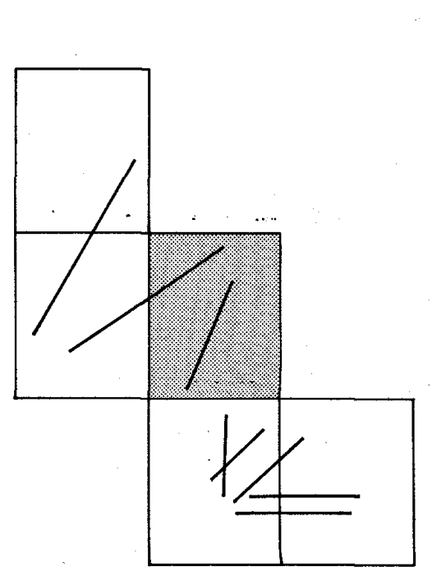
MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF POTASSIUM CHANNEL INTENSITY

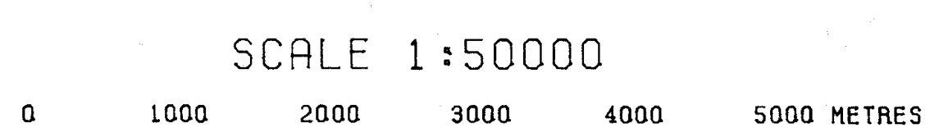


SURVEY LOCATION



SHEET INDEX

SCALE 1:50000



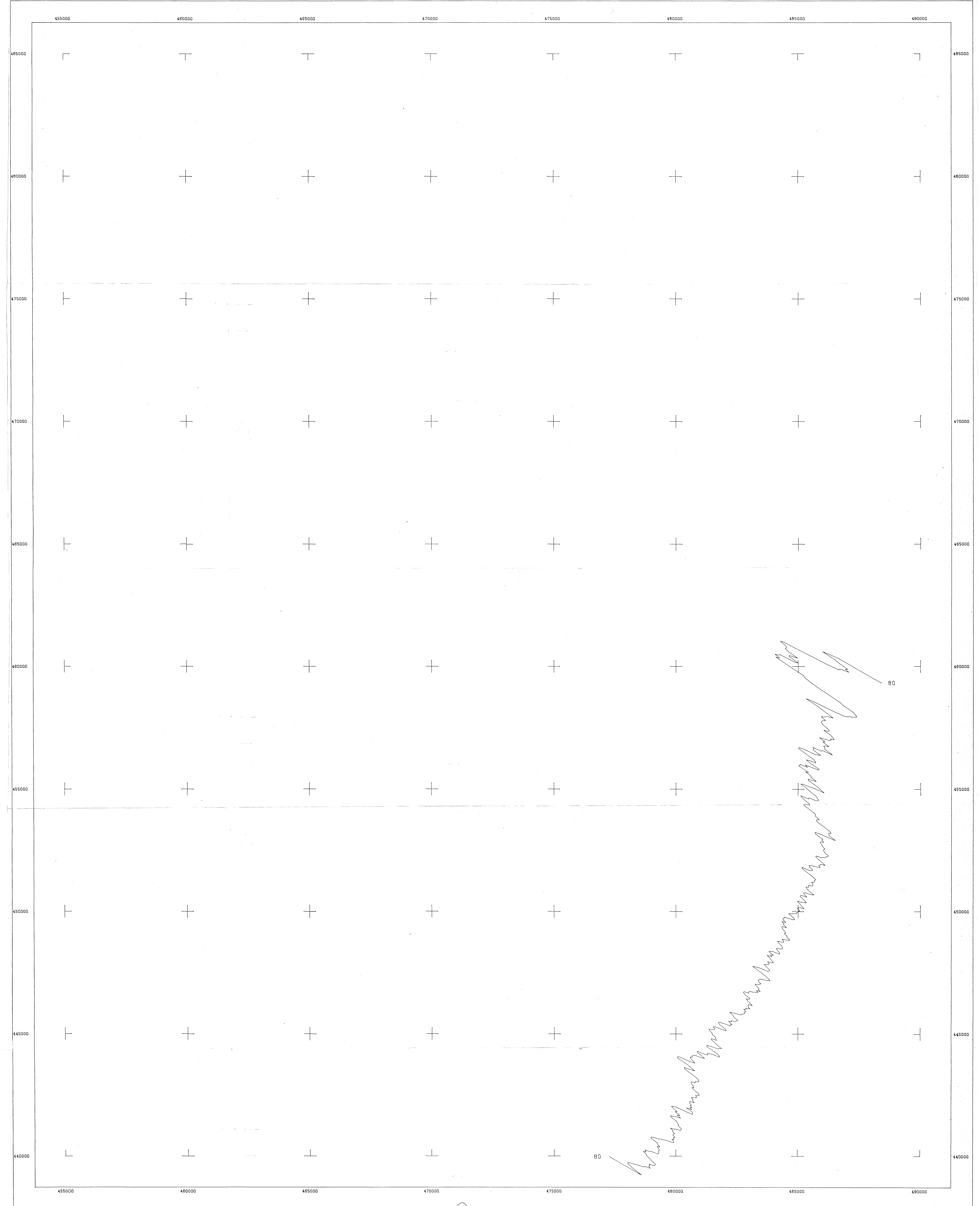
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 50c.p.s.

VERTICAL SCALE 10 c.p.s per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15747

3420 (III)-16



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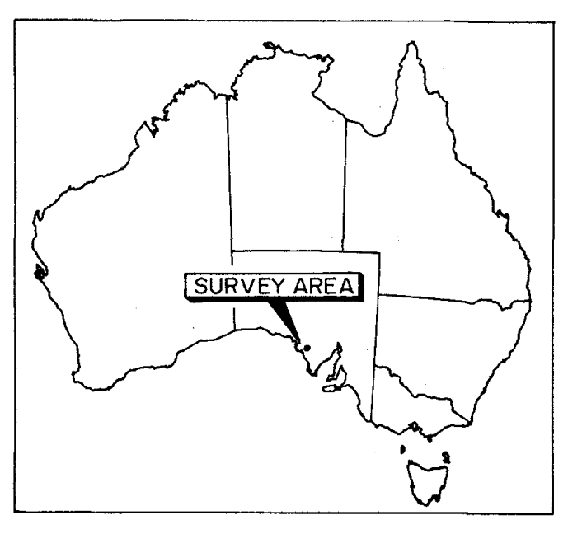
CARPENTARIA EXPLORATION COMPANY PTY LTD

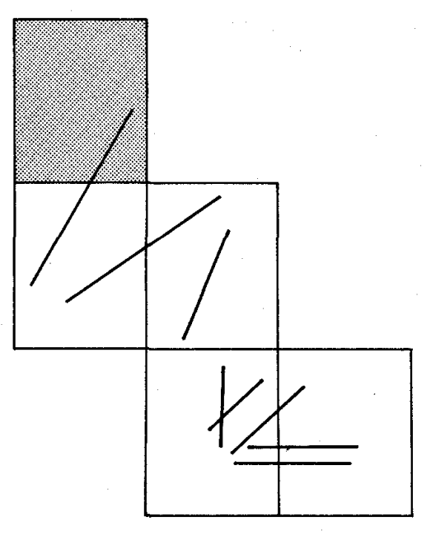
MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF POTASSIUM CHANNEL INTENSITY

SCALE 1:50000



SURVEY LOCATION



SHEET INDEX

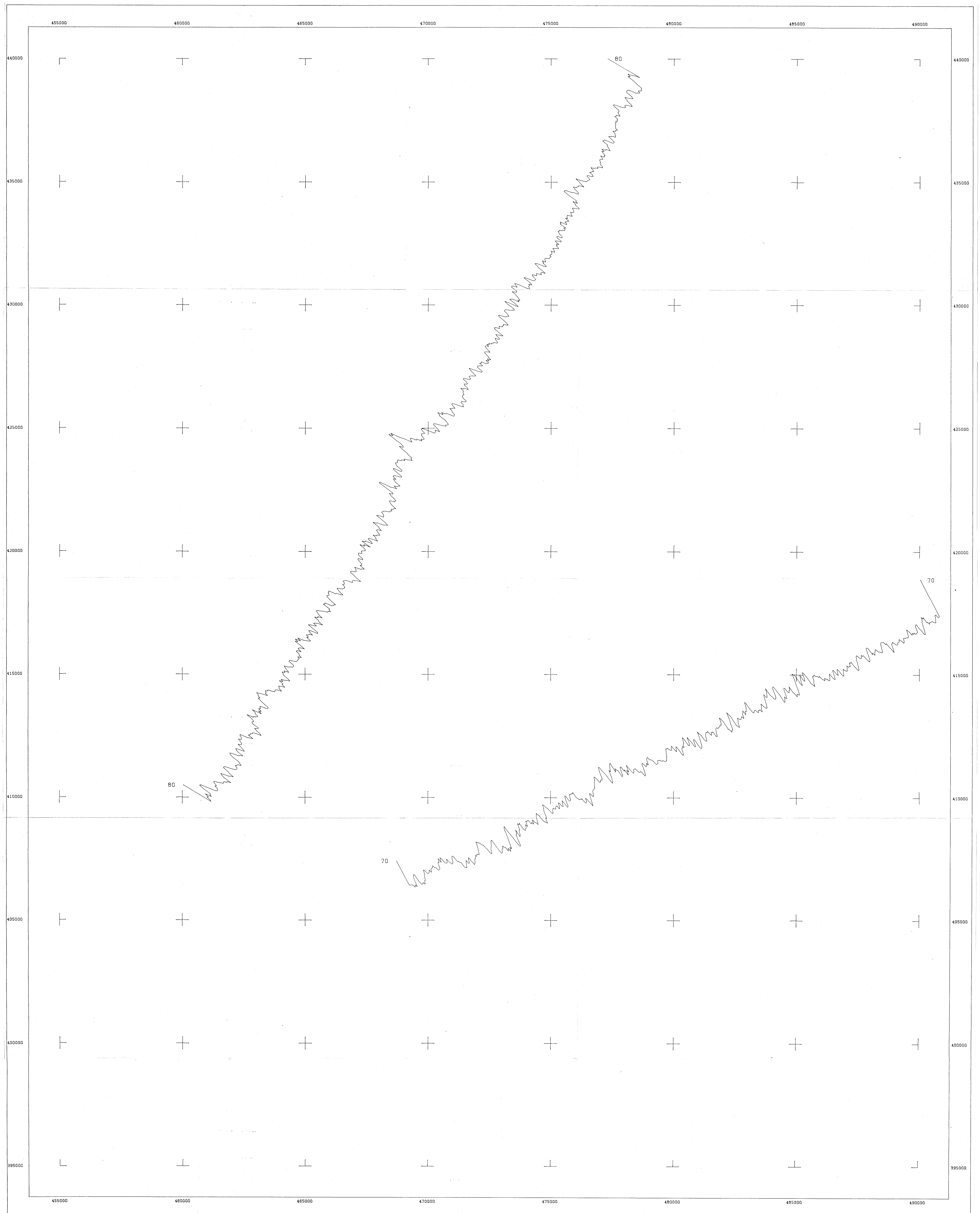
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 50 c.p.s.

VERTICAL SCALE 10 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15748

3420(III)-17



Airborne Geophysical Survey and Compilation by

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PTY LTD

for

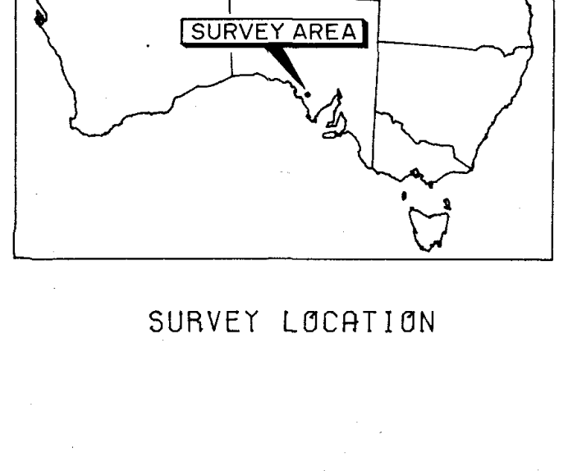
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

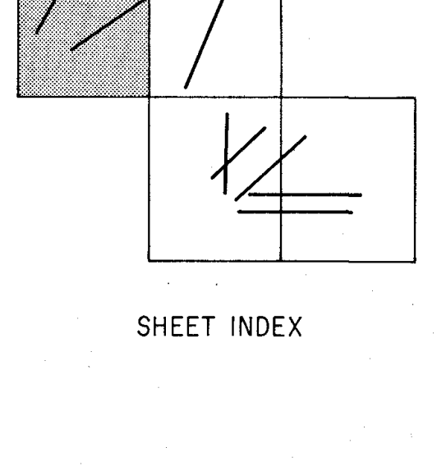
PROFILES OF POTASSIUM CHANNEL INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 50 c.p.s.

VERTICAL SCALE 10 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 **CEC DRAWING NUMBER 15749**

3420(III)-18

IV

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

PROGRESS REPORT FOR QUARTER ENDED JANUARY 7, 1981

1. TERMS AND CONDITIONS

The Exploration Licence covers an area of 2 388 km^2 and lies approximately 100 km east of Ceduna. It was granted on January 8, 1979 for a term of one year. This term was subsequently extended for a further year.

The amended expenditure requirement is $140 000 for the two year term.

An application for a new Exploration Licence over the same area was made on October 13, 1980.

2. EXPLORATION

Access tracks for further rotary-mud drilling have been completed in the west of the licence area. Drilling is scheduled to commence in March/April 1981.

Results have still not been received from the vehicle borne caesium-vapour magnetometer survey which was carried out in April 1980.

3. EXPENDITURE

An expenditure statement is attached.

RECEIVED
12 FEB 1981
DEPT. OF MINES
AND ENERGY
SECURITY
3420-IV

P.J. Binks
Senior Geologist

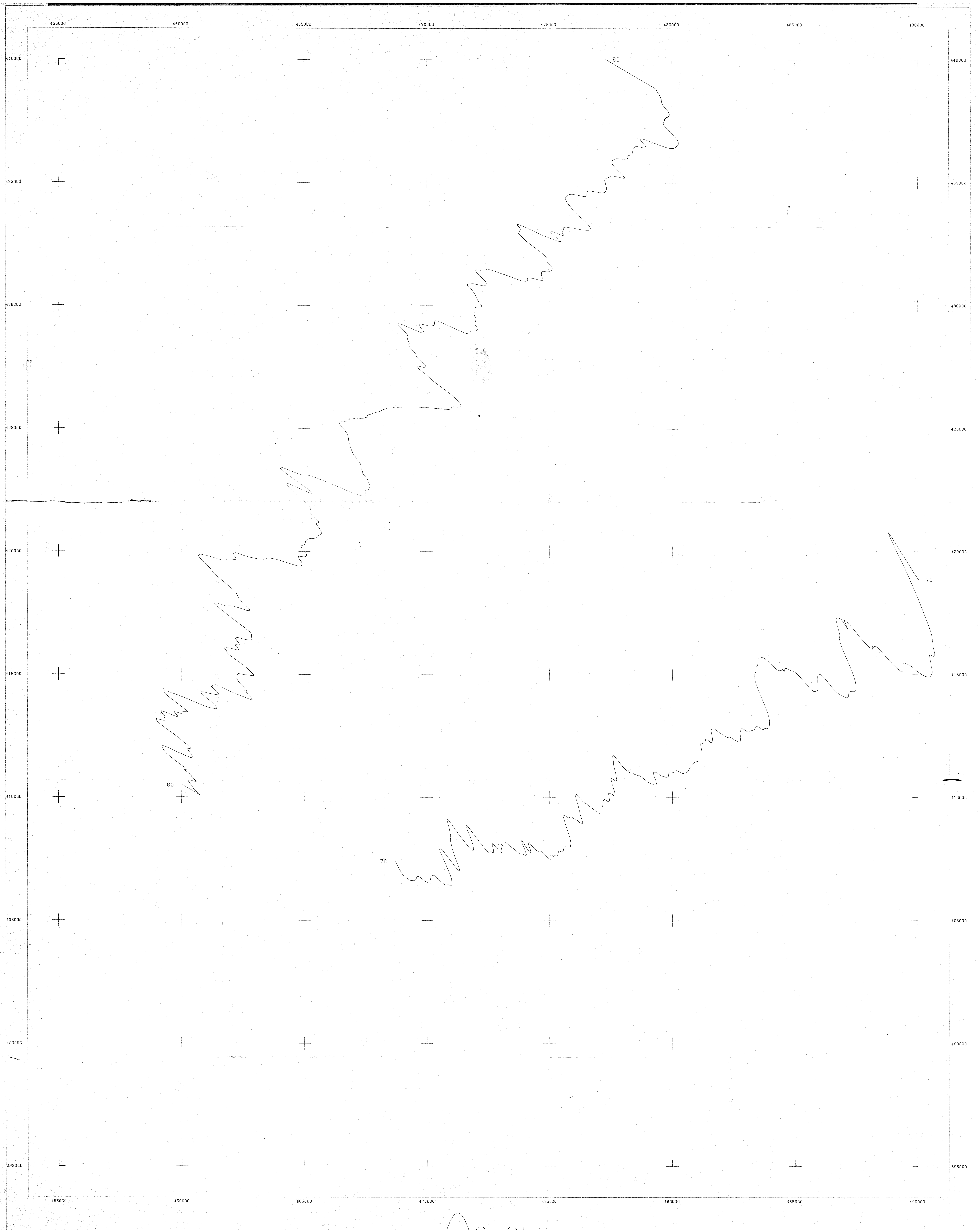
CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO. 442 "ILKINA"

STATEMENT OF EXPENDITURE FOR QUARTER ENDED JANUARY 7, 1981

	$	$
Administration	4 218	
Freight	25	
Outside Services	95	
Operating Labour	3 473	
Stores	109	
Total This Period	7 920	7 920
Already Reported - Current Term		
Quarter ended April 7, 1980	799	
Quarter ended July 7, 1980	929	
Quarter ended October 7, 1980	2 521	4 249
TOTAL - CURRENT TERM		12 169
Previously Reported		122 701
Total Project Expenditure to Date		$134 870

for ....
R.E. Darlington
Administration Manager



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

CARPENTARIA EXPLORATION COMPANY PTY LTD

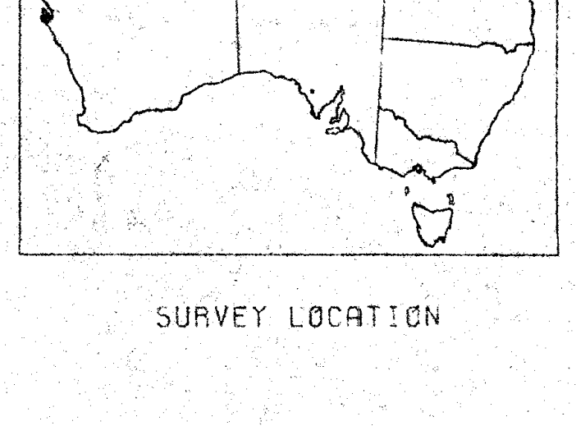
MINNIPA AREA SOUTH AUSTRALIA

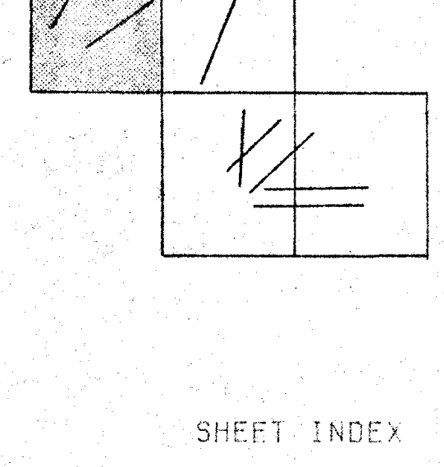
CO[illegible]RS E.L. 740 , 632 , 442

PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES


SURVEY LOCATION


SHEET INDEX

Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples , such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

+ 5000 metre Australian Metric Grid.

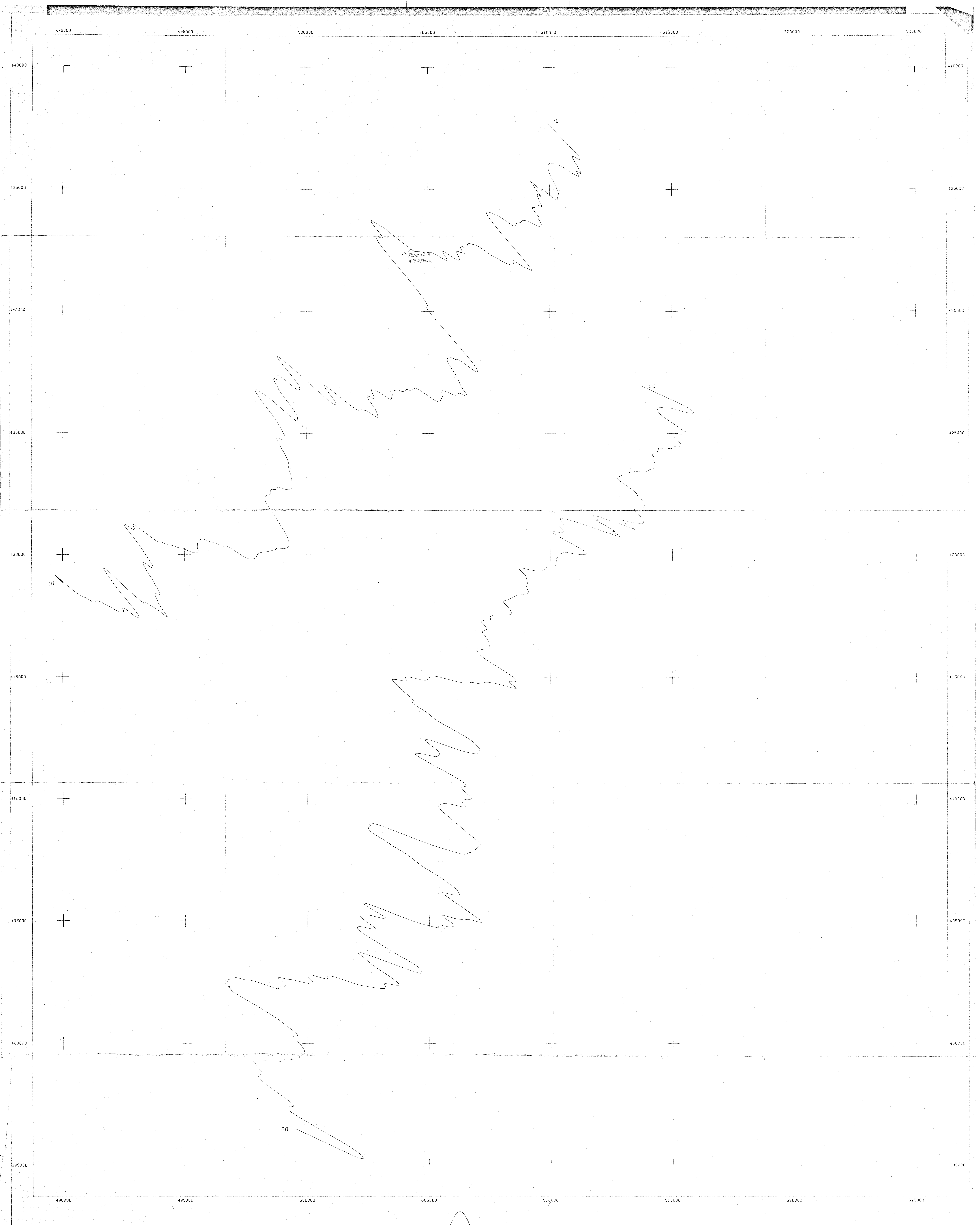
Vertical scale - 50nT per cm.
Base value - 59500nT.

14 MAR 1983
DEPT. OF MINES AND ENERGY SECURITY

Env. 3420.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 C.E.C. DRAWING NUMBER 15 729

3420(III)-19



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

CARPENTARIA EXPLORATION COMPANY PTY LTD

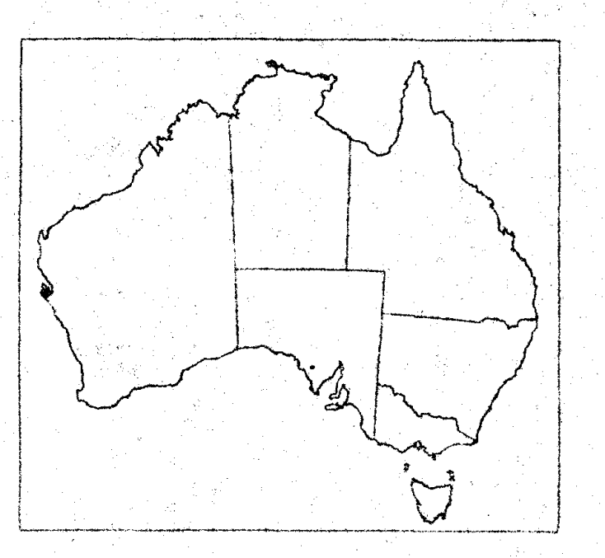
MINNIPA AREA SOUTH AUSTRALIA

COVERS E.L. 442 , 540

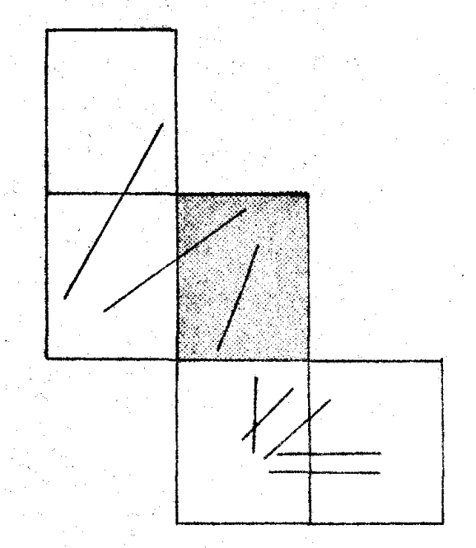
PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples , such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

+ 5000 metre Australian Metric Grid.

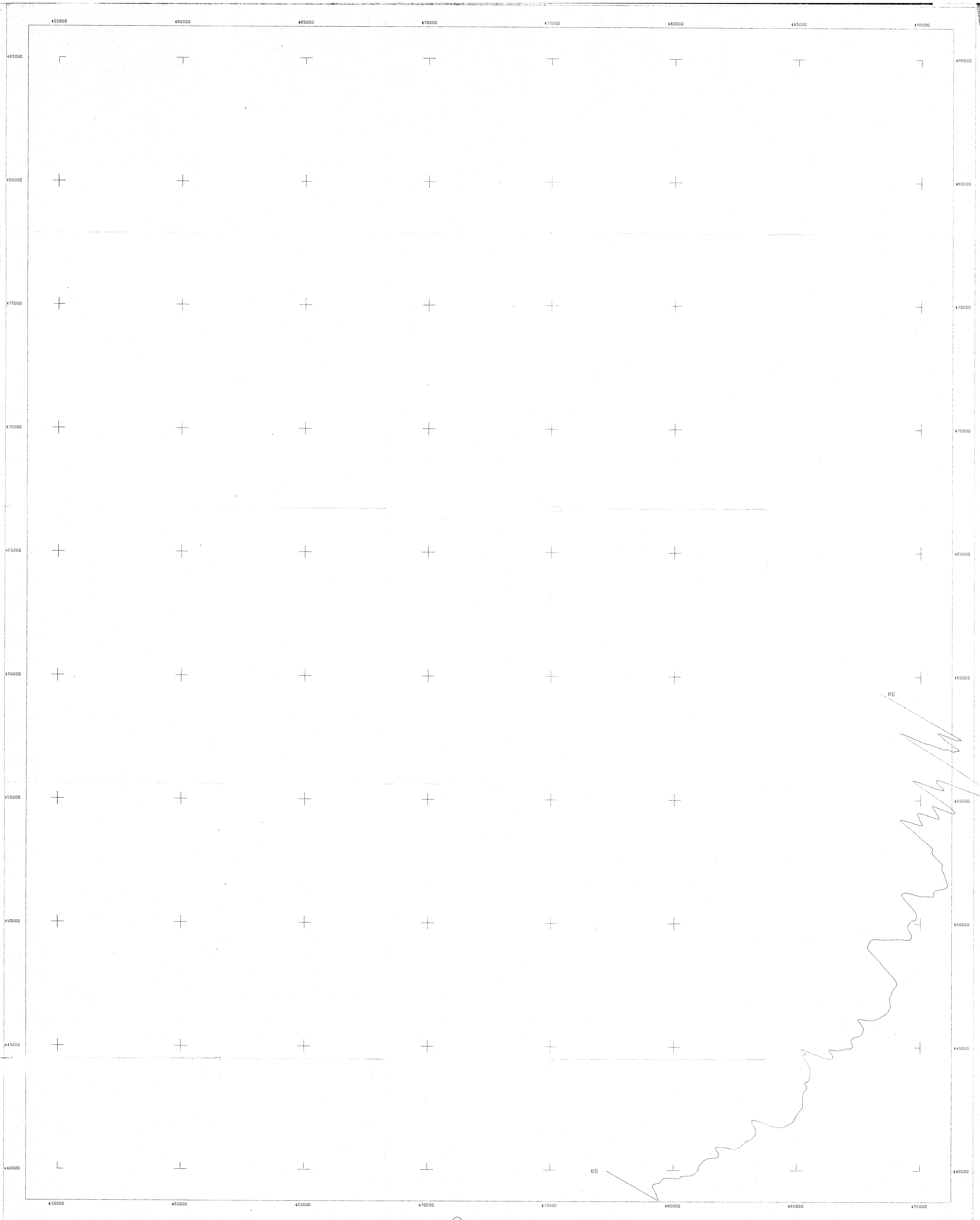
Vertical scale — 50nT per cm.

Base value — 59500 nT

Env. 3420.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 C.E.C. DRAWING NUMBER 15 728

3420(III)-20



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

CARPENTARIA EXPLORATION COMPANY PTY LTD

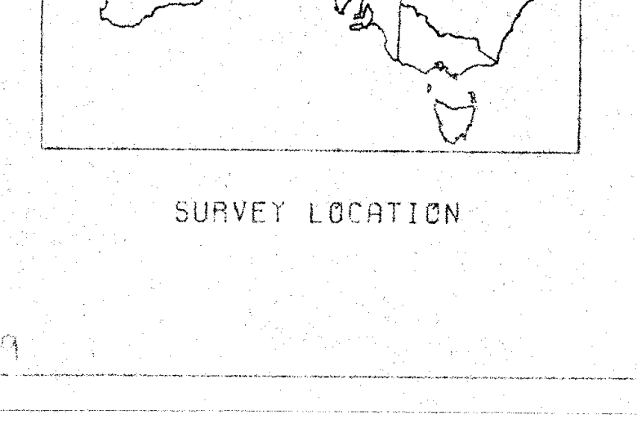
MINNIPA AREA SOUTH AUSTRALIA

COVERS E.L. 442

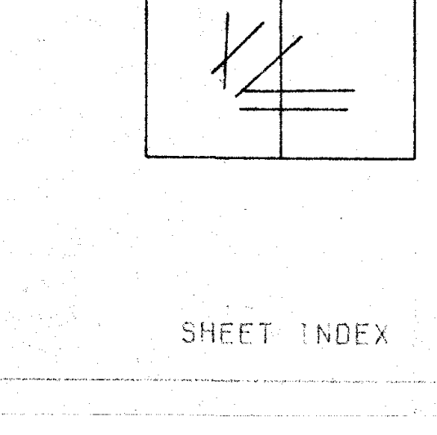
PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

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An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

┼ 5000 metre Australian Metric Grid.

Vertical scale — 50nT. per cm.

Base value — 59500nT

Env. 3420.

PROJECT NUMBER 80378 SURVEYED C.E.C. DRAWING NUMBER 15 727

3420(III)-21

DAVID TONKIN & ASSOCIATES

25 Palmerston Road, Unley, S.A. 5061 Telephone (08) 272 0999
Facsimile (08) 8271 9671

27 August, 1997

Mr Brian Logan
MESA Core Library
63 Conyngham Street
GLENSIDE SA 5065

Dear Brian

Analytical Results for Core Library Samples

Results are appended for the following four batches of samples, collected by me on behalf of Homestake Gold of Australia Limited in August and September 1996:

ENV. 8630
EL 1717

- Cuttings from drill holes EB 483 to EB 505, drilled by Geopeko – 23 assays for gold
- Cuttings from drill holes EB 512 to EB 530, drilled by Geopeko – 19 assays for gold

EL 1570
ENV. 8153

- Cuttings from drill holes RC89 DH 4 to RC89DH 13, drilled by CRAE – 10 assays for gold, arsenic, calcium, copper, nickel, lead and zinc

EL 442
ENV. 4010

- Cuttings from drill holes IR 55 to IR 58, drilled by CEC – 6 assays for gold, copper, lead, zinc and arsenic.

With best wishes,

David Tonkin

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA

EL 2183

P.O. Box 151, Eastwood, S.A. 5063.

REMOVAL OF DRILL HOLE SAMPLES

The following samples have been supplied to:

Name: D. TONKIN Telephone No.: 08 8272 0999

Company/Section: for HOMESTAKE GOLD OF AUST. LTD.

Address: 25 PALMERSTON RD, UNLEY 5061

This removal of samples was approved by:

DRILL HOLE NAME AND NUMBER	DRILLING SPONSOR	DEPTH AND INTERVAL	TYPE OF SAMPLE	OFFICE USE
IR55 - 429263	CEC	~~429265~~ 38 - 40	cuttings	
IR57 - 429325	"	72 - 74	"	
IR57 - 429326	"	74 - 76	"	
IR58 - 429369	"	82 - 84	"	
IR58 - 429370	"	84 - 86	"	
IR58 - 429371	"	86 - 88	"	

Nature of work to be undertaken on sample: Geochemical analysis for gold & base metals

CONDITIONS:

1. The above samples are supplied on condition that copies of results of all work on these samples must be forwarded to the Core-Library Supervisor, Department of Mines and Energy, P.O. Box 151, Eastwood, S.A. 5063, as soon as they become available.
2. Any residue material remaining after testing must be clearly labelled and returned to the Core-Library Supervisor, Department of Mines and Energy Core-Library, 23 Conyngham Street, Glenside, S.A. 5065.
3. The confidentiality of information supplied is left to the discretion of the Director-General, Department of Mines and Energy.

I acknowledge receipt of the above samples and agree to meet the above conditions.

SIGNATURE: WITNESS:

DATE: 10 - 9 - 96 DATE: 10/9/96

G4472

DMC 1

A N A L A B S

Analabs Pty. Ltd.
ACN 004 591 664
16 Sunbeam Road, Glynde
South Australia 5070
Telephone: (08) 336 5099

ANALYSIS REPORT

Mr David Tonkin
Homestake Gold of Australia Ltd
P.O. Box 7189
Cloisters Square
Perth
W.A. 6850

Job : AD015401
Client Reference : **74806**
Page(s) : 1
Date : 26/11/96
Date Received : 11/09/96
Number of Samples : 6

Copies to :

Comments :

CEC Drilling

1R 55 – 1R 58

Cuttings

The results in the following analytical report pertain to samples as received at this laboratory for preparation and/or analysis as requested by the client.

Approved Signatory: Geoff McLean

A N A L A B S

Our reference : AD015401
Your reference : **74806**
Project code :
Report date : 26/11/96
Report status : Final
Page : 1 of 1

Analabs Pty. Ltd.
ACN 004 591 664
16 Sunbeam Road, Glynde
South Australia 5070
Telephone : (61 8) 336 5099
Facsimilie : (61 8) 336 5564

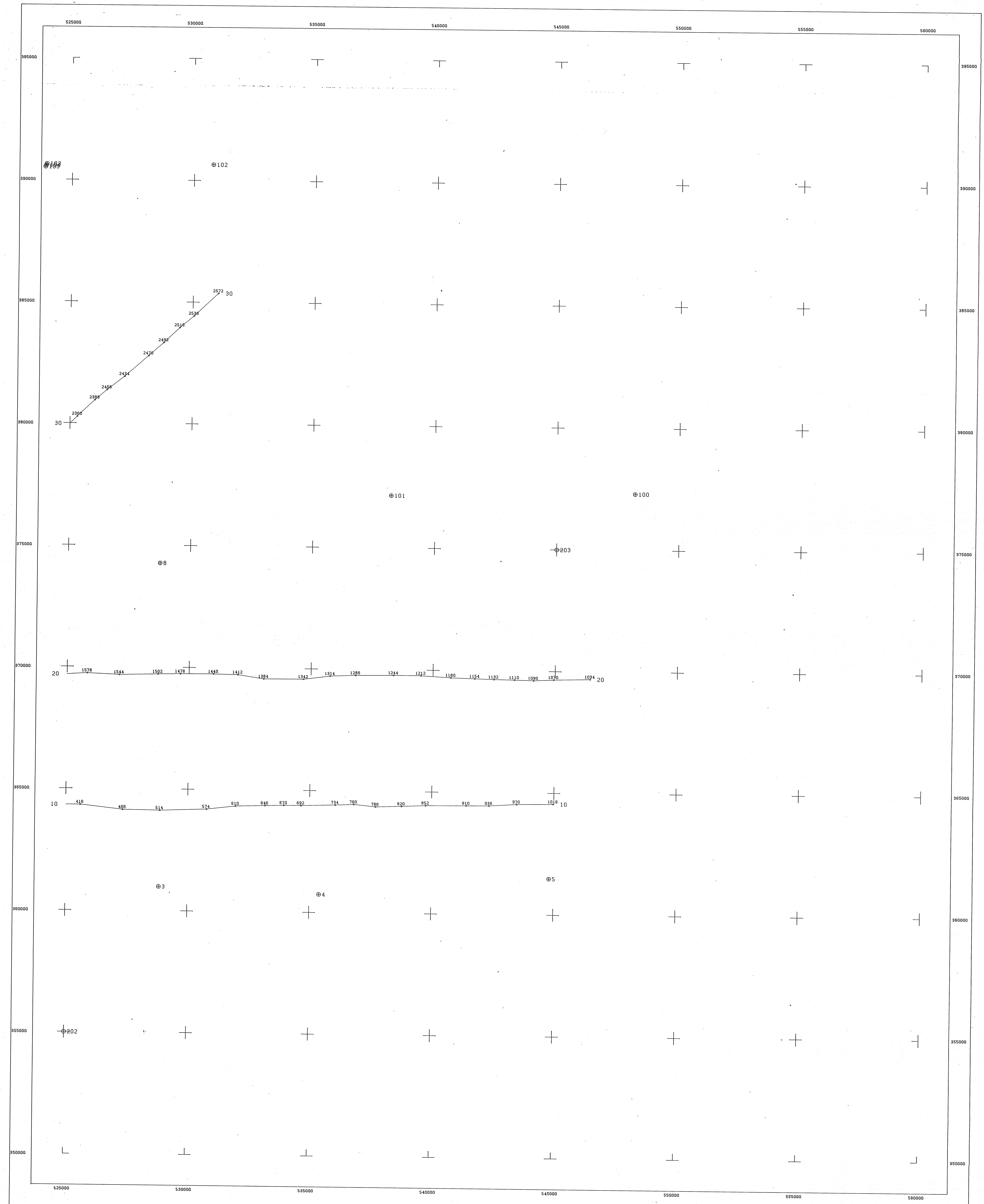
ANALYTICAL DATA

Sample	Au	Cu	Pb	Zn	As
429263	0.006	63.8	5.8	54.0	26
429325	0.004	23.4	12.5	30.5	34
429326	0.003	30.6	9.2	68.0	24
429369	<0.001	29.2	4.0	20.1	33
429370	<0.001	21.8	2.2	19.4	34
429371	0.002	18.0	13.0	27.0	<5

Method	GG334	GA115	GA115	GA115	GA115
Units	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.5	0.5	0.5	5

Notes:

N.A. = not analysed
-- = element not determined
I.S. = insufficient sample
L.N.R. = listed not received



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

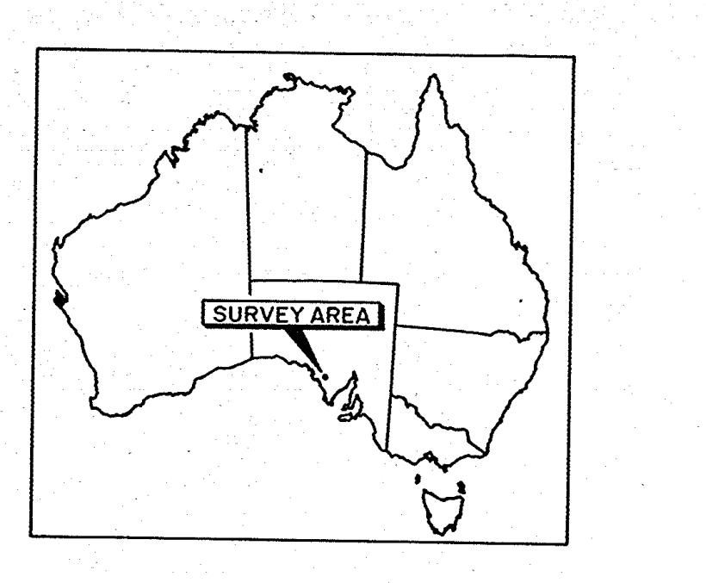
for

CARPENTARIA EXPLORATION COMPANY PTY LTD

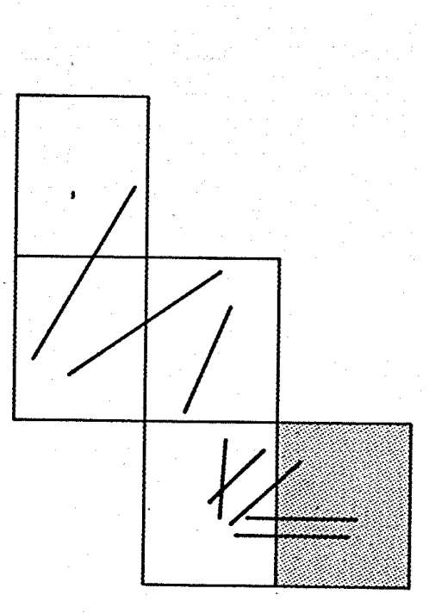
MINNIPA AREA SOUTH AUSTRALIA

FLIGHT PATH PLOT

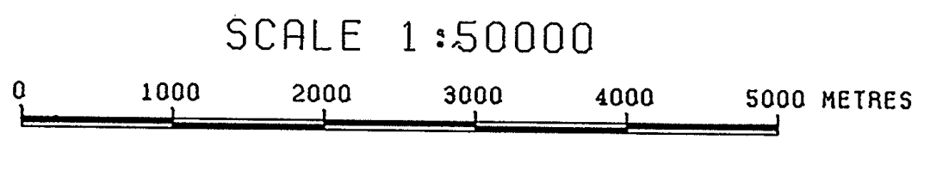
SCALE 1:50000



SURVEY LOCATION



SHEET INDEX

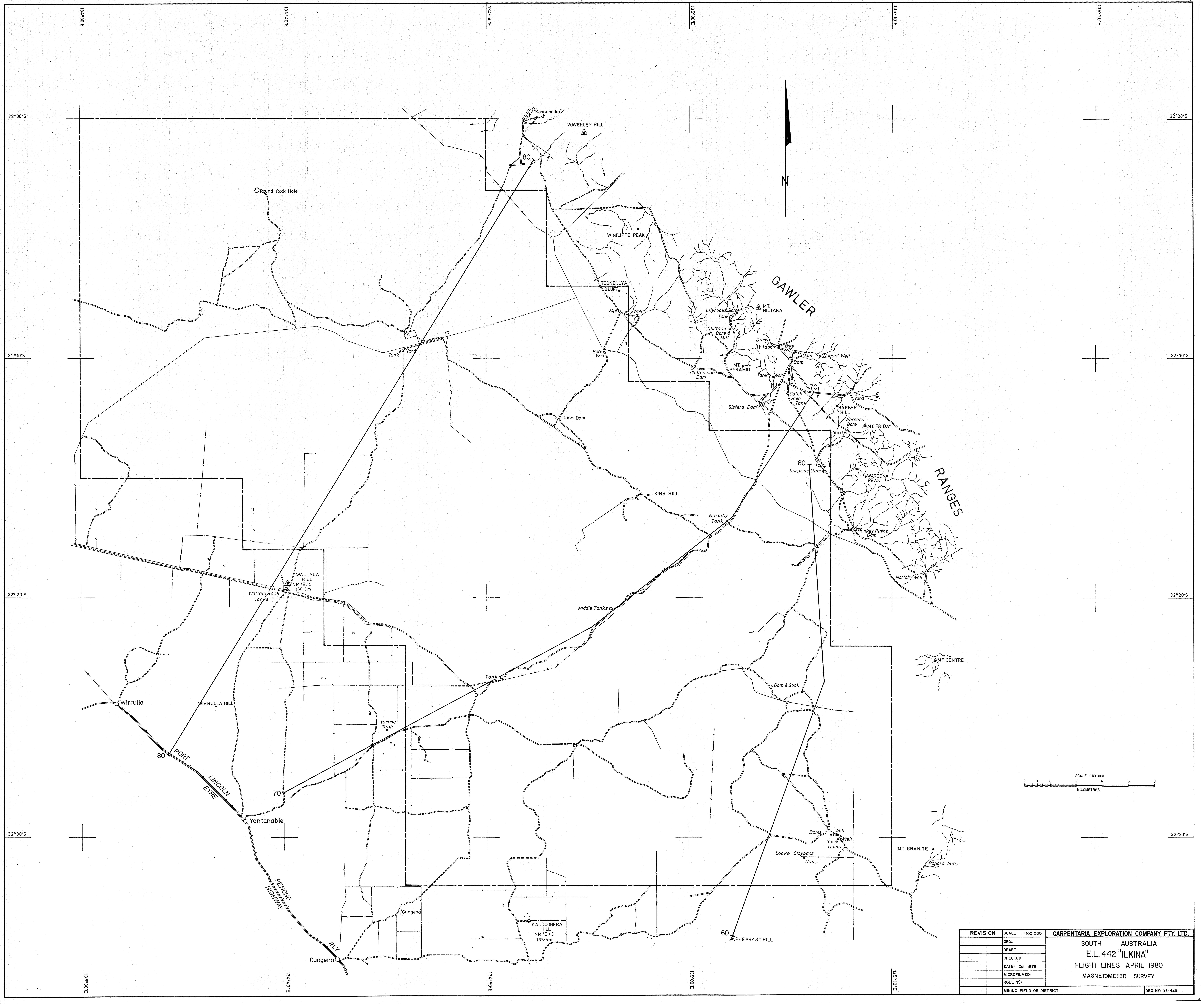


Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples , such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre , and only recovered fiducials are shown on the map.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

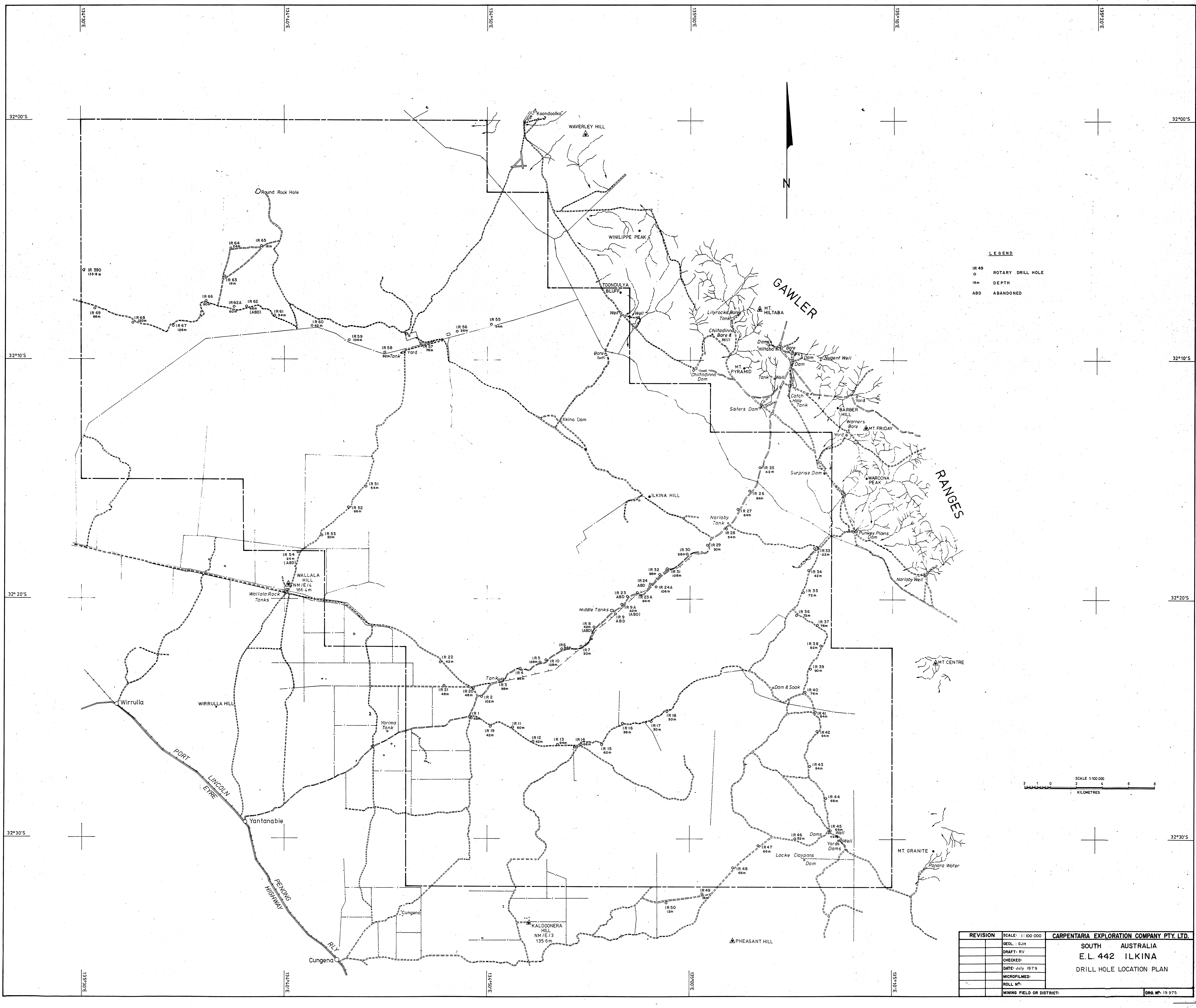
⊕ Registration point identified on photomosaic.
+ 5000 metre Australian Metric Grid.

PROJECT NUMBER 80376 SURVEYED MARCH 1980

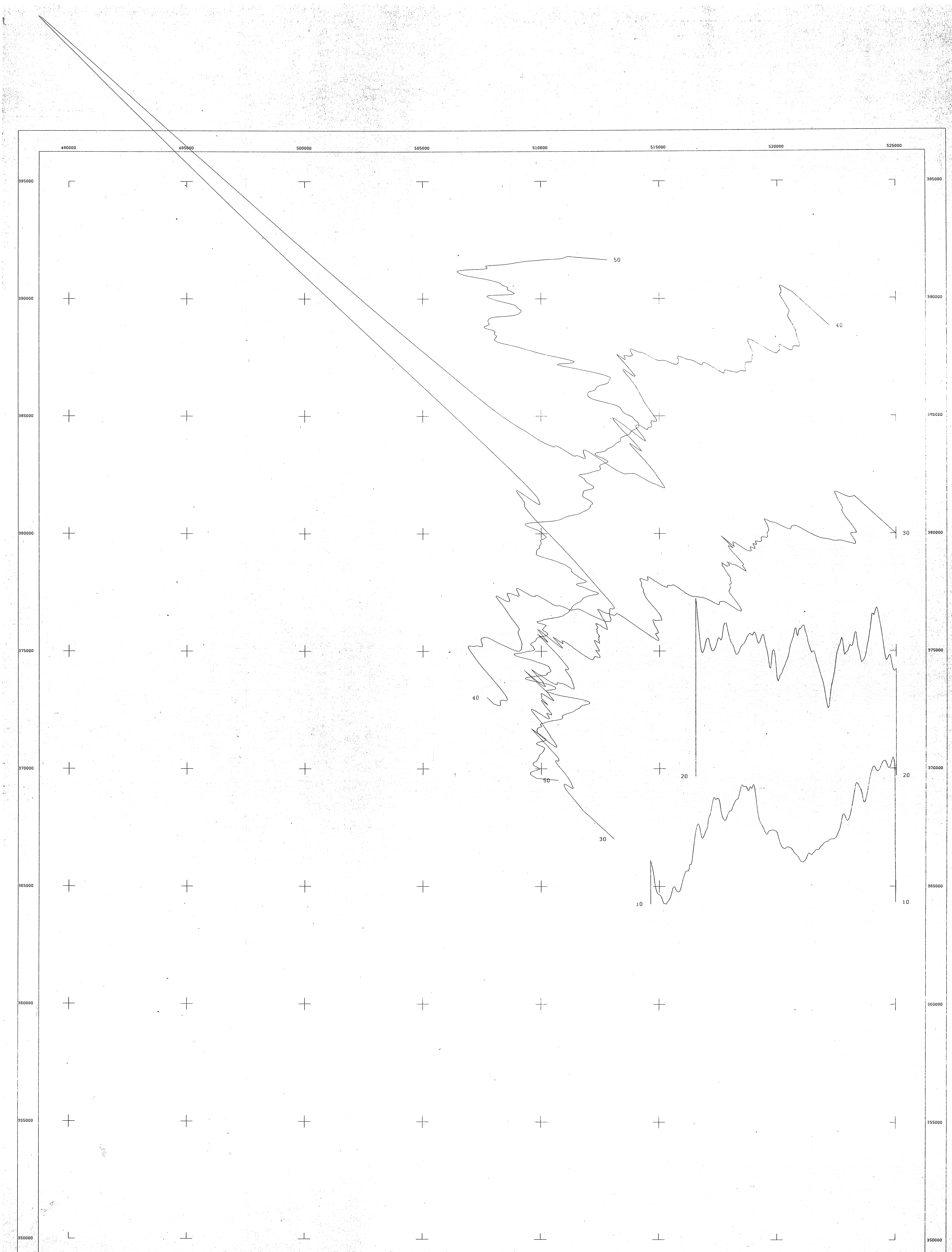
CEC DRAWING NUMBER 15716



REVISION		SCALE: 1:100 000	CARPENTARIA EXPLORATION COMPANY PTY. LTD.	
		GEOL.	SOUTH AUSTRALIA E.L. 442 "ILKINA" FLIGHT LINES APRIL 1980 MAGNETOMETER SURVEY	
		DRAFT:		
		CHECKED:		
		DATE: Oct. 1978		
		MICROFILMED:		
		ROLL Nº:		
		MINING FIELD OR DISTRICT:		DRG. Nº: 20 426



REVISION		SCALE: 1:100 000	CARPENTARIA EXPLORATION COMPANY PTY. LTD.
		GEOL. : GJH	SOUTH AUSTRALIA
		DRAFT: RV	E.L. 442 ILKINA
		CHECKED:	DRILL HOLE LOCATION PLAN
		DATE: July 1979	
		MICROFILMED:	
		ROLL Nº:	
		MINING FIELD OR DISTRICT:	DRG. Nº: 19 975



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

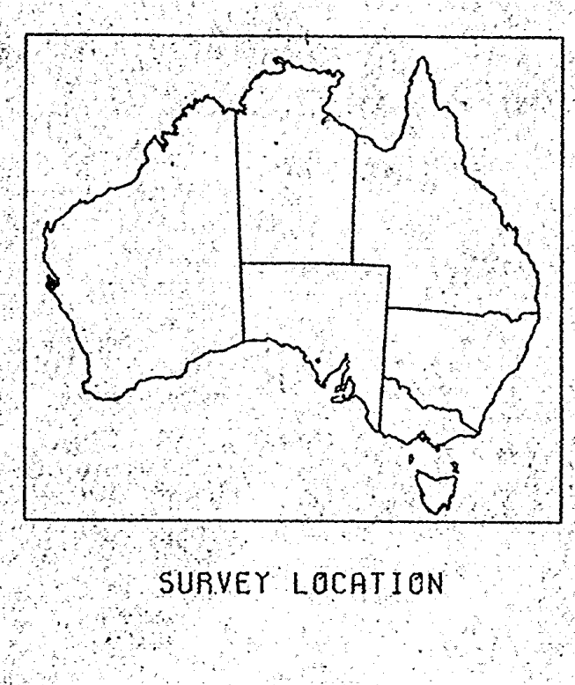
for

CARPENTARIA EXPLORATION COMPANY PTY LTD

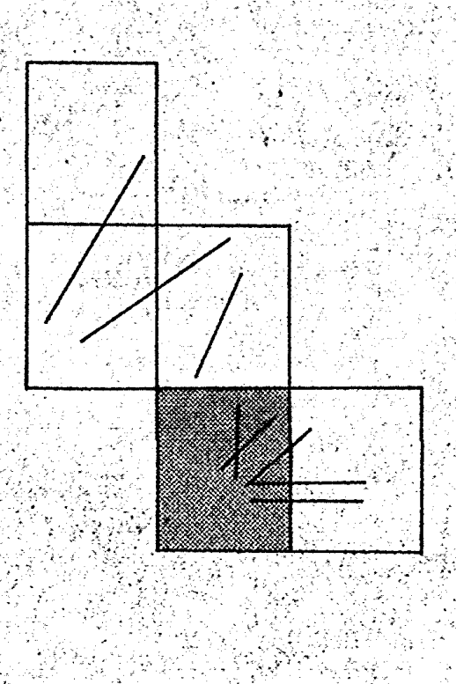
MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000



SURVEY LOCATION



SHEET INDEX

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An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

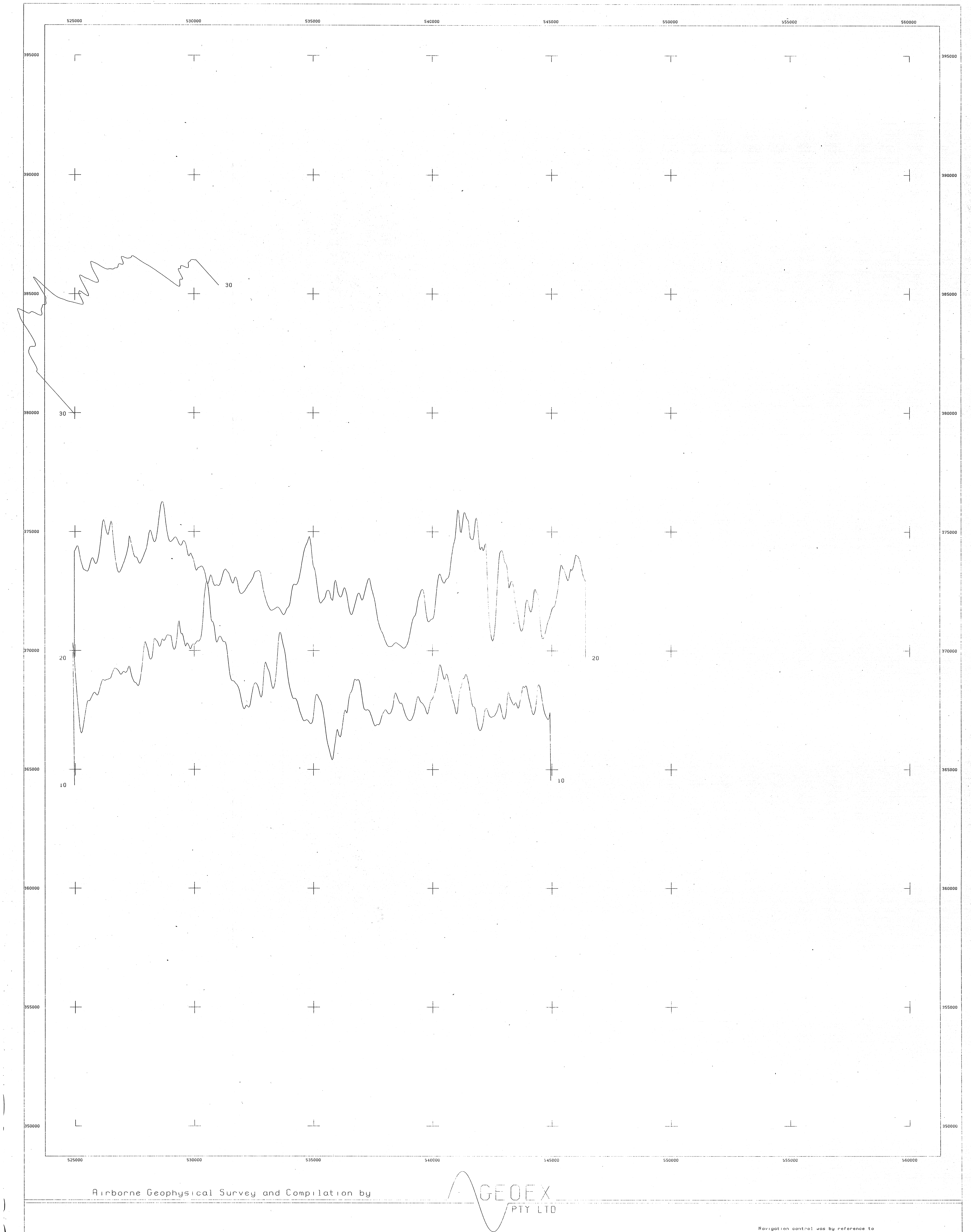
┼ 5000 metrè Australian Metric Grid.

Vertical scale — 50nT. per cm.

Base value — 59500nT

Sensor Height 30m. AMT

PROJECT NUMBER 80376 SURVEYED MARCH 1980 **CEC DRAWING NUMBER 15726**



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

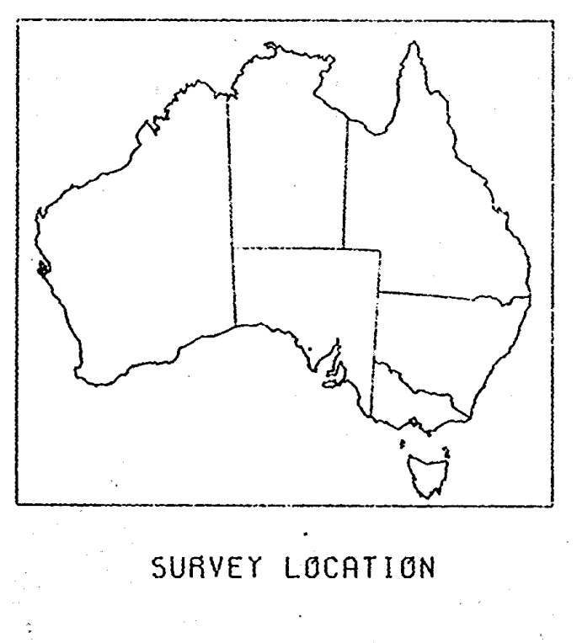
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

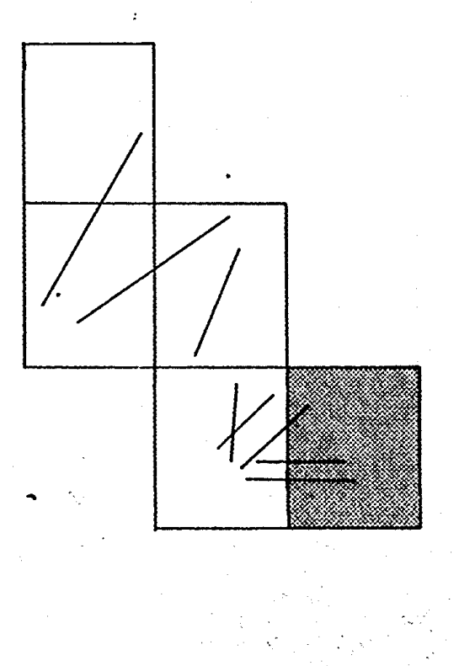
PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

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navigation control. The ground tracking camera was
operated at a rate of one camera frame for
two data samples , such that successive
camera frames overlap.
An attempt was made to recover fiducials
at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using
the Australian Metric Grid control points.

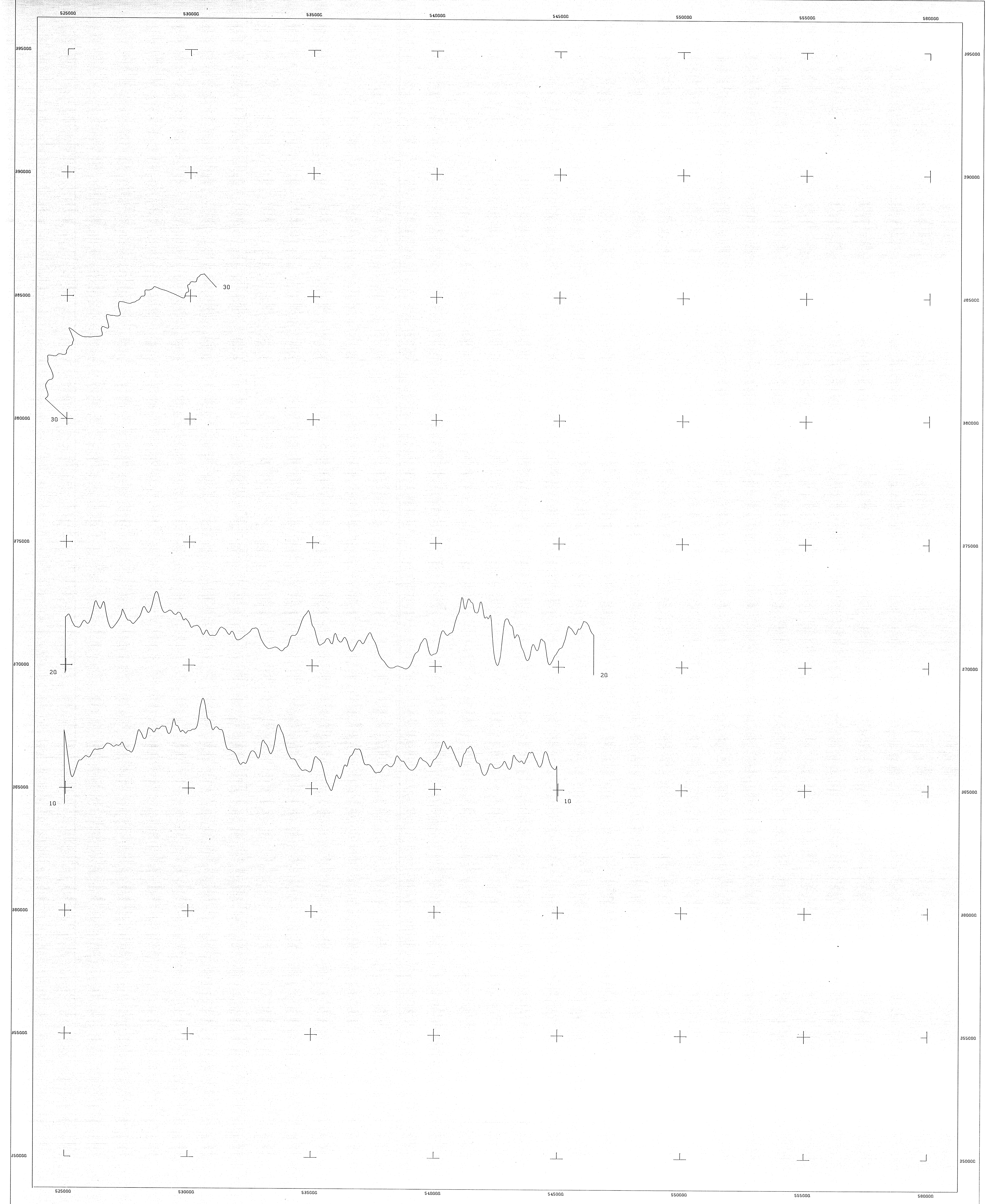
+ 5000 metre Australian Metric Grid.

Vertical scale — 50nT. per cm.

Base value — 59500nT.

Sensor Height 30m. AMT

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15725



Airborne Geophysical Survey and Compilation by

GEOEX PTY LTD

for

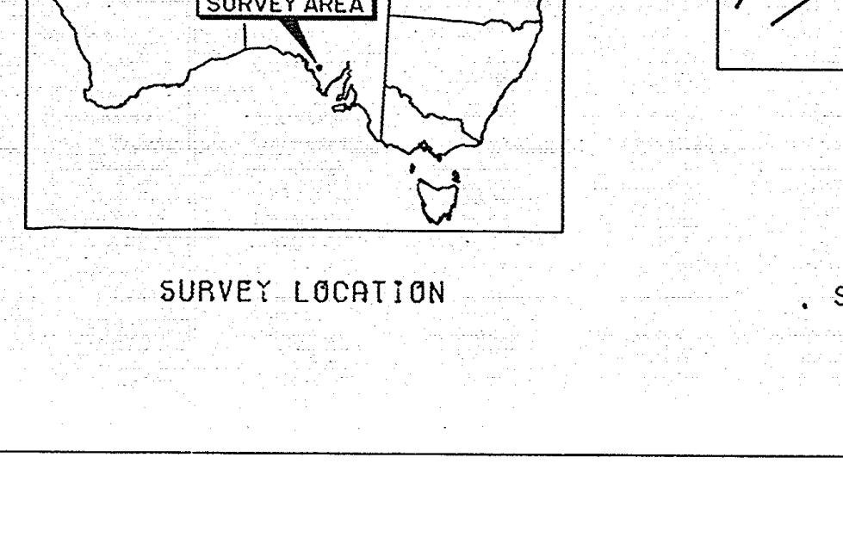
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

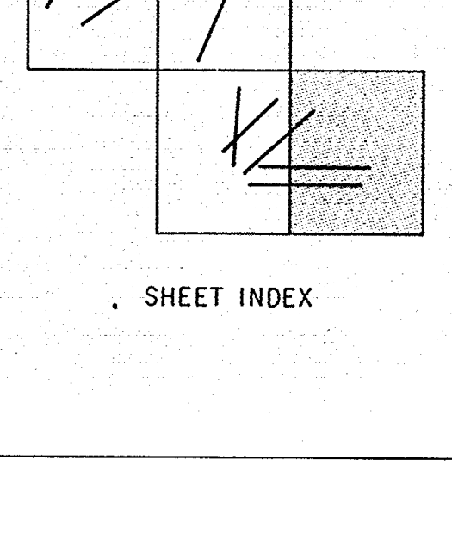
PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

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An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

+ 5000 metre Australian Metric Grid.

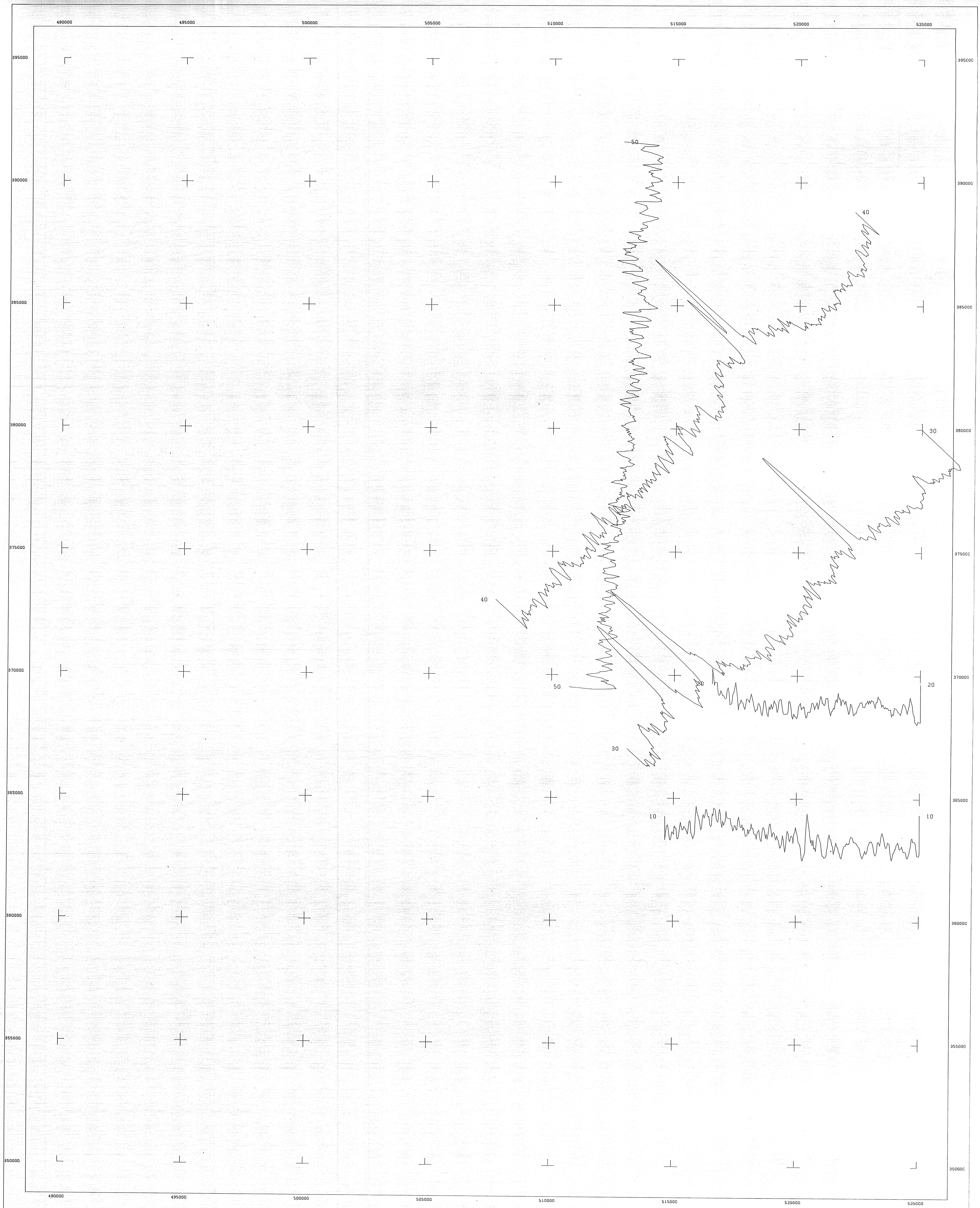
Vertical scale 100nT. per cm.

Base value 59500nT.

Sensor height 30 Metres AMT.

PROJECT NUMBER 80376 SURVEYED MARCH 1980

CEC DRAWING NUMBER 15721



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

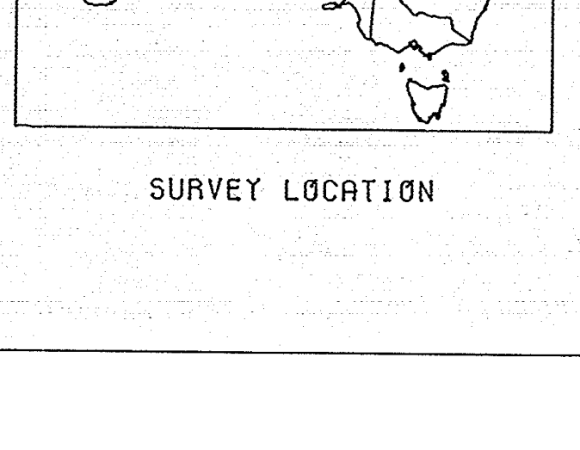
for

CARPENTARIA EXPLORATION COMPANY PTY LTD

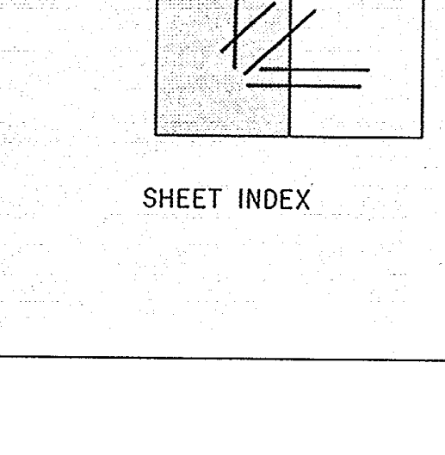
MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF POTASSIUM CHANNEL INTENSITY

SCALE 1:50000



SURVEY LOCATION



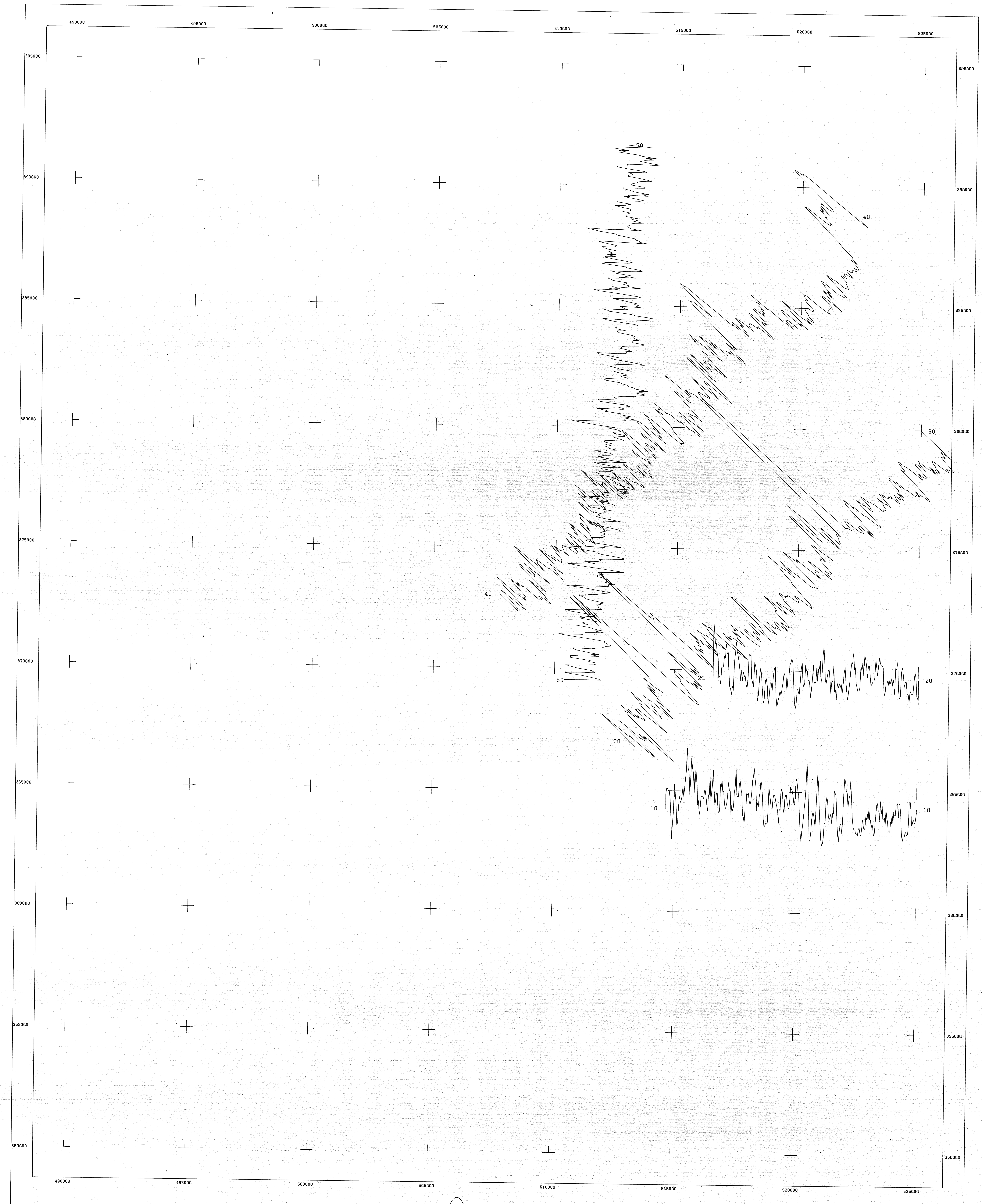
SHEET INDEX

AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 50c.p.s.

VERTICAL SCALE 10 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15745



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

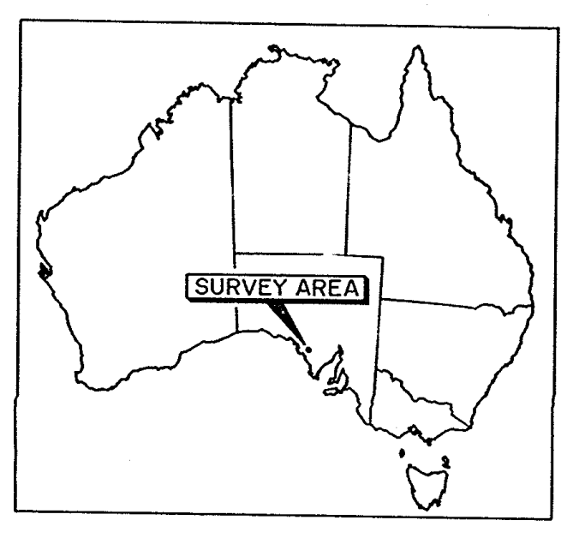
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

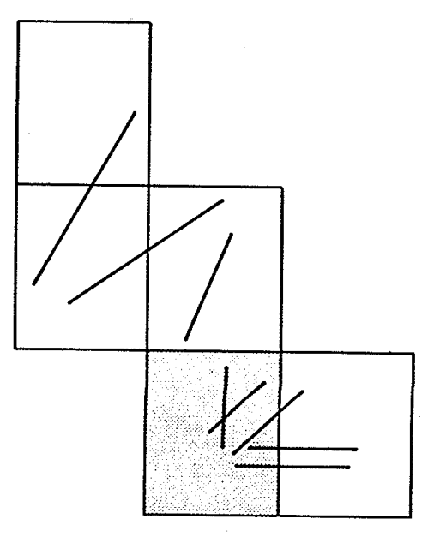
PROFILES OF THORIUM CHANNEL INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



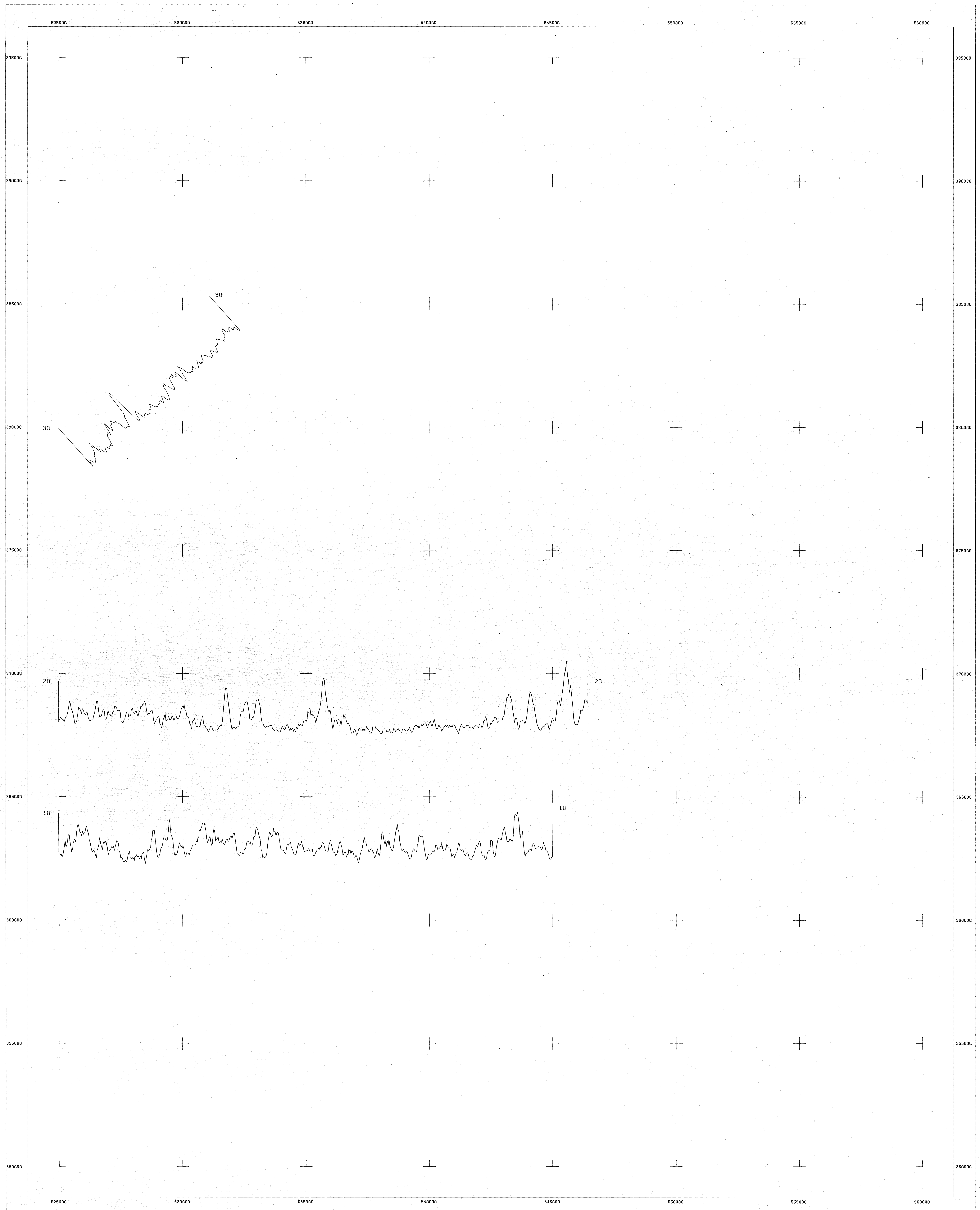
SHEET INDEX

AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 10c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15741



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

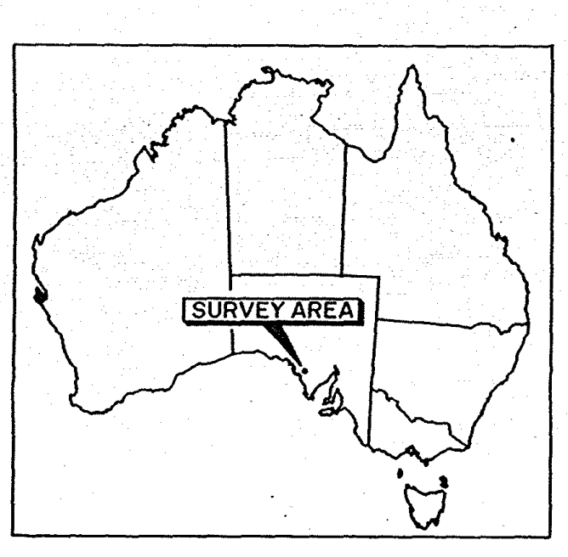
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

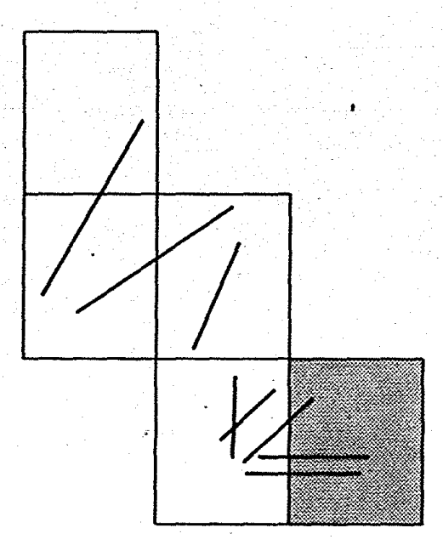
PROFILES OF POTASSIUM CHANNEL INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

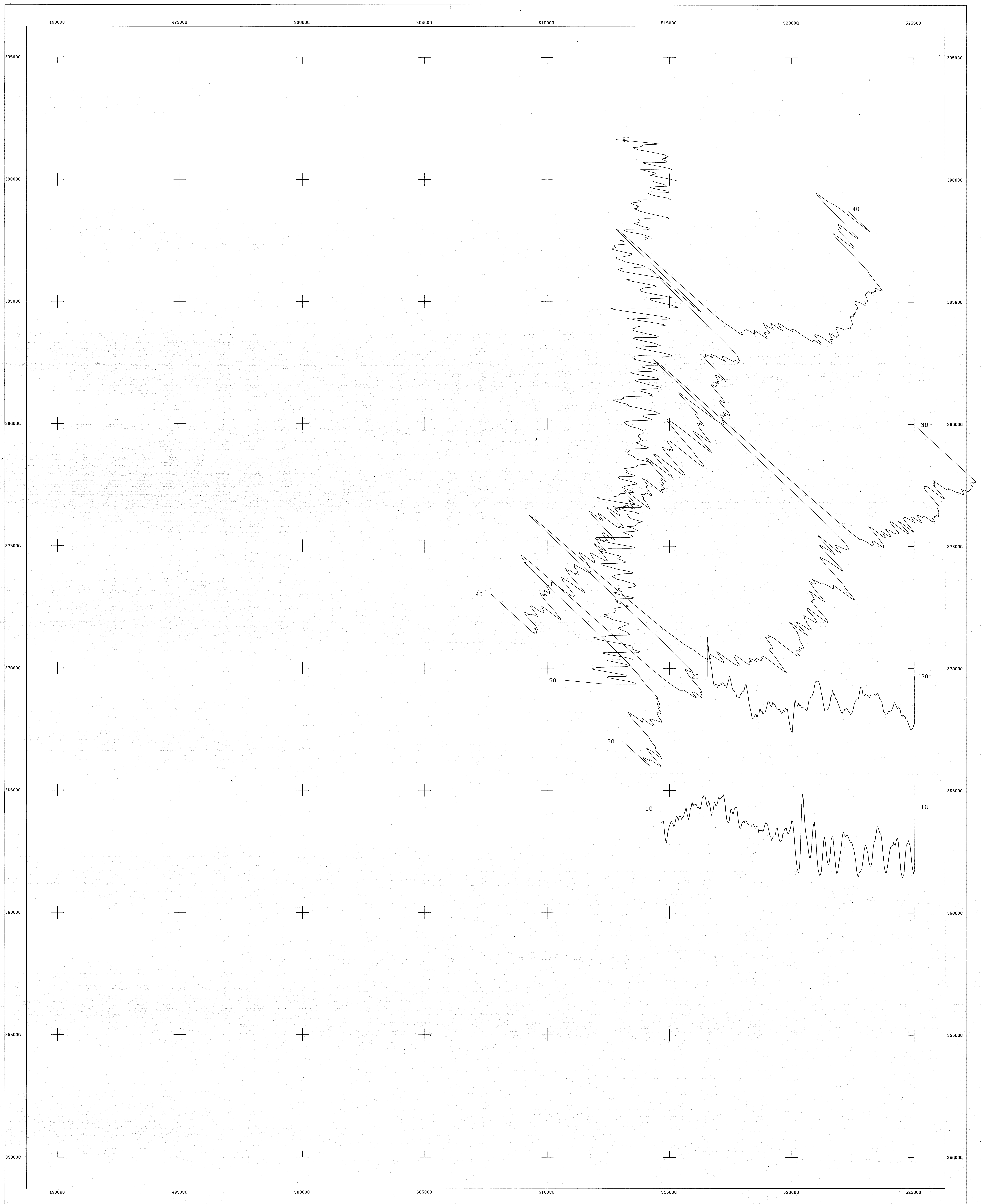
AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 50c.p.s.

VERTICAL SCALE 10 c.p.s per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980

.CEC DRAWING NUMBER 15746



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

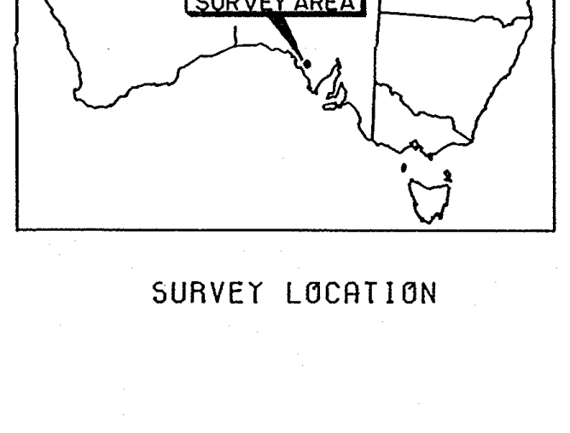
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

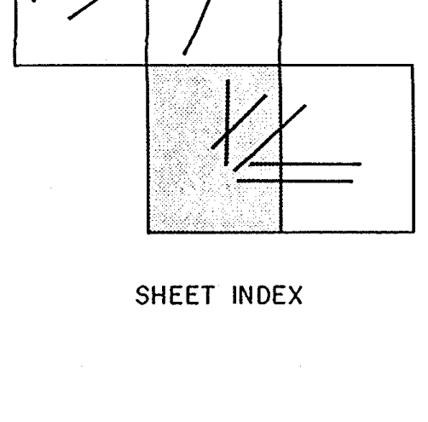
PROFILES OF TOTAL RADIOMETRIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



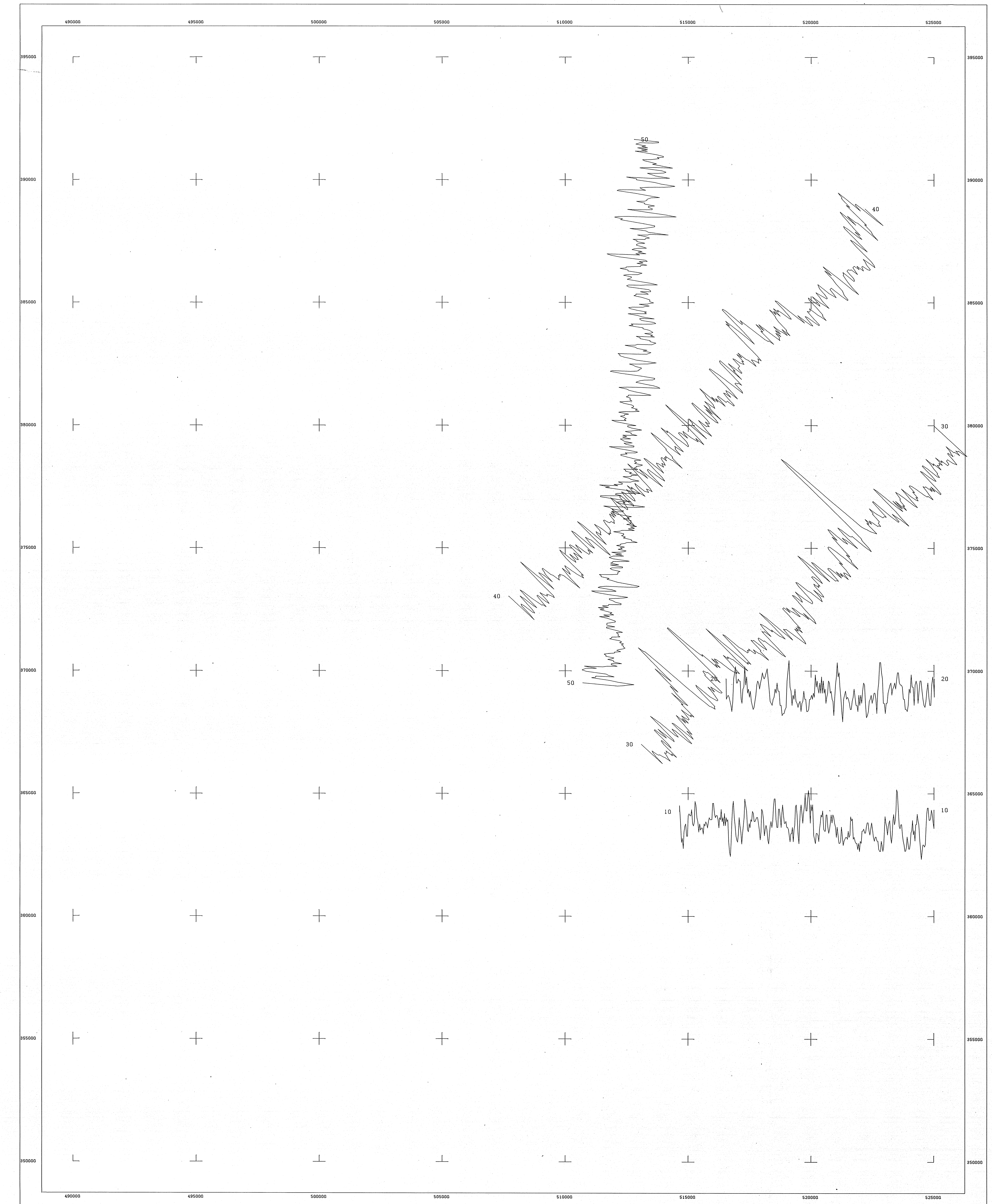
SHEET INDEX

AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 500 c.p.s.

VERTICAL SCALE 50 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15730



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

CARPENTARIA EXPLORATION COMPANY PTY LTD

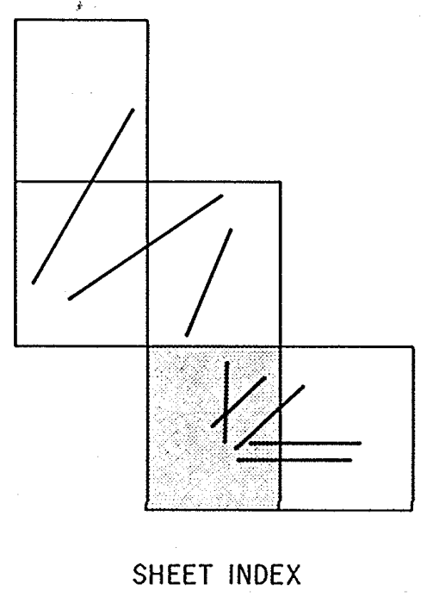
MINNIPA AREA SOUTH AUSTRALIA

PROFILES OF URANIUM CHANNEL INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES

SURVEY LOCATION



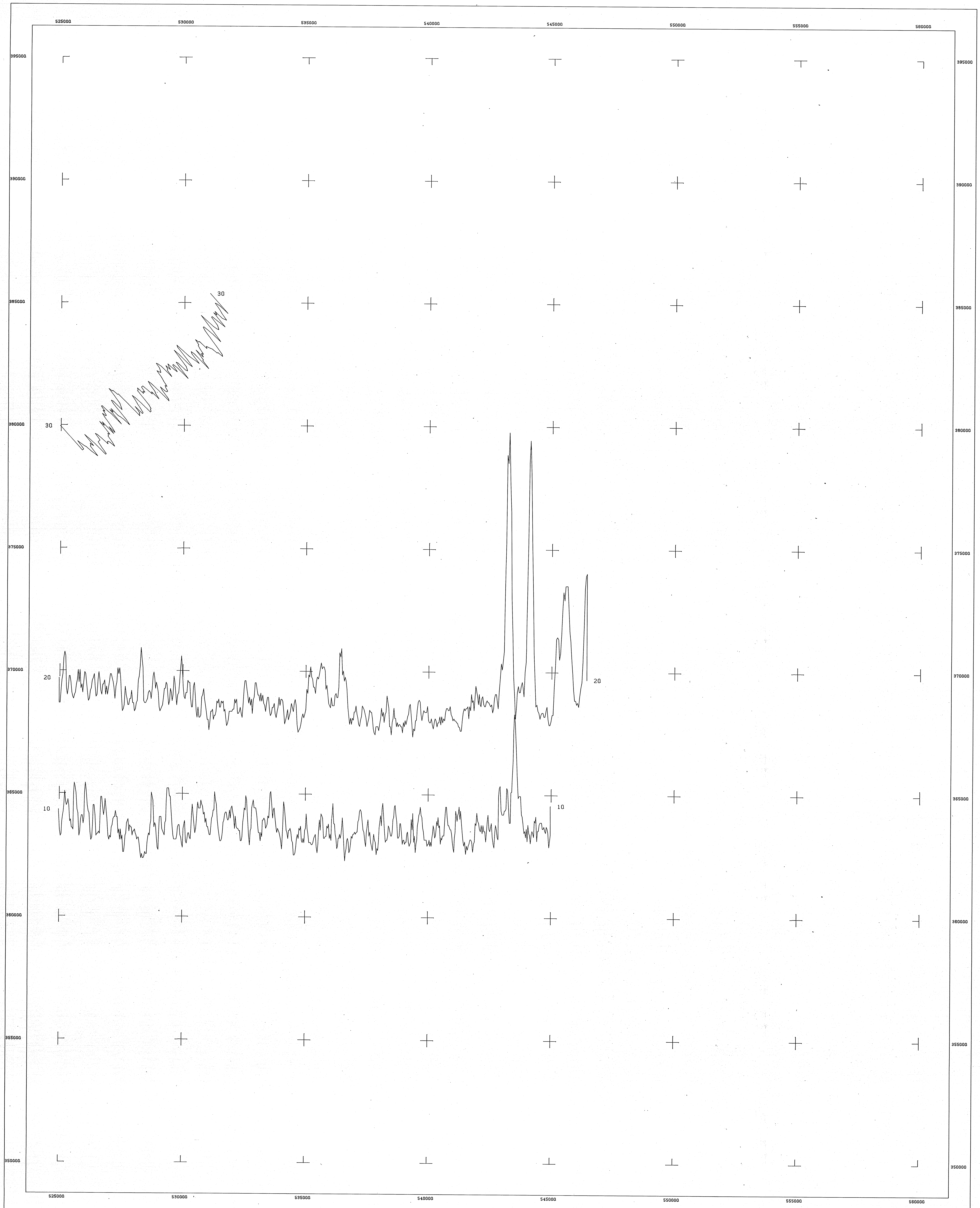
SHEET INDEX

AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 10 c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 **CEC DRAWING NUMBER 15736**



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

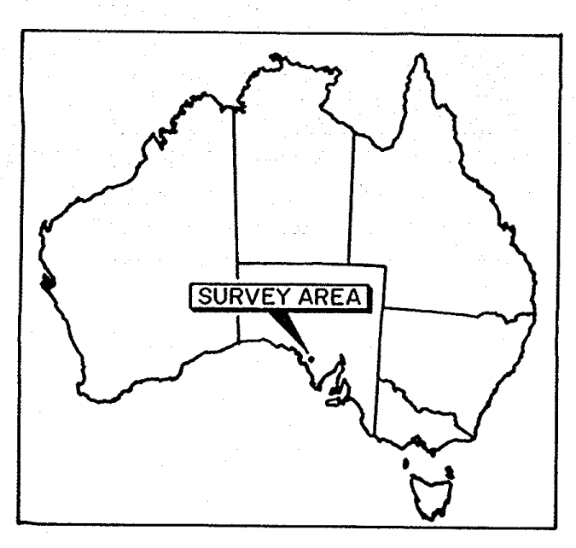
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

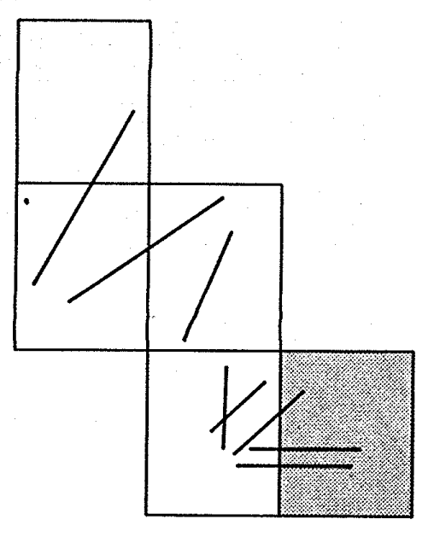
PROFILES OF THORIUM CHANNEL INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



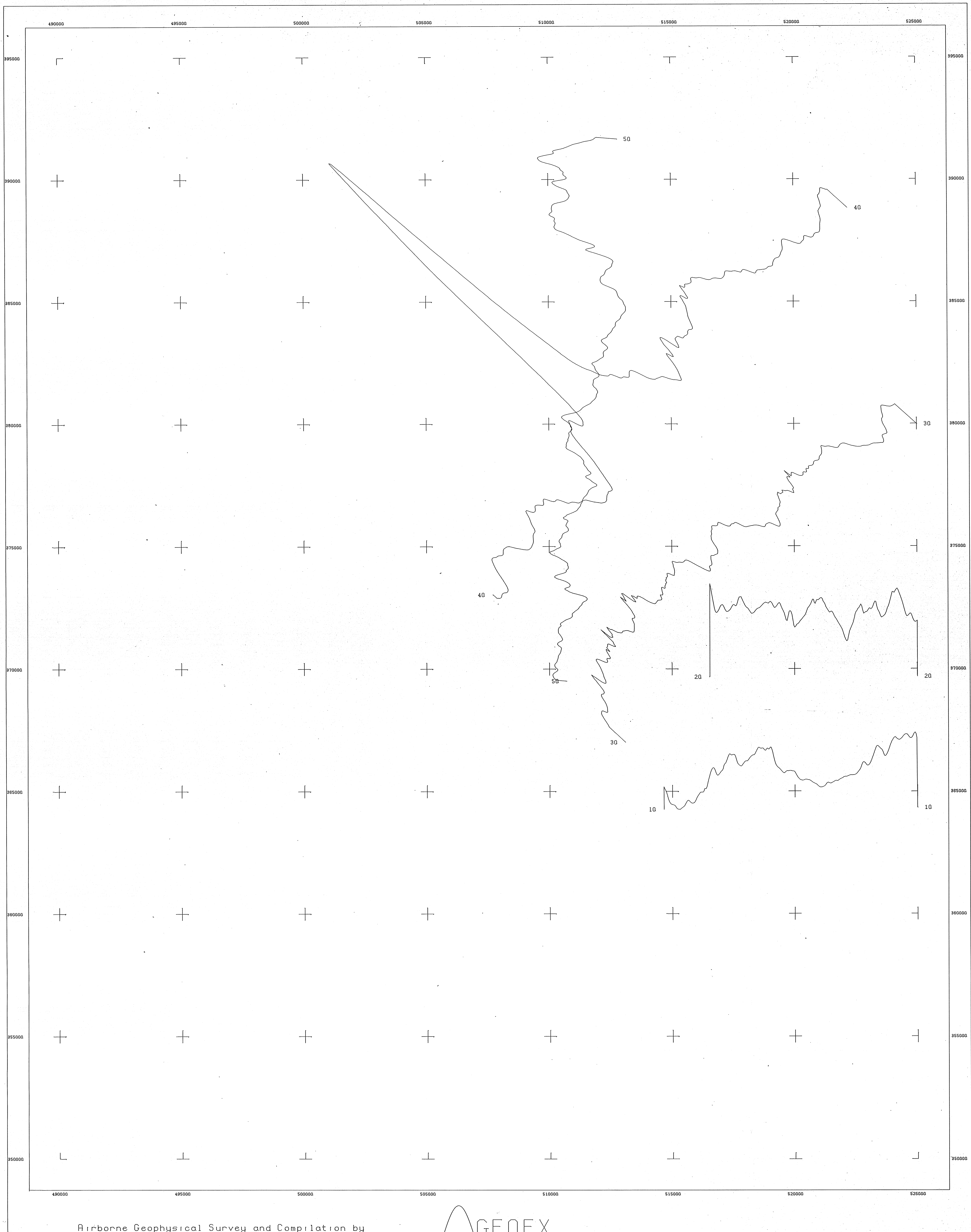
SHEET INDEX

AIRCRAFT HEIGHT 45m. AMT

BASE LINE VALUE 10 c.p.s.

VERTICAL SCALE 2 c.p.s. per cm.

PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15740



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

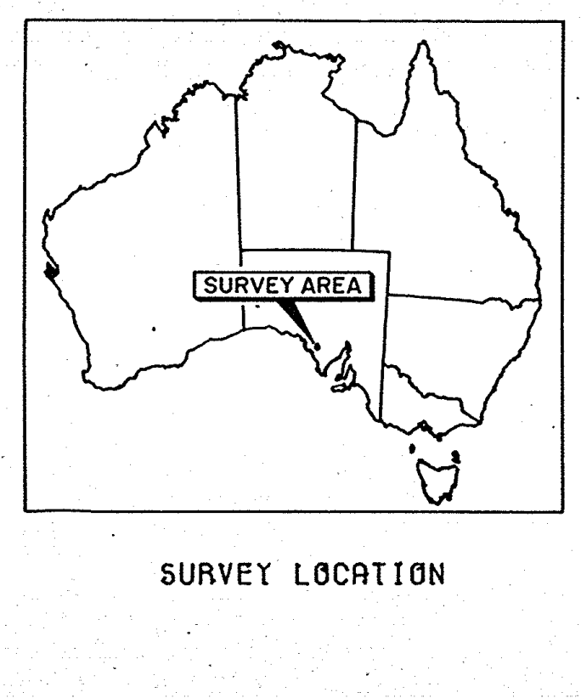
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

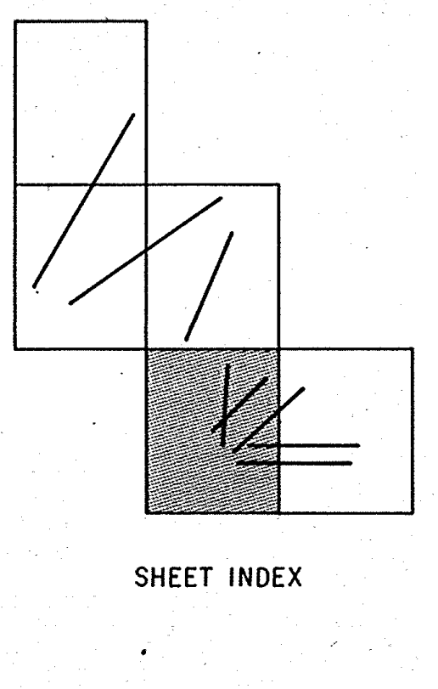
PROFILES OF TOTAL MAGNETIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

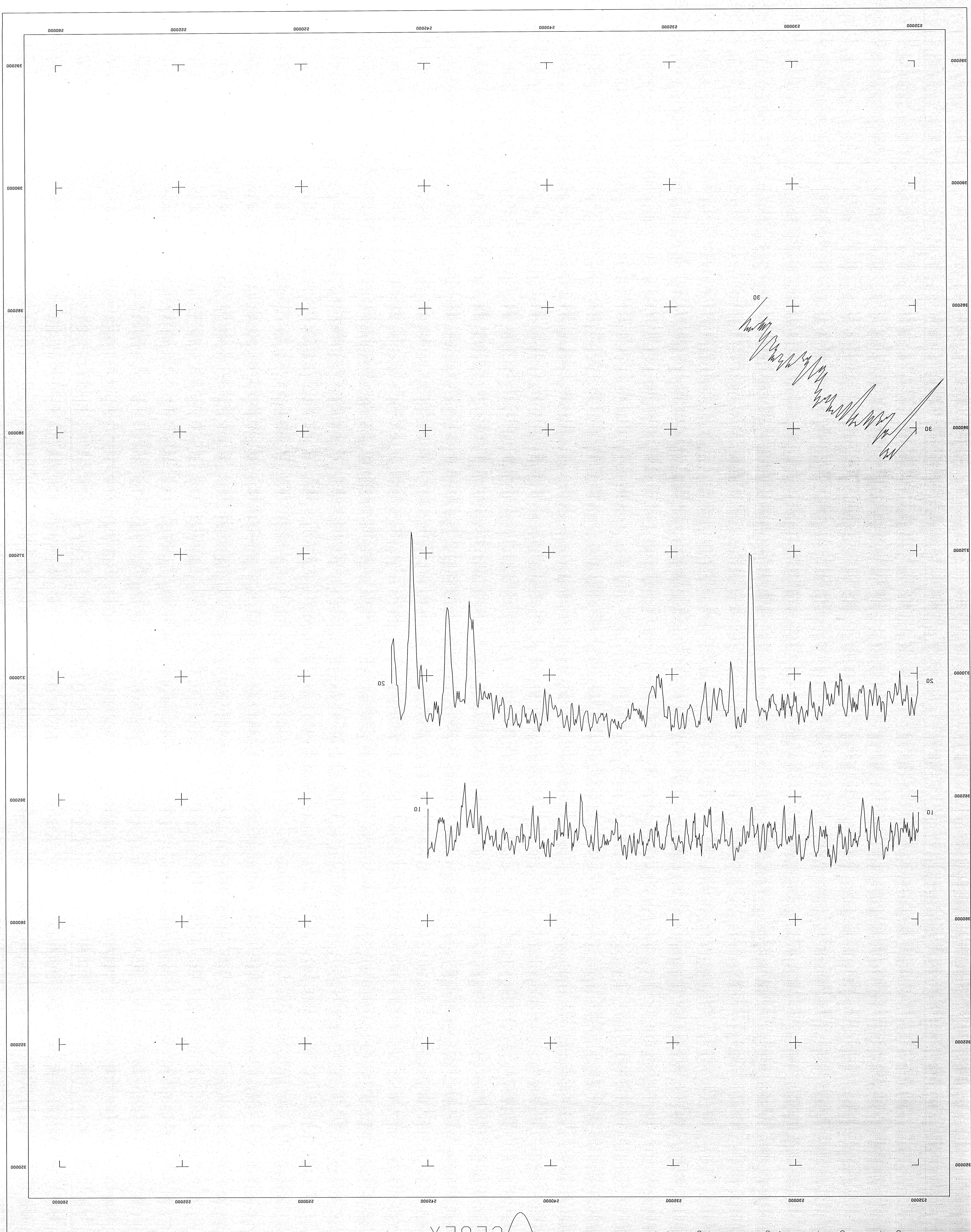
Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples , such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

+ 5000 metre Australian Metric Grid.

Vertical scale 100nT. per cm.
Base value 59500nT.
Sensor height 30 Metres AMT

PROJECT NUMBER 80376 SURVEYED MARCH 1980

CEC DRAWING NUMBER 15720



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

CARPENTARIA EXPLORATION COMPANY PTY LTD

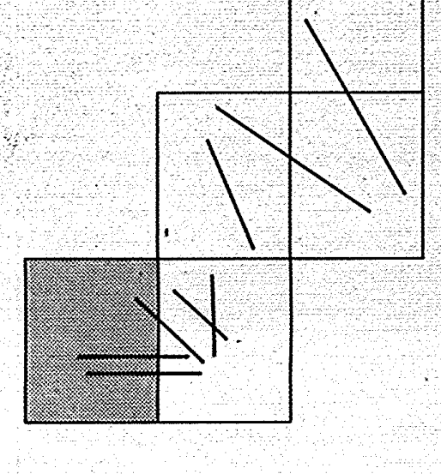
MINNIPA AREA SOUTH AUSTRALIA

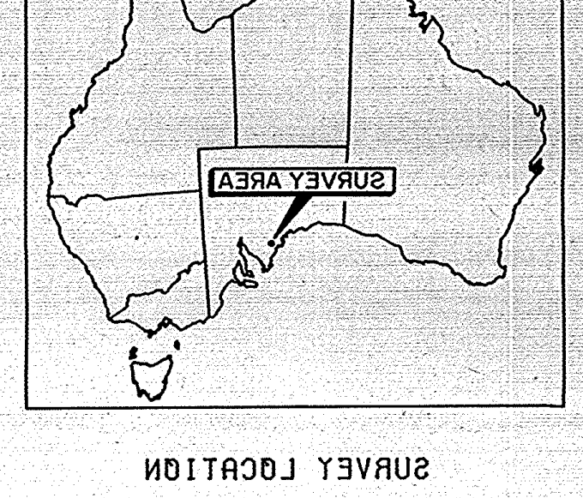
PROFILES OF URANIUM CHANNEL INTENSITY

SCALE 1:50000

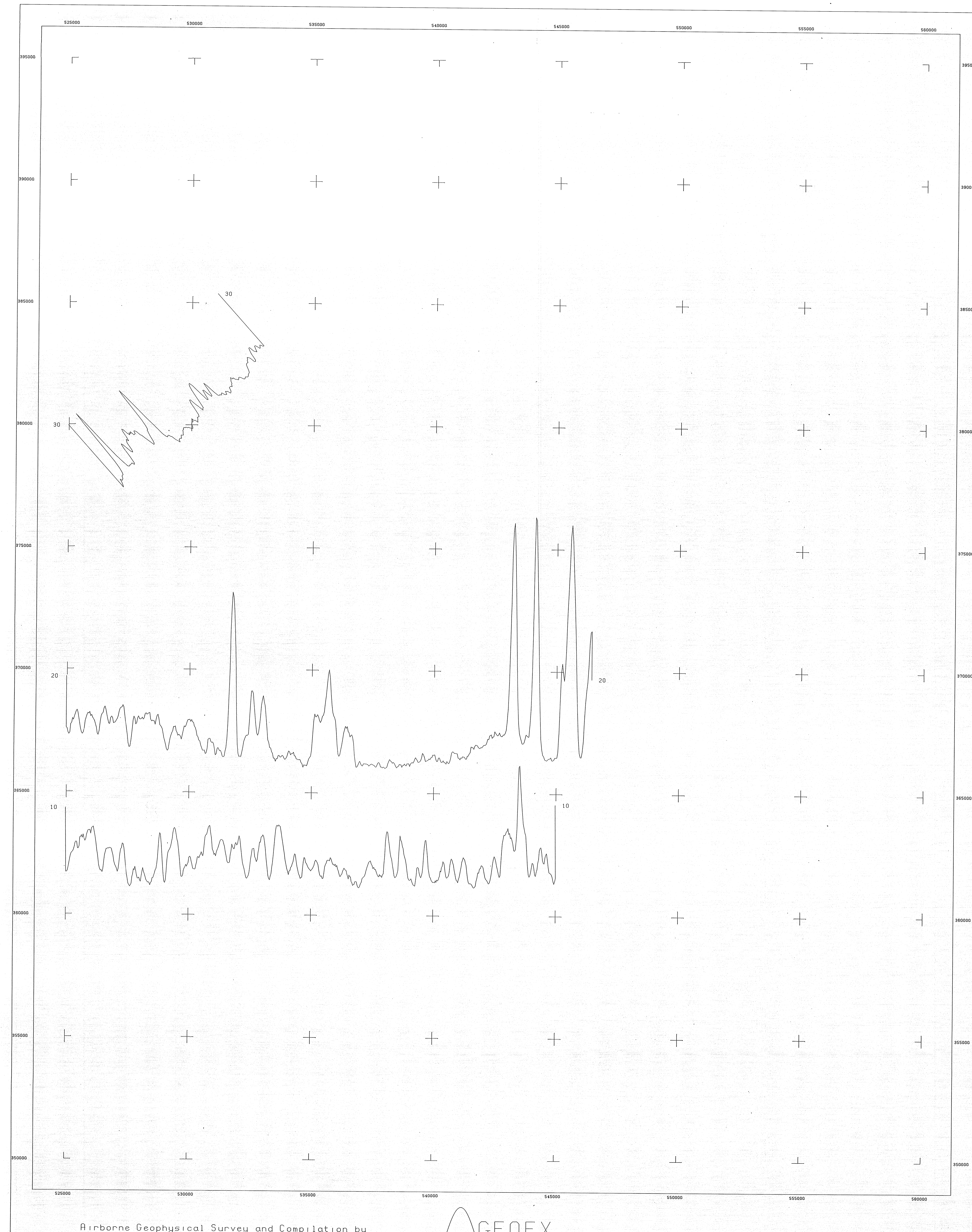
0 1000 2000 3000 4000 5000 METRES

AIRCRAFT HEIGHT 45m. AMT
BASE LINE VALUE 10cps.
VERTICAL SCALE 2 cps per cm.
PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15735


SHEET INDEX



SURVEY LOCATION



Airborne Geophysical Survey and Compilation by

GEOEX
PTY LTD

for

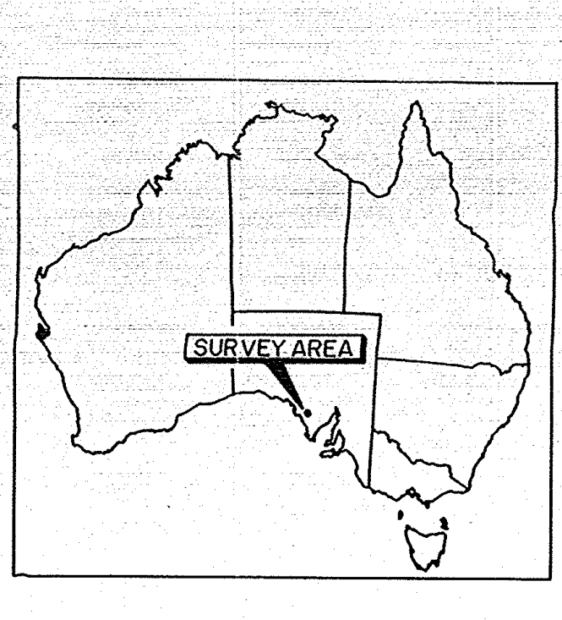
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

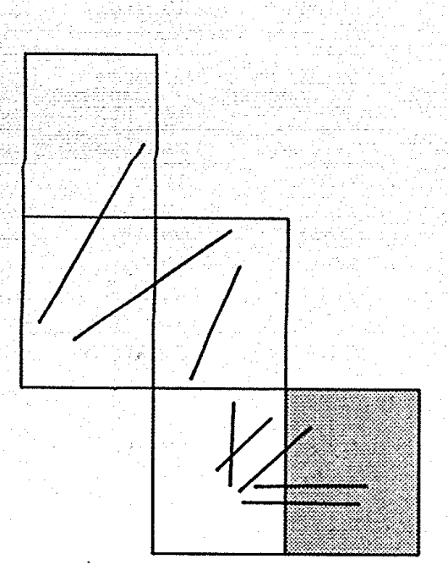
PROFILES OF TOTAL RADIOMETRIC INTENSITY

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES

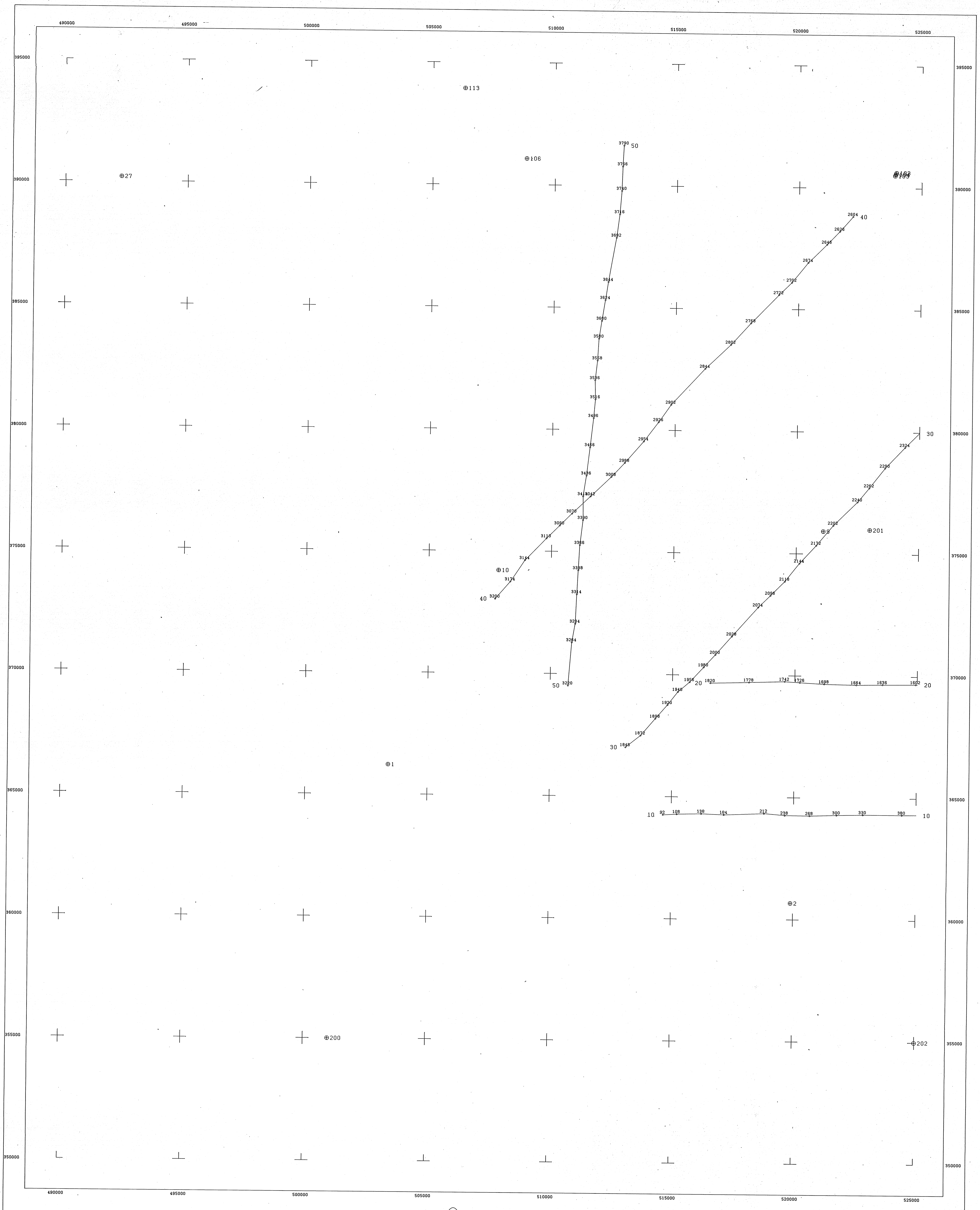


SURVEY LOCATION



SHEET INDEX

AIRCRAFT HEIGHT 45m. AMT
BASE LINE VALUE 500 c.p.s.
VERTICAL SCALE 50 c.p.s per cm.
PROJECT NUMBER 80376 SURVEYED MARCH 1980 CEC DRAWING NUMBER 15731



Airborne Geophysical Survey and Compilation by GEOEX PTY LTD

for

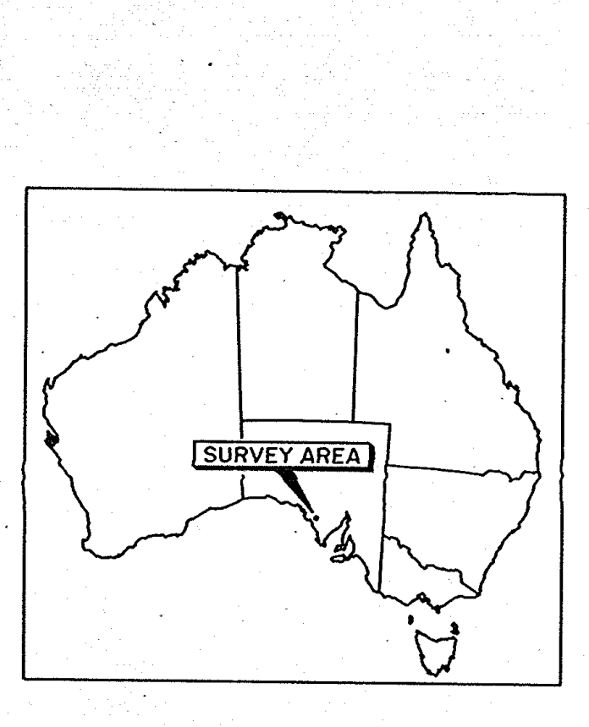
CARPENTARIA EXPLORATION COMPANY PTY LTD

MINNIPA AREA SOUTH AUSTRALIA

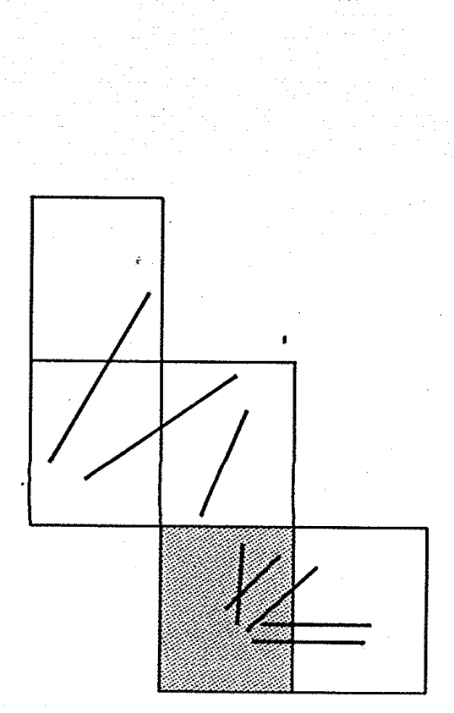
FLIGHT PATH PLOT

SCALE 1:50000

0 1000 2000 3000 4000 5000 METRES



SURVEY LOCATION



SHEET INDEX

Navigation control was by reference to photomosaics and/or photo strips.
Flight path analysis was achieved by identification of 16mm. ground tracking photographs on the navigation control. The ground tracking camera was operated at a rate of one camera frame for two data samples , such that successive camera frames overlap.
An attempt was made to recover fiducials at intervals of 1.0 kilometre , and only recovered fiducials are shown on the map.
During processing the photomosaic was controlled using the Australian Metric Grid control points.

⊕ Registration point identified on photomosaic.
+ 5000 metre Australian Metric Grid.

PROJECT NUMBER 80376 SURVEYED MARCH 1980

CEC DRAWING NUMBER 15715