

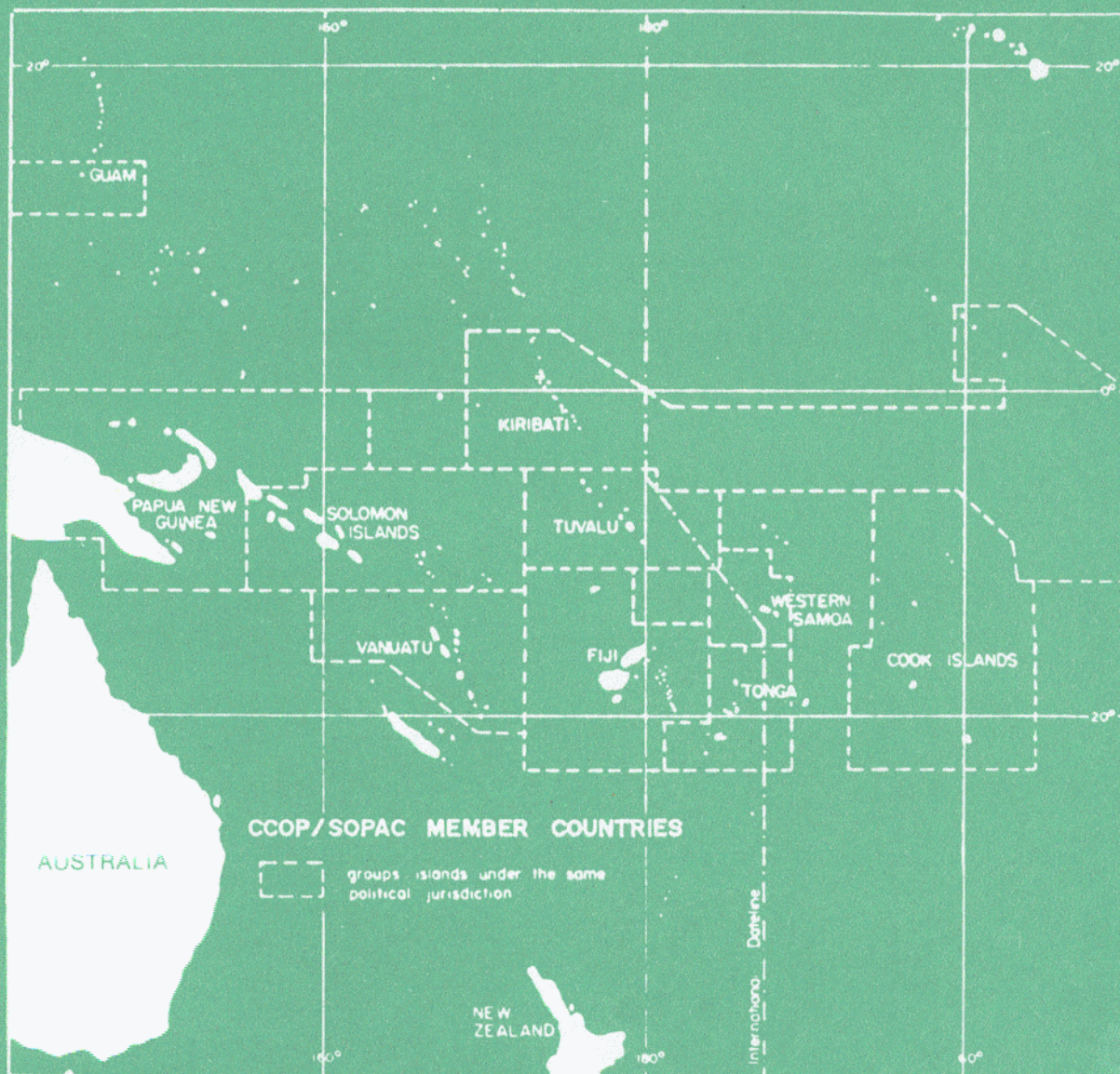


SOPAC NEWS

COMMITTEE FOR CO-ORDINATION OF JOINT PROSPECTING
FOR MINERAL RESOURCES IN SOUTH PACIFIC OFFSHORE AREAS

Vol. 4 Nos. 3 & 4

July-December, 1986



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EDITORIAL

If everyone who attended the Fifteenth CCOP/SOPAC Session at the Hotel Rarotongan, Cook Islands were asked the question: "Name the one thing that you remember best about Rarotonga?" There would be quite a range of obvious replies: the Tangaroa; the pareus; the perfume; the beach; the hula girls; the Banana Court; frangipani leis; the scooters; Sunday; Trader Jacks, the Coconut Cup; the Mountain climbing - all, you will note, away from the conference room proper.

That, of course, is no reflection on the conduct of the Talks itself. On the contrary, the 15th Session was without doubt an outstanding success. Delegates and participants devoted long hours in meetings of STAR and TAG, and in the CCOP/SOPAC Caucus. Australia became the twelfth member of the Committee, Canada attended the TAG session for the first time and it has been decided to invite the Federated States of Micronesia, Palau, the Marshalls, New Caledonia and French Polynesia to attend next year's session as Observers.

All evidence pointing to the fact that these yearly SOPAC gatherings are anything but the convening of an 'exclusive club' it often is termed to be.

And the icing on the cake was the enchantment and captivation offered by the ambience of those beautiful islands and the generous hospitality of our friendly Cook Island hosts. During the ebb and flow of conference-room deliberations, sounds of Rarotonga would drift in through the windows, and quite effectively prevented anyone from becoming too steeped in officialdom - in fact some of us were so distracted that in the dying moments of TAG Dr Greene's eulogy on Sione Tongilava went over our heads and was inadvertently omitted from all our notes. We have remedied that, of course, but what we mean is - can you imagine a SOPAC Session without Sione Tongilava? It would be like a Session without Gary Greene or Loren Kroenke or Ron Richmond. Unthinkable!

We hope you had a Happy Christmas and that your New Year will be a prosperous one.

PRINCIPAL ACTIVITIES OF THE TECHNICAL SECRETARIAT

The primary preoccupation of the Technical Secretariat during the third quarter was the 15th CCOP/SOPAC Session held in Rarotonga, Cook Islands from 5 - 13 September which was attended by the majority of the Techsec staff

Major decisions taken at the 15th Session included:

- the appointment of Stuart Kingan of the Cook Islands as Chairman of CCOP/SOPAC in succession to James Saliga of the Solomon Islands;
- the admission of Australia as the 12th member country of CCOP/SOPAC;
- the decision to extend an invitation to the Federated States of Micronesia, Palau, and the Marshalls, as well as New Caledonia and French Polynesia to attend next year's 16th Annual Session as Observers;
- the approval of the 'mini' budget for the period July to December and for the calendar year 1987;
- the approval of the Terms and Conditions of Employment, which would allow the Technical Secretariat to recruit staff, including professionals, directly; and

(f) the acceptance of Papua New Guinea's offer to host next year's 16th Annual Session in Madang.

As usual, the Technical Advisory Group meeting was well attended, and the discussions comprehensive and lively. A welcome addition to the meeting of TAG this year was the participation of Canada.

The 15th Annual Session was a resounding success and both CCOP/SOPAC member countries and the supporting countries in TAG are most appreciative of the tremendous effort and contribution by the Government and people of the Cook Islands.

Draft funding proposals for the UNDP 4th funding cycle and the EEC Lomé III were completed and submitted to the respective donors for their consideration.

Following the 15th Annual Session, further approaches were made to various Canadian authorities and the CFTC on funding support for CCOP/SOPAC technical programmes activities.

These have resulted in commitments to provide the CCOP/SOPAC Techsec with a marine geologist by ICOD, a petroleum geologist and probably a geophysicist by Petro-Canada and funding support for training by the Management for Change Programme of CIDA. These offers of assistance clearly reflect Canada's growing interest in providing support for economic and social development in the South Pacific region.

A further welcome development was the agreement by CFTC to provide financial support for CCOP/SOPAC's training activities, in addition to funding a petroleum geologist.

On the implementation of technical work programmes, the following were the main activities undertaken by our technical staff:-

- (1) The third quarter was taken up with the preparing of reports of the work done since the 14th Session for distribution at the 15th Session.
- (2) Ralf Carter in late July with the Electronic Technician, Ed Saphore, conducted multiple baseline coastal management studies on the island of Efate, Vanuatu.
- (3) Bruce Richmond attended the IOC WESTPAC-Marine Science Symposium on the Indo-Pacific convergence, held in Townsville, Australia from 1 - 6 December 1986. He and co-author Peter Roy (formerly of Techsec, now with University of Sydney) presented papers on (a) Islet morphologies of Western Kiribati Atolls and (b) Coastal sedimentation and deltaic progradation on a tilting coast, NE

Guadalcanal.

- (4) Planning for the upcoming (July, 1987) Coastal Mapping Workshop and continued assessment of phosphate potential were discussed in a recent trip to Funafuti, Tuvalu by Bruce Richmond. 1984 Vertical aerial photography by the Royal Australian Air Force of all islands within Tuvalu will form the basis of the Workshop. Maps will be produced based on air photo interpretation with field checking on Funafuti and probably Nukufetau. Nukufetau will also be the location of a coastal and lagoonal sampling program to further explore its phosphate potential.
- (5) Ralf Carter was in Tongatapu doing baseline studies for Coastal Development - part of Tonga's Work Programme element TG.8, in October before leaving for California on Home Leave.

VISITORS

From late in the third quarter to the end of the fourth quarter the Technical Secretariat was visited by:-

Wilson Ifunaoa	Ministry of Foreign Affairs, Solomon Islands
Ambassador Edward Wolf	US State Department
Jim Houston	CFTC Commonwealth Secretariat, London
Semi Luvuiwai Allen Jay	Placer Exploration " "
Sione Tongilava	Ministry of lands, Surveys and Natural Resources, Tonga
E. Chysman Higgins	Hawaii Natural Energy Institute
James Maw	Granada Television, Great Britain
Barnaby Mason	BBC, London
Marae Irata	Ministry of Natural Resources, Kiribati
Semus Taafaki	Ministry of Works and Communications, Tuvalu

Crick Carleton	Nautilus Consultants, Marlborough
Peter Philipson	FFA, Honiara
John Langevin	Management for Change, CIDA
S.O. Barnor	CFTC- Commonwealth Secretariat, London
Ken Brazel	Department of Foreign Affairs, Canberra
Pat Cooper	Hawaii Institute of Geophysics, Honolulu
Dr B. Cicin-Sain	University of California, Santa Barbara
R.W. Knecht	"
M.S. Wodinsky	Canadian High Commission, Wellington

VALUABLE REFERENCE VOLUME FOR THE FOR THE SOLOMON ISLANDS

Among the 'selected new arrivals at the SOPAC Library' is a publication containing over 1,200 annotated references to the geology of the Solomon Islands - the result of three and a half years of painstaking work by Professor Warren Manser of the University of Papua New Guinea.

The Annotated Bibliography and Index of the Geology and Geophysics of the Solomon Islands, to 1982 brings together abstracts of virtually all known items concerning the geology and geophysics of the Solomon Islands, published before the end of 1982. The presentation of these abstracts by subject category allows for subject-related systematic literature search to be pursued rapidly, and enables the user to develop some perspective of the development of information and interpretations in the different areas of interest - and recognise the many gaps and areas where more work is needed. The author index provides one means of access to the results of studies recorded in the body of the text, whilst the locality index enables rapid assessment of what is, or is not, known about any specific locality of interest.

This volume represents a major review and 'stocktake' of the literature pertinent to the

geosciences and geoscience resources of the Solomons. It will serve as a basic reference source on the earth sciences in the Solomons, and act as a stimulus for future workers in the wide range of exciting areas of investigation and interpretation of the geology of the region.

Warren Manser himself has been with the University of Papua New Guinea since it commenced teaching undergraduate courses in 1967, initially as a lecturer in the Department of Chemistry and Earth Science and later in the Department of Geology from its inception in 1973. He has been Head of Department for much of that time. His principal interests are in the geology and tectonics of the region, and as well as teaching and publishing in these areas he has prepared a series of annotated bibliographies covering the earth sciences of Papua New Guinea, which has been issued by the Australian Bureau of Mineral Resources and the Papua New Guinea Geological Survey.

Copies of the Solomon Islands Bibliography can be obtained from the:

Chief Geologist
Ministry of Natural Resources
P.O. Box 624
Honiara
Solomon Islands

and the asking price is SBD 100.

PUBLICATIONS OF INTEREST

Selected New Arrivals at the SOPAC Library

1. BROCHER, T.M. (Ed.) 1985: Investigations of the Northern Melanesian Borderland. CPCENR Earth Science Series, Volume 3: 199 p.
2. CROMAN, D.S. (Ed.) 1986: Sedimentation and mineral deposits in the Southwestern Pacific Ocean. 356 p.
3. CULLEN, D.J.; BURNETT, V.C. 1986: Phosphorite associations on seamounts in the tropical Southwest Pacific Ocean. Marine Geology, 71(1986): 215-236.
4. HEIN, J.R.; MANHEIM, F.T.; SCHWAB, V.C. (1986): Cobalt-rich ferromanganese crusts from the Central Pacific. 18th Annual OTC, Houston, Texas, May 5 - 8, 1986, Paper: 5 p, 3 figs.

5. KOSKI, R.A.; HEIN, J.R.; BOUSE, R.M.; SLINNEY, R.E. (1985): Composition and origin of ferromanganese crusts from Tonga Platform, Southwest Pacific in Scholl, D.W. and Vallier, T.L. (Comps & Eds) 1985: Geology and offshore resources of Pacific island arcs - Tonga region, CPCENR Earth Science Series, Volume 2: 179 - 186.

6. MANSER, U. 1985: Annotated bibliography and index of the geology and geophysics of the Solomon Islands, to 1982. Solomon Islands, Ministry of Natural Resources, Geology Division, Bulletin 15: xvi, 355 p.

7. MUNN, P.D. 1986: Implications of migrating geoid anomalies for the interpretation of high-level fossil coral reefs. Geol. Soc. Am. Bull., v.97, p.946-952: 6 figs, 1 table.

8. PONTOISE, B.; et al 1986: Leve's SEABEAM dans l'archipel des Iles Australes: Confirmation d'une nouvelle methode de localisation de monts sous-marins basee sur l'analyse des donnees SEASAT. (SEABEAM survey in the Austral Archipelago as an approval for a new method to locate seamounts using SEASAT data). C.R. Acad. Sc. Paris, t. 303, Serie II, no. 7: 563 - 568.

9. SCHWAB, W.C. et al 1986: Geological and geochemical data for seamounts and associated ferromanganese crusts in the Ratak Chain, Marshall Islands. USGS Open-file Report 86-338: 26 p, 10 figs. Preliminary Only.

10. SEA-LEVEL changes and tectonics in the Middle Pacific. Report of the HIPAC Project in 1984 and 1985 (Second Research): 126 p.

11. VEDDER, J.G.; POUND, K.S.; BOUNDY, S.Q. (Eds) 1986: Geology and offshore resources of Pacific Island arcs - Central and Western Solomon Islands. CPCENR Earth Science Series, Volume 4: xiii, 306p.

CCOP/SOPAC Reports since SOPAC NEWS, Volume 4, Number 2, April - June 1986

Technical Reports:

33. CLARIDGE, G.G.C. 1986: The ceramic clay resources of Vanuatu.

71. JICA/MMAJ 1986: Ocean resources investigation in the sea area of CCOP/SOPAC - report on the joint basic

study for the development of resources. Volume 1: Sea Area of the Cook Islands:

- [(i) Narrative Text]
- (ii) SBP Record
- (iii) PDR Record
- (iv) Photos and Sample Data

73. MEYLAN, M.A. 1986: Summary Cruise Report HMNZS Tui - Manihiki Plateau and adjacent Southwest Pacific areas, March - May, 1986.

74. CARTER, R. 1986: Review of boat launching ramp A/E - design for Umatac Village, Territory of Guam.

Cruise Reports:

107. MEYLAN, M.A. 1986: A geophysical/geological cruise by HMNZS Tui to Manihiki Plateau and adjacent Southwest Pacific areas including the investigation of cobalt crusts and manganese nodules as part of the Tripartite II Programme.

OPTIMAL STRATEGIES FOR MINERAL EXPLORATION

After the spectacular successes of the 1960's and 1970's, the mineral exploration business is at a crossroads, facing difficult times ahead because of world-wide economic uncertainties. It is the main argument of a new 400-page book titled: Designing optimal strategies for mineral exploration (Plenum Publishing Corporation) by J. De Geoffroy, M.Sc., Consultant in Geostatistics and T.K. Wignall, Ph.D. Professor of Statistics, that a possible remedy for the difficulties besetting mineral exploration lies in the philosophy of OPTIMIZATION.

The Book mainly deals with the OPTIMIZATION of the search for ore deposits of specific kinds by means of airborne and ground geophysical surveys and drilling programmes, using as examples six types of metallic ore deposits commonly sought world-wide, four of which are known to occur in the Southwest Pacific Region.

The authors describe how optimization should help explorationists make the best achievable use of the costly and sophisticated technology at hand, in order to emulate the achievements of the past decade.

The optimization of the whole mineral exploration

sequence, from initial planning to production, has been fully computerised by the authors into an "Expert Exploration System" comprising 18 fully-tested computer programmes which are available from the first author as printed listings or as a compact IBM compatible disc package.

It is hoped that explorationists will be interested in the book and in the Expert System for their application to the optimization of their current and future exploration projects anywhere in the world.

You can write to the first author at this address:

J. De Geoffroy
Eden PO
2551 New South Wales
Australia.

*233 Spring Street, New York, NY 10013, U.S.A.

RESEARCH VESSELS IN THE REGION

1. HAKUREI MARU NO. 2

Left Honolulu 5 September to return on 20 October 1986 as identified in their tentative Ship Operations Schedule submitted to Techsec in April. The survey area was 6 1/2°S - 17 1/2°S and 160 1/2°W - 158 1/2°W. The Cook Island representative on board was Vaitoti Tupa.

2. MOANA WAVE

The Moana Wave is scheduled to depart Honolulu on December 16, traversing Kiribati waters to gather underway geophysical data enroute to Suva where it will work in the Fiji Plateau. It will leave Pagopago on 31 January, doing work in the Manihiki/Line Island waters and arriving in Honolulu on 24 February, 1986.

3. NMFS LATUI

The Latui after almost a whole year's confinement for major overhauling is hoped to be ready for Baseline Studies and work on detrital minerals in the Southern and Western Viti Levu waters, as

well as the Southern Vanua Levu waters in November. It will also be available for use by CCOP/SOPAC on a reimbursable basis.

STAFF

1. Russell Howorth

The Training Co-ordinator has started his stint at the Technical Secretariat office in Suva. His gusto at the beginning has dimmed of late due to some ailment that had the audacity to attack him. We are pleased to report that Dr Howorth attacked right back and that much of his enthusiasm has been redeemed.

2. Herve Dropsy

The second young, gifted, and French personality to descend on the Techsec is Herve. He is here supposedly to replace Olivier Lemaire who joined us at about the same time last year. But since there is some talk of an additional French expert to join CCOP/SOPAC we are keeping our fingers crossed that both Olivier and Herve will stick around for quite a while.

3. Donald Tiffin

Dr Tiffin was on Home Leave, October-November 1986. He made business trips on behalf of the Directorate to Sidney, British Columbia; Calgary, Alberta; Ottawa, Ontario; and Halifax, Nova Scotia while there. The itinerary for the business travel was arranged through the International Centre for Ocean Development (ICOD). The trip was set up in response both to earlier enquiries from CCOP/SOPAC to ICOD and to encouragement from the Canadian representative at the 15th Session of CCOP/SOPAC in Rarotonga in September, 1986.

4. Ralf Carter is presently in California on Home Leave. He is scheduled to return to the Techsec in February.

VOLLEYBALL COMPETITION TO BECOME OFFICIAL PART OF ANNUAL MEETINGS ?

The Technical Secretariat is seriously thinking of making the "Coconut Cup Volleyball Competition" begun casually on the balmy beachfront of the Rarotongan Hotel (the venue of the 15th CCOP/SOPAC Session) an

official part of the Annual Session in years to come.

COMING EVENTS

Volleyball facilities were available to hotel guests, when they fancied exertion of that sort, at the Rarotongan. It became a popular way of unwinding, especially for the TAG delegates who resided at the Hotel, to indulge in a few games with other hotel guests during breaks in deliberations.

The TAG representatives by common consensus then issued a challenge to the Member Countries across the Conference Table for a three-match set of the Game and the COCONUT CUP was born. Unfortunately for the challengers, the challenged forfeited only one of the three matches of the set by default, proving themselves superior at the volleying game.

There was even an official presentation of the COCONUT CUP at the official function hosted by the Director of CCOP/SOPAC which we at the Techsec realise to our dire chagrin we had not recorded on film.*

If the action shots overleaf are anything to go by, then the lunch-hour Coconut Cup Volleyball Competition could become part of the CCOP/SOPAC Annual Sessions warranting a citation in the official Proceedings volume.

We are putting the idea across the seas now. For anyone who is to be part of this scene in the future, is there any grave cause for alarm if this prospect is welcomed by the majority?

STOP PRESS!!!!

Did you know that when James Maw of Granada Television, London, visited Techsec in November he brought with him his camera crew and they filmed some of our SOPAC guys doing grab sampling in Suva Harbour aboard HMFS Latui? It was all part of the "Busman's Holiday", a programme which involves National competitions between professionals in England, and the oceanographers won this time around buying themselves a trip here for a glimpse of our own oceanographers in action.

And not only that - the action is going to be watched by fourteen million viewers in Britain.

*An appeal to readers who attended the Director's official function during the 15th Session armed with cameras - the Techsec would dearly appreciate any photographs of the Coconut Cup presentation.

Notices of future meetings as discussed under Agenda Item 32 of the CCOP/SOPAC 15th Session as supplied to the Techsec:-

A. COMMISSION FOR THE GEOLOGICAL MAP OF THE WORLD (CGMW) - PLENARY ASSEMBLY

7 - 14 February Paris
1987 France

The USSR representative reported that ongoing and future projects connected with compilation and methods of approach to different types of geological, tectonics, metallogenic and environmental and other maps are to be discussed - among them the new project of the International Tectonic Map of Asia (Scale 1:5,000,000).

B. INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS (IUGG) - GENERAL ASSEMBLY

August Vancouver
1987 Canada

C. AUSTRALIAN PETROLEUM EXPLORATION ASSOCIATION (APEA) - ANNUAL CONFERENCE

22 - 25 March Surfers Paradise,
1987 Sydney, Australia

The Senior Technical Adviser informed that deadlines for papers were usually June of the previous year, with the final manuscript expected by November. Arrangements for poster or promotion sessions should be arranged with APEA by November.

D. WORKSHOP ON KUROKO-TYPE MINERALISATION - 1987 (TENTATIVE)

ESCAP and Japanese officials are having preliminary discussions on the possibility of co-sponsoring a Workshop on Kuroko-type Mineralisation for only SOPAC nationals in the region sometime in 1987. This follows the success of the 1985 Workshop held in Japan. Details will be made available as they become known.

E. PACIFIC RIM CONGRESS 87

26 - 29 August Gold Coast.
1987 Australia

This International Congress on the geology, structure, mineralisation and economics of the Pacific Rim to be held in Queensland is sponsored by the Australasian Institute of Mining and Metallurgy.

F. TECTONIC EVOLUTION AND DYNAMICS OF CONTINENTAL LITHOSPHERE - International Symposium -

- The Third All-China Conference on Tectonics -

24 - 28 August Beijing
1987 China

Four of the six proposed themes for the Symposium which is co-sponsored by the Circum-Pacific Council for Energy and Mineral Resources are:

1. Formation and evolution of sedimentary basins and energy resources;

2. Tectonic evolution and metallogeny of the Circum-Pacific belt;
3. Active tectonics and mitigation of geologic hazards;
4. New techniques and methods in structural geology.

The Organising Committee of the Symposium welcomes papers on the themes for presentation during the sessions.

All correspondence should be addressed to:

Wang Zejiu
Secretary-General
Organising Committee of TEDCL
C/- Chinese Academy of Geological Sciences
Biawanzhuang Road 26
Beijing, CHINA

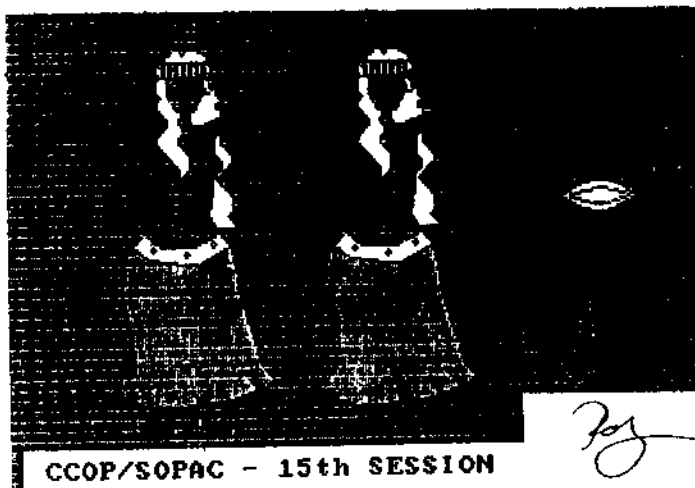
G. ICOD OFFSHORE NON-FUEL MINERAL RESOURCES ASSESSMENT AND PLANNING COURSE

1 March 1987
(2 Weeks)

Halifax, Nova Scotia
Canada

KIA ORANA: AN ACKNOWLEDGEMENT

To the Cook Island people we send the Techsec's heartfelt "HEITAKI MA ATA" for the support and hospitality of those weeks in September, when the Techsec's task became a dream we were reluctant to wake from; and to the God of Fertility - a prayer for leniency for the errant sensibility in our naming of the Tangaroa: not to be interpreted as a peculiarity in the doodling efforts of Ralf Carter.







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