PROPOSED EXPLORATION PROGRAMME
MAY - DECEMBER, 1972
E.L. 12 AND E.L. 13,
NORTHERN TERRITORY
AUSTRALIA

PREPARED BY

PANCONTINENTAL MINING LIMITED
AIR NAVIGATORS PTY. LIMITED

MAY 5, 1972

SYDNEY, N.S.W.

CR1972 0023
1.0 BRIEF HISTORICAL REVIEW
1.1 EXPLORATION CARRIED OUT TO DATE

Exploration commenced in October 1970 with a fixed wing radiometric and magnetic survey. Airborne results were interpreted and followed up with an on-site preliminary evaluation of selected anomalies using reconnaissance ground spectrometer surveys, geological mapping and sampling.

During the early part of 1971 evaluation of results continued and planning of the proposed 1971 programme was carried out. In May 1971 a field programme commenced with a crew consisting of approximately 10 on-site personnel. The programme basically entailed the following:

- Geological mapping at a scale of 1" = 800'.
- Reconnaissance ground spectrometer surveys on both A. to P. 2013 and 2014.
- Ground spectrometer surveys on a grid basis on A. to P. 2013.
- Back hoe trenching on prospect 7e plus a limited amount of trenching on prospect 7j. This trenching was subsequently filled in in accordance with Mines Department requirements.
- A helicopter spectrometer survey on A. to P. 2013 and on A. to P. 2014.
- An auger drilling programme on anomalous zones on Hades Flat, prospect 7e, prospect 7j and Granite Hill.
- A diamond drilling programme on prospect 7e.
- Geobotanical surveys over selected areas of A. to P. 2013.

Exploration Licences covering the period January - December, 1972 were granted on March 17, 1972.
1.2 EXPENDITURE

Approximately $170,000 was expended on A. to P. 2013 and A. to P. 2014 during the period July 1 to December 31, 1971.

2.0 OBJECTIVES OF PROPOSED 1972 DRY PROGRAMME

2.1 GEOLOGICAL

2.1.1. To continue detailed drilling on prospect 7e in order to delineate extensions of mineralisation.

2.1.2. To further evaluate selected anomalous areas on E.L.'s 12 and 13. It is proposed that this evaluation be accomplished by shallow open hole drilling on a reconnaissance basis. Results will be evaluated and prospective targets will be tested by deeper drilling.

2.1.3. To continue investigations into the applicability of additional uranium exploration techniques.

2.2 ENVIRONMENTAL AND SOCIAL

2.2.1. To co-operate with Governmental agencies and other exploration companies in the conduct of environmental and regional development studies.

2.2.2. To conduct work in accordance with the policies of the Welfare Department and the Northern Territory Administration.

3.0 OPEN HOLE RECONNAISSANCE DRILLING PROGRAMME

3.1 CONTROL SURVEYS

It is proposed that base lines be established in each proposed grid area by a transit and chain survey. Stations
on the cross lines will be established by chain and picket technique and will be temporary in nature.

In order to facilitate subsequent control it is proposed that permanent survey control markers be established at 1500 metre intervals along all base lines.

All base lines and cross lines will be off-set where necessary to by-pass mature trees.

3.2 DRILLING AND SAMPLING

The location of the proposed reconnaissance drilling areas are shown on the appended maps.

The objective of this phase of the programme is to obtain geological information particularly of the bedrock surface. The following information will be collected and recorded:

- geological log
- radiometric log
- depth of water table
- samples of cuttings.

Based on an assumption that the average depth of the open holes will approximate 10 metres it is anticipated that 10,000 metres of drilling will be completed.

It is intended to let a contract for this phase of the programme however the contractor will at all times be under the strict supervision of a project geologist appointed by Pancontinental. All drill and support equipment will be capable of direct access to any drill site. It is not anticipated that it will be necessary to bulldoze access roads
or in any other way significantly disturb the soil surface.

3.3. **EVALUATION OF RESULTS**

Selected samples will be analysed for uranium and for other pathfinder elements. A portion of all samples will be stored for future reference. Analytical results, radiometric data and geological information will be interpreted and prospective targets will be selected for further testing.

4.0 **DETAILED DRILLING PROGRAMME**

4.1 **TARGETS**

The detailed drilling programme will have three primary phases as follows:

- further delineate mineralisation at 7e.
- evaluate at depth additional prospects which have been selected on the basis of previously completed ground and airborne surveys.
- test prospects which may be discovered as a result of the evaluation of data obtained during the open hole reconnaissance programme.

4.2 **TYPE OF DRILLING**

It is estimated that 3600 metres of both core and open hole drilling will be required.
4.3 EVALUATION OF RESULTS

Selected samples will be analysed for uranium and possibly other economic minerals. Half core samples and a portion of the samples obtained during the open hole drilling will be stored for future reference. Drill holes will be logged by a radiometric sensing device with the results being recorded.

Further work including additional drilling, calculation of ore reserves and metallurgical testing will be undertaken if the results obtained in drilling are encouraging.

5.0 OTHER SURVEYS

It is intended to continue the evaluation of additional uranium prospective methods in order to develop techniques which exhibit the following:

- cost effectiveness
- speed and reliability
- minimal interference with the existing ecological system.

6.0 SCHEDULE

<table>
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<th>TASK</th>
<th>ANTICIPATED COMMENCEMENT</th>
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<td>May 15 - June 1</td>
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<td>Move camp</td>
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<td>Open hole reconnaissance programme</td>
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<td>Detailed drilling on prospect 7e and other anomalies</td>
<td>July 1 - 15</td>
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7.0 STAFFING

It is estimated that approximately 10 - 15 Pancontinental personnel will be required. An additional 10 - 14 contractor's personnel will be based in the area. The majority of the personnel who participated in the 1971 exploration programme will be returning to this programme. These geologists and geophysical technicians are familiar with the area and have demonstrated their technical expertise and their ability to co-operate with those Government departments interested in the orderly exploration of the East Alligator region.

8.0 CAMP FACILITIES

The exploration camp which was utilised during the past wet season is located at Mudginberri Station. It will be necessary to move this camp prior to the commencement of work at the abattoir. It is recommended that the camp be moved to a site near the Billabong which is approximately 13 kilometres north of Mudginberri Station where potable water is available.

The site recommended has enough elevation to permit adequate access during the wet season. This site will be suitable for both wet and dry programmes.

It is recommended that the drilling contractors locate their camp at the site occupied by Pancontinental during the 1971 dry season.

All camps will be self-sufficient with respect to water supply, power generation and ablution facilities. Garbage
will be disposed of by burying the waste material in deep trenches which will be dug and subsequently re-filled by the back hoe. Application has been made for a HF radio frequency in order to ensure that adequate communication exists and to ensure that a safe and efficient programme is maintained.