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PLANS:

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NORANDA AUSTRALIA LIMITED

ENV 932

003

SPECIAL MINING LEASE NO. 181 - STIRLING
REPORT FOR SIX MONTHS ENDED OCTOBER 1, 1968

Noranda Australia Limited was granted a Special Mining Lease over an area of 16 square miles for a term of one year commencing April 1, 1968. One of the conditions under which this Special Mining Lease was granted stipulated that Noranda Australia Limited would submit a progress report at the conclusion of each six months. This report is for the six months ended October 1, 1968.

Aerial photographs were purchased to provide stereoscopic coverage of this area. Geological maps have been purchased from the Department of Mines.

Five companies were invited to submit tenders for an airborne spectrometer survey over this Special Mining Lease. Three tenders were received and the contract was awarded to Geophoto Resources Consultants, who have arranged to fly an aircraft and equipment from North America later this year.

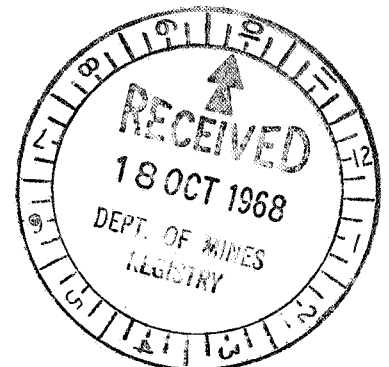
Geophoto Resources Consultants will use an Airborne Gamma-ray Spectrometer developed by Texas Instruments. The six large crystal configuration incorporated in this instrument provides a larger detector than that used by the other contractors.

Arrangements have been made to complete this flying prior to the end of 1968.

G. C. Battey
G. C. Battey,
Chief Geologist.

October 15, 1968.

GCB:GW



NORANDA AUSTRALIA LIMITED

004

MAILING ADVICE

To: The Director of Mines, Adelaide, S.A. Date: June 12, 1969.

From: Noranda Australia Limited, Melbourne, Vic.

The following accompany this memorandum —

Transparencies for Plates 3, 4 and 5 as listed in our Report No. 112 on Special Mining Lease No. 181 - Stirling, forwarded under cover of our letter of June 11, 1969.

GW

ENV 932

005



SPECIAL MINING LEASE NO. 181

STIRLING, SOUTH AUSTRALIA

REPORT FOR 12 MONTHS
ENDED MARCH 31, 1969

Report No. 112

June 1969

by

G. C. BATTEY

Melbourne, Australia

NORANDA AUSTRALIA LIMITED
S. M. L. NO. 181 - STIRLING, SOUTH AUSTRALIA
REPORT FOR 12 MONTHS ENDED MARCH 31, 1969

Plate
No.

- | | | |
|----|--|-----------|
| 1. | Locality Map | In Report |
| 2. | Flight Lines | To Follow |
| 3. | Isoradioactive Contour Map - Uranium | |
| 4. | Isoradioactive Contour Map - Uranium/Thorium Ratio | |
| 5. | Isoradioactive Contour Map - Uranium/Potassium Ratio | |

(All Plates in plastic pockets at back of reports except
where otherwise indicated)

007

34°S

34°S

139°E

GAWLER

SALISBURY

ADELAIDE

STIRLING AREA SML 181

See Plates 2, 3, 4 and 5

35°S

35°S

139°E

36°S

Kangaroo I.

STURT

Murray River

HWY.

HWY.

PRINCES

SCALE 1:1,000,000

NORANDA AUSTRALIA LIMITED

LOCALITY MAP

SML 181 SOUTH AUSTRALIA

showing

AREA MAPPED ON PLATES 2 to 5

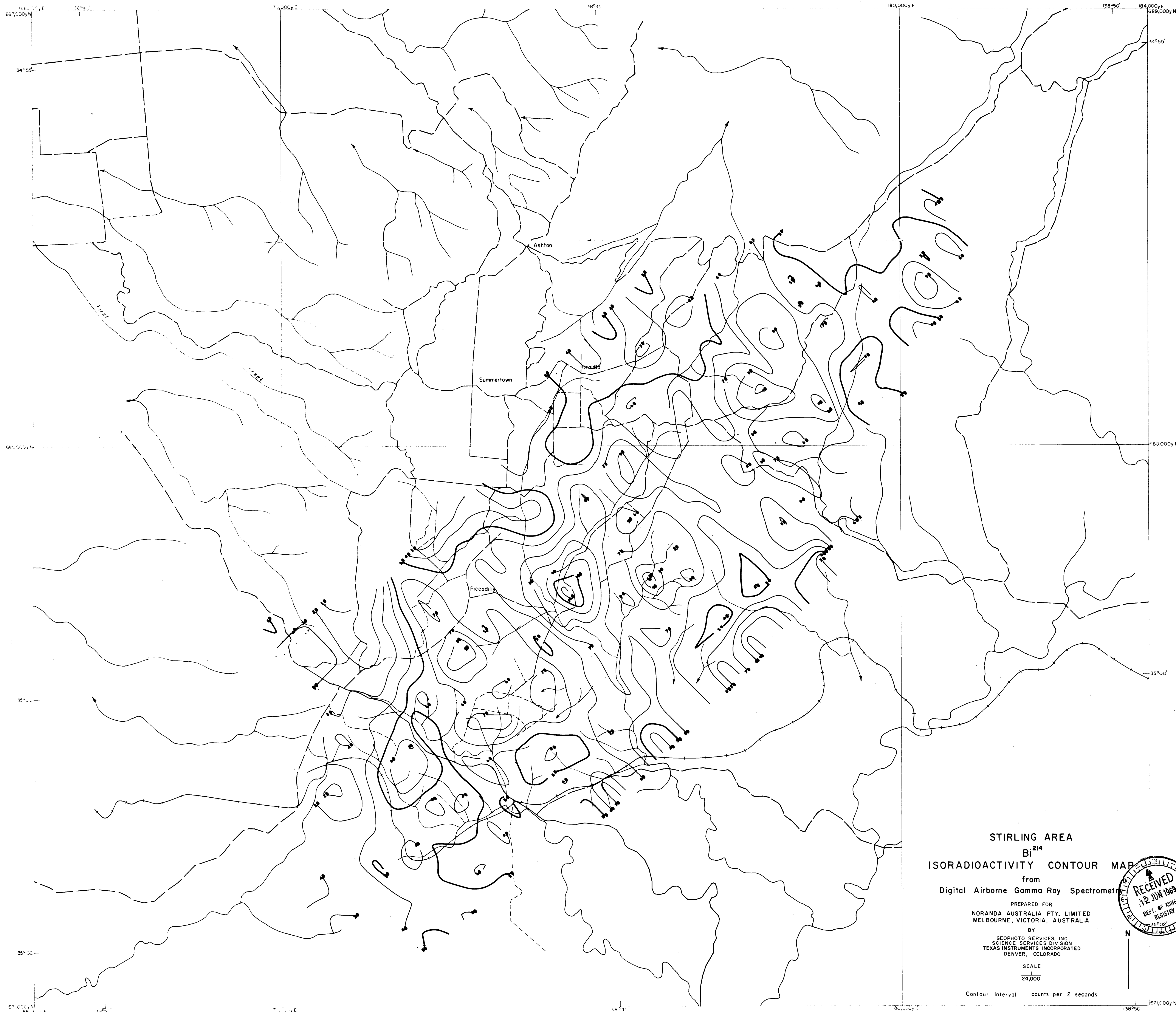
Date: 9-6-69

Compiled: NS

Drawn NS

Approved T.A.R.

Dwg No. 314 - C - 201

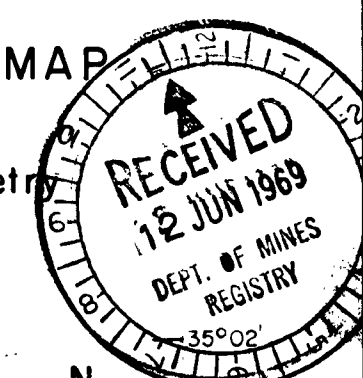


STIRLING AREA
Bi²¹⁴
ISORADIOACTIVITY CONTOUR MAP
from
Digital Airborne Gamma Ray Spectrometry

PREPARED FOR
NORANDA AUSTRALIA PTY. LIMITED
MELBOURNE, VICTORIA, AUSTRALIA
BY
GEOPHOTO SERVICES, INC.
SCIENCE SERVICES DIVISION
TEXAS INSTRUMENTS INCORPORATED
DENVER, COLORADO

SCALE
24,000

Contour Interval counts per 2 seconds



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PLATE 3
STIRLING

SCALE 1:24,000

ENV 932-3



STIRLING AREA
Bi²¹⁴/Ti²⁰⁸
ISORADIOACTIVITY CONTOUR MAP
from
Digital Airborne Gamma Ray Spectrometry

PREPARED FOR
NORANDA AUSTRALIA PTY. LIMITED
MELBOURNE VICTORIA AUSTRALIA
BY
GEOPHOTO SERVICES, INC.
SCIENCE SERVICES DIVISION
TEXAS INSTRUMENTS INCORPORATED
DENVER, COLORADO

SCALE
1
24,000

Contour Interval units

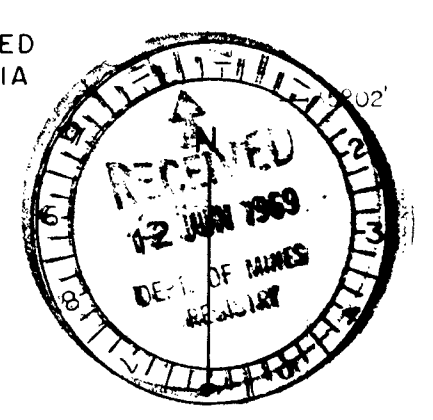
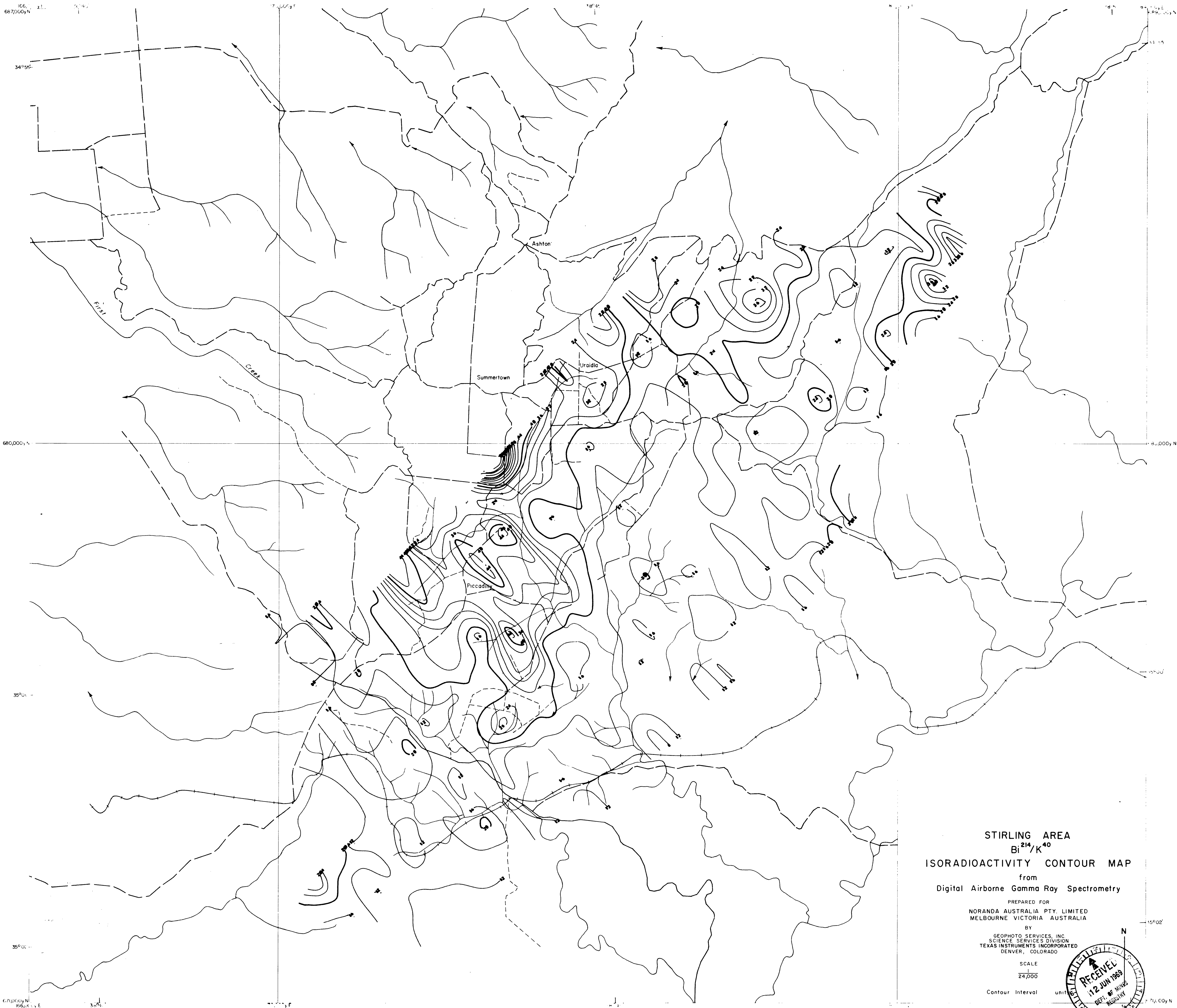


PLATE 4

SCALE 1:24,000

ENV 932-4



STIRLING AREA
Bi²¹⁴/K⁴⁰
ISORADIOACTIVITY CONTOUR MAP
from
Digital Airborne Gamma Ray Spectrometry

PREPARED FOR
NORANDA AUSTRALIA PTY. LIMITED
MELBOURNE VICTORIA AUSTRALIA
BY
GEOPHOTO SERVICES, INC.
SCIENCE SERVICES DIVISION
TEXAS INSTRUMENTS INCORPORATED
DENVER, COLORADO

SCALE
24,000

Contour Interval units

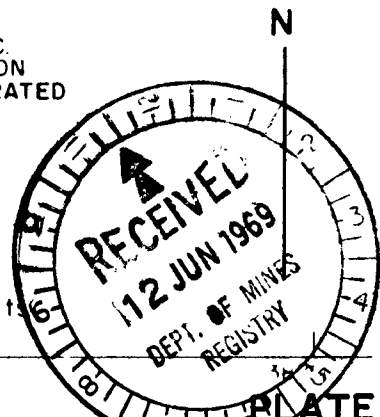


PLATE 5

Scale 1:24,000

ENV 932-5

STIRLING

NORANDA AUSTRALIA LIMITED

SPECIAL MINING LEASE NO. 181

STIRLING, SOUTH AUSTRALIA

REPORT FOR 12 MONTHS ENDED MARCH 31, 1969

1. Introduction

Noranda Australia Limited was granted a Special Mining Lease over an area of 16 square miles for a term of one year commencing April 1, 1968. This term has now been extended for a period of one year, expiring on April 14, 1970.

One of the conditions under which this Special Mining Lease was granted stipulated that Noranda Australia Limited would submit a report at the conclusion of each six months. This report is for the 12 months ended March 31, 1969.

2. Literature Study

Mr. A. Thomas conducted a literature study of this area from reports available at the South Australian Department of Mines.

No known uranium mineralisation is recorded in this area.

3. Present Investigation

Aerial photographs were purchased to provide stereoscopic coverage of the area. Geological maps were purchased from the Department of Mines.

Five companies were invited to submit tenders for an airborne spectrometer survey over this Special Mining Lease. The contract was awarded to Geophoto Resources Consultants.

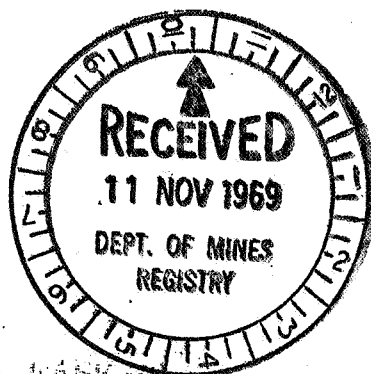
2.

The equipment used was an airborne gamma ray spectrometer developed by Texas Instruments and mounted in a DC3. This system is a multiple large crystal system and appears to be the most sensitive system in use in Australia. The data is recorded in digital form on magnetic tape. The results are processed in the U.S.A. and are presented as isoradioactivity contour maps for uranium. Isoradioactivity contour maps have been prepared to illustrate the U/Th and U/K ratios. Maps showing the position of the flight lines are also presented with this report.

A number of anomalies have been outlined as a result of this airborne spectrometer survey and these will be investigated by field parties.

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SPECIAL MINING LEASE NO. 181

STIRLING, SOUTH AUSTRALIA

REPORT FOR 6 MONTHS ENDED

SEPTEMBER 30, 1969.

Report No. 128.

November, 1969.

By

G. C. BATTEY

By

G. C. BATTEY

Melbourne, Victoria.

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NORANDA AUSTRALIA LIMITEDSPECIAL MINING LEASE NO. 181STIRLING, SOUTH AUSTRALIAREPORT FOR SIX MONTHS ENDED SEPTEMBER 30, 1969.1. INTRODUCTION

Noranda Australia Limited was granted a Special Mining Lease over an area of 16 square miles for a term of one year commencing April 1, 1968. This term has now been extended for a period of one year, expiring on April 14, 1970.

One of the conditions under which this Special Mining Lease was granted stipulated that Noranda Australia Limited would submit a report at the conclusion of each six months. This report is for the six months ended September 30, 1969.

2. INVESTIGATION

Aerial photographs were purchased to provide stereoscopic coverage of the area. Geological maps were purchased from the Department of Mines.

Five companies were invited to submit tenders for an airborne spectrometer survey over this Special Mining Lease. The contract was awarded to Geophoto Resources Consultants.

The equipment used was an airborne gamma ray spectrometer developed by Texas Instruments and mounted in a DC3. The system is a multiple large crystal system and appears to be the most sensitive system in use in Australia. The data is recorded in digital form on magnetic tape. The results are processed in the U.S.A. and are presented as isoradioactivity contour maps for Uranium. Isoradioactivity contour maps were prepared to illustrate the U/Th and U/K ratios. Maps showing the position of the flight lines, the isoradioactivity contour maps for Uranium and the isoradioactivity contour maps illustrating the U/Th and U/K ratios were prepared and issued to the Department of Mines with the report for the 12 months ended March 31, 1969.

A number of anomalies have been outlined as a result of this airborne spectrometer survey and these will be investigated by field parties.

Work has commenced on the investigation of the anomalies on Special Mining Lease No. 182 but has been interrupted because of the shortage of qualified technical staff. The available technical staff have been operating in the Northern Territory during the winter and are scheduled to commence work on Special Mining Lease No. 181 during the summer months.



SPECIAL MINING LEASE NO. 181

STIRLING, SOUTH AUSTRALIA

FINAL REPORT FOR 12 MONTHS
ENDED APRIL 14, 1970

Report No. 136.

June, 1970

ENV 932.

By

A. THOMAS

Chief Geologist - Western
Perth, Western Australia.

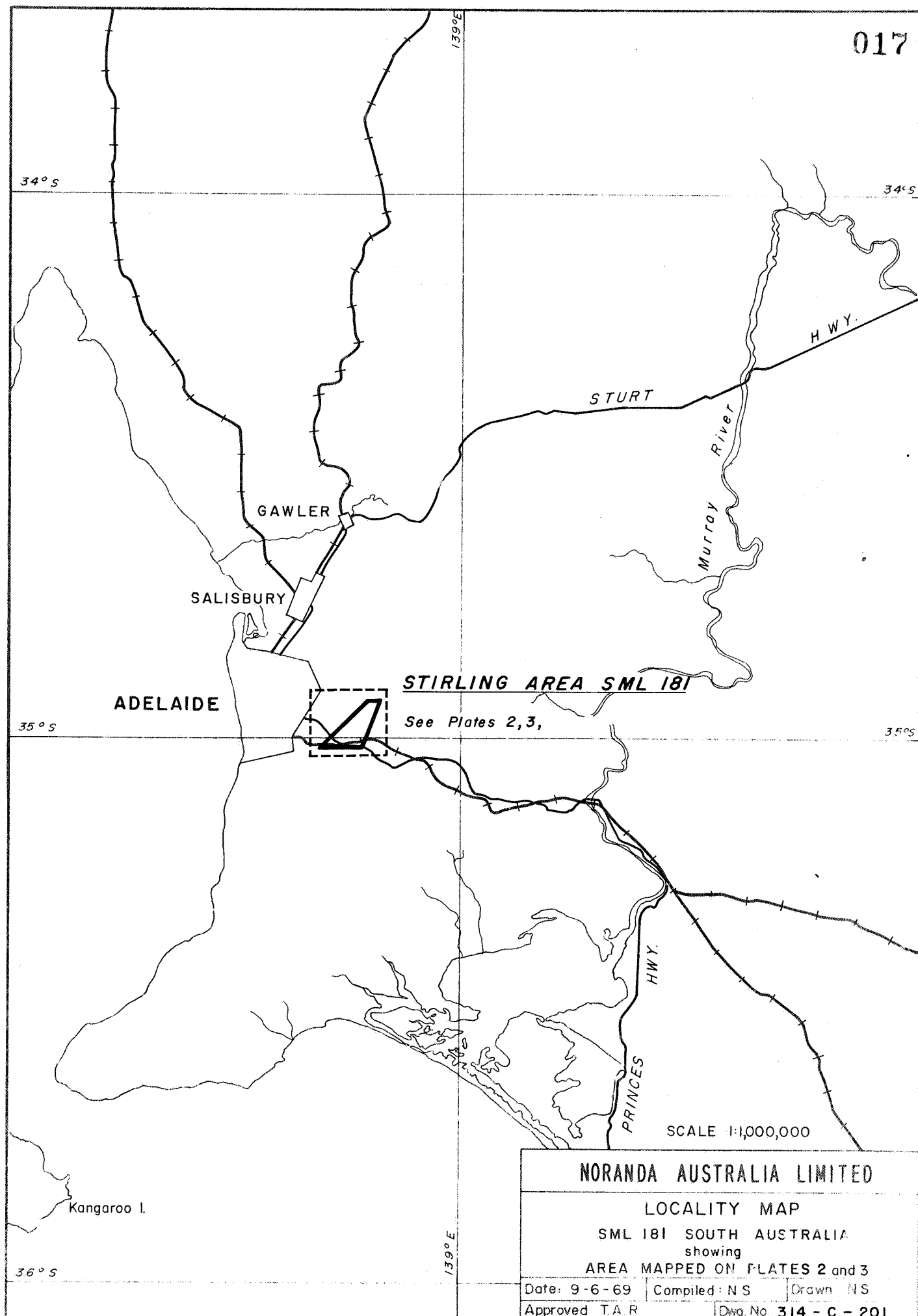
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Isoradioactive Contour Map - Potassium	3

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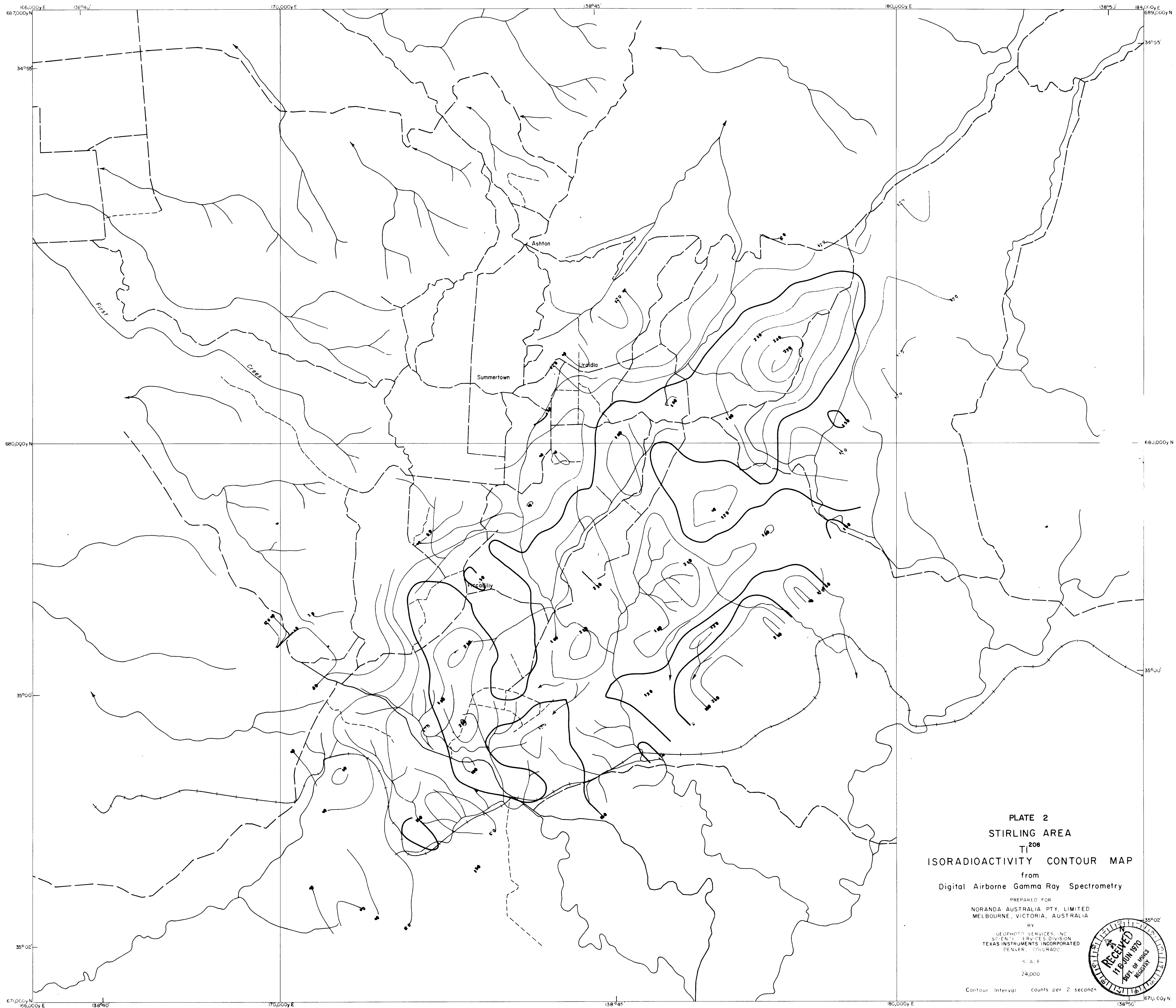


PLATE 2
STIRLING AREA
T₂₀₈
ISORADIOACTIVITY CONTOUR MAP
from
Digital Airborne Gamma Ray Spectrometry

PREPARED FOR
NORANDA AUSTRALIA PTY. LIMITED
MELBOURNE, VICTORIA, AUSTRALIA
BY
GEOPHOTO SERVICES, INC.
SCIENTIFIC SERVICES DIVISION
TEXAS INSTRUMENTS INCORPORATED
DENVER, COLORADO

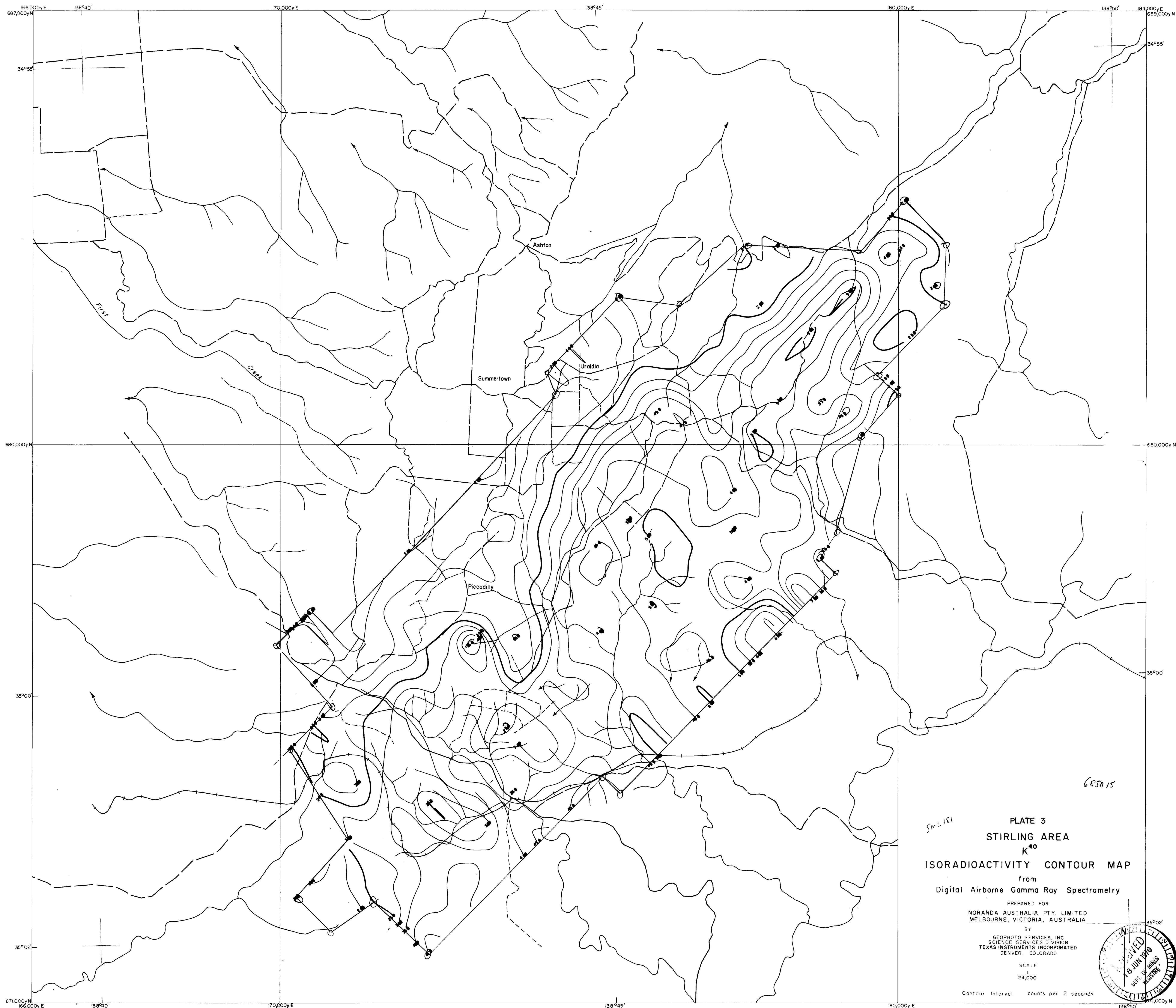
SCALE
24,000

Contour Interval: counts per 2 seconds

SCALE 1:24,000

STIRLING

ENV 932-1



685015

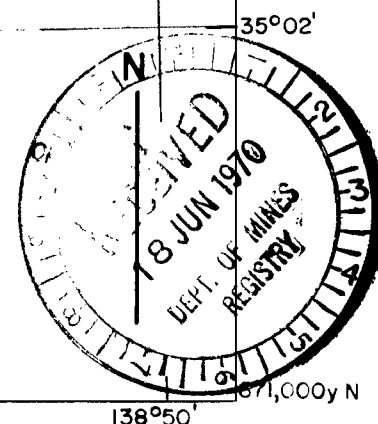
5m L 181

PLATE 3
STIRLING AREA
K⁴⁰
ISORADIOACTIVITY CONTOUR MAP
from
Digital Airborne Gamma Ray Spectrometry

PREPARED FOR
NORANDA AUSTRALIA PTY. LIMITED
MELBOURNE, VICTORIA, AUSTRALIA
BY
GEOPHOTO SERVICES, INC.
SCIENCE SERVICES DIVISION
TEXAS INSTRUMENTS INCORPORATED
DENVER, COLORADO

SCALE
1:24,000

Contour Interval counts per 2 seconds



SCALE 1:24,000

STIRLING

501 ETN 932-2

1. INTRODUCTION

Noranda Australia Limited was granted a Special Mining Lease over an area of 16 square miles for a term of one year, commencing April 1, 1968. This term was extended for a period of one year, expiring on April 14, 1970.

One of the conditions under which this Special Mining Lease was granted, stipulated that Noranda Australia Limited, would submit a report at the conclusion of each six months.

This report is the final report for the twelve months ended April 14, 1970.

Application for extension of the lease for a further period of one year was made on January 30, 1970, but withdrawn on April 9, so that the lease terminated on April 14, 1970.

2. GEOLOGY

The area was originally chosen for survey because it contained a small inlier of Archaen rocks within the Adelaide geosyncline, and was therefore similar to the special mining lease areas at Myponga and Houghton. The rocks consist of mica quartz schists, metaquartzites, and granitic gneiss trending north by east with fairly steep dips to east or west. Pegmatite veinlets are common filling fracture planes within the gneisses, often showing local concentrations of thorium or uranium sufficient to give scintillometer readings of 2 or 3 times background.

3. INVESTIGATIONS

As reported in the period ended March 31, 1969, Geophotos Resources Consultants were engaged as contractors to carry out an airborne gamma ray spectrometer survey, using a multiple large crystal system. Data was recorded in digital form on magnetic tape, the results processed in the U.S.A. and presented in the form of isoradioactivity contour maps, showing gamma radiation due to potassium uranium and thorium. Contour maps were also prepared to show the Uranium/Thorium and Uranium/Potassium ratios. Copies of these plans have been lodged with the Department of Mines.

4. GROUND FOLLOW UP

As a result of experience gained in the adjoining Myponga and Houghton areas, it was concluded that only one weak anomaly occurs in the Stirling Special Mining Lease area. This is the small anomaly at Co-ordinates, 677,700 y North 174,500 y East, approximately a mile east of Piccadilly.

Examination of this area on the ground showed general background reading of 50 counts per second total count, with local increases of maximum of three times in association with minor pegmatoid segregations. The anomaly is not of economic significance and no mapping was carried out of this locality, which is a residential and recreational area.