

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS.

RECORDS

RECORDS 1960 No. 44



BANGKOK, E.C.A.F.E. SEMINAR ON AERIAL SURVEY METHODS
AND EQUIPMENT

by

J.H. Quilty

RECORDS 1960 No. 44

BANGKOK, E.C.A.F.E. SEMINAR ON AERIAL SURVEY METHODS
AND EQUIPMENT

by

J.H. Quilty

The information contained in this report has been obtained by the Department of National Development, as part of the policy of the Commonwealth Government, to assist in the exploration and development of mineral resources. It may not be published in any form or used in a company prospectus or statement without the permission in writing of the Director, Bureau of Mineral Resources, Geology and Geophysics.

1. OUTLINE OF VISIT.

The purpose of the visit was to attend the Seminar on Aerial Survey Methods and Equipment, which was organised by the United Nations Economic Commission for Asia and the Far East and was held at the Sala Santitham in Bangkok from 4th January to 5th February, 1960.

I was the sole Australian delegate to this seminar. Departing from Australia on 2nd January, I stayed overnight in Singapore and arrived at Bangkok on the afternoon of 3rd January.

On the morning of 4th January, after the presenting of credentials and registering, the seminar was formally opened by Mr. U. Nyun (Executive Secretary of E.C.A.F.E.) in the presence of the Deputy Prime Minister of Thailand, United Nations officials and delegates.

Approximately sixty delegates representing twenty-four nations attended the seminar. Daily sessions were devoted to readings of technical papers, discussions, demonstrations, and films. Visits were made to technical departments, and a tour was made about 120 kilometres northward to inspect geological conditions. The seminar concluded on 5th February.

I departed by air from Bangkok on 5th February for Singapore. Departing from Singapore on the evening of the 7th February, my aircraft was delayed in Darwin and Sydney was reached at the morning of Tuesday 9th February.

2. CONDUCT OF SEMINAR.

The seminar was directed by Dr. Te-Lou Tchang of the United Nations Cartographic Office. The general subject of Aerial Survey Methods and Equipment was divided into three sections:-

- (i) Aerial photography and photogrammetry
- (ii) Photo-interpretation
- (iii) Airborne geophysical surveying.

Approximately 60 technical papers were submitted. A number of these papers, or extracts of them, were read with short discussions in the sessions up to 15th January. Thereafter many sessions were devoted entirely to discussion. Dr. Morley (Canada) and I were leaders of discussions on airborne geophysical surveying, and later prepared a draft report for the Director of the Seminar.

The following papers from Australia were submitted
"Instrumentation for Airborne Geophysical Surveys with D.C.3 Aircraft"

J.K. Newman

"Problems of Navigation and Position Plotting in Airborne Geophysical Surveys"

R. Carter and I. Mather

"Simultaneous Measurements by Towed and Inboard Scintillographs in Airborne Surveying"

R. Carter

"Radiometric Surveys using Light Aircraft"

B.M.R. Officers

"Electronic Processing of Aeromagnetic Data"

A.J. Barlow and K. Seers

"Reduction of Aeromagnetic Survey Data"

W. Forsyth

"Interpretation of Aeromagnetic Survey Data"

J. Quilty

"Helicopter Operations in the Calvert Hills Area"

E.K. Carter

"Helicopter in the Desert"

J.J. Voevers

The above papers were prepared by officers of the Bureau of Mineral Resources.

Following the discussion sessions, the latter part of the seminar consisted of demonstrations of equipment and interpretative techniques. Films, slides and blackboard illustrations were also used in demonstrations.

A working committee was formed to draft a report on training and information facilities for aerial survey and interpretation in the E.C.A.F.E. region. Its conclusions were re-affirmed at a subsequent meeting of the seminar.

3. IMPRESSIONS FROM SEMINAR.

The delegates to this seminar were skilled in aerial photographic techniques, photogrammetry, interpretation of aerial photographs for geological work, forestry, engineering etc, or airborne geophysical methods. A few delegations contained specialists in each field.

The technical papers and discussions were usually at an advanced level. Valuable information and opinions on technical problems were exchanged in discussion sessions and in private conversation. Delegates were able to learn details of specialised field other than their own during discussion and demonstration periods. The Seminar served to make delegates aware of the value of all fields of aerial survey and interpretation in the development of the resources of their countries. This appreciation was evidently not always shared by the leaders of the governments in the E.C.A.F.E. region.

Many of the countries in the E.C.A.F.E. region have had at least portions of their territories aerially photographed, and maps are being compiled using these photographs. Photo-interpretation is also carried out in a variety of applications; this is often difficult because the scale of the photographs is not suitable for the particular task. Sometimes the work of technical departments is hampered because military authorities restrict the use of aerial photographs. Airborne geophysical surveying has been carried out in limited areas by government organisations or by companies on contract.

Whether future aerial surveys in the region are to be carried out by government organisations or by contracting companies is a question which can be decided only by considering the areas involved, facilities available and the degree of co-operation which can be achieved between the countries. It was pointed out that such co-operation would enable large areas to be surveyed at one time, with a decrease in cost and increase in value of the results.

For all such work, there is first and foremost the problem of funds. The delegates expressed a unanimous wish that consideration be given by the United Nations authorities to the provision of funds for the conduct of aerial surveys and skilled interpretation of the results in the under-developed countries of the E.C.A.F.E. region.

A major problem is the shortage of skilled and experienced technical personnel in many countries in the E.C.A.F.E. region. At a working committee of the seminar, it was agreed that existing training facilities are inadequate. This situation could be remedied by provision of fellowships for advanced training in other countries and by the establishment of a training centre within the region. Students could attend the centre for short-duration courses with reasonable travelling distances and expenses, and practical work could be done in conditions similar to their own countries. Courses should be given in air photography, photogrammetry, photo-interpretation and airborne geophysical surveying.

These conclusions were re-affirmed at a subsequent seminar meeting.

Several delegates expressed their interest and appreciation of Australia's contribution in the training of students under the Colombo Plan.

In discussions on airborne geophysical surveying I gained the impression that the standard of airborne magnetic and radiometric survey in Australia was equal to that in other countries where such techniques have been developed e.g. U.S.A., Canada, and U.S.S.R. Operational and interpretative procedures are broadly similar in all countries concerned.

Tropical regions present particular difficulties in aerial survey operations and interpretation, and a good deal of attention was given to these matters in the papers submitted, discussions and demonstrations. At the same time, the great value of aerial methods in those regions was illustrated by delegates familiar with such conditions.

4. RECOMMENDATIONS.

The following recommendations were made by the seminar :-

- (i) Provision of U.N. funds for aerial survey in the E.C.A.F.E. region.
- (ii) Extension of training facilities as outlined above.
- (iii) A second seminar to be held within two to three years.

5. ABSENCE OF POLITICAL CONTROVERSY.

No political matters were raised during the conduct of the seminar, and discussions were held in a friendly atmosphere.

17th March, 1960.