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Minutes
of the 51st Meeting of the, ICCP held in
Bucharest, Romania
September 12-18,1999

by Zuleika C. Correa da Silva,
General Secretary

1. General Course of the Meeting

The 51st meeting of the ICCP took place at the Faculty of Geology and Geophysics, University of Bucharest, Romania, from September 12 to 18, 1999. It was attended by the President, Prof. Dr. Manuel J. Lemos de Sousa, 32 Members and 20 guests. The participants represented a total of 19 countries (Appendix 1).

The meeting was opened by the President, Prof Dr. Lemos de Sousa who expressed his thanks to the Organizing Committee in special to Prof. Dr. Cornelia Panaitescu and Dr. Costel Nedelcu. Dr. Nedelcu announced that the ICCP Meeting will be followed by the meeting of United Nations-ECE Task Force on the Elaboration of an International Codification for Lignites and Sub-bituminous Coal Utilization. He welcomed the presence of specialists from 19 countries, representatives from the diplomatic missions accredited in Bucharest, members of the Romanian Academy, professors of the Bucharest Academy and the Bucharest Polithecnica University. Dr. Nedelcu introduced Prof. Dr. Gheorghe Udubasa, General Manager of the Geological Institute of Romania who delivered a short speech on "Romanian Geological Research", followed by Prof. Dr. Nicolae Ticleanu, from the Faculty of Geology and Geophysics, who talked about the "Study of Geology in Romania".

Directly after the opening addresses the first General Assembly was held under the direction of the President who asked the plenary for confirmation of the minutes of the 50th ICCP Meeting held in Porto, Portugal, September 20-26, 1998. Following extensive and detailed discussion by Council of the minutes of the previous meeting, a number of corrections and changes had been agreed. A revised version of the minutes will be made available electronically. The President asked the members attending the Plenary Session to stand in honour of two members of the ICCP - C.D. Siskov, from Bulgaria and Joana Nahuys, from Brazil - who passed away last July.

Apologies

Apologies for absence were received from the following full and associate members:
W. Pickel and A. Depers (Australia), M.V.B. Ade and M. B. Silva (Brazil), D. and J. Pearson (Canada), B. Alpern and G. Nicolas (France), M. Wolf and R. Wartmann (Germany), A. Aihara (Japan), S. Pusz, M. Misch, K. Kruszewska, G. Nowak and M, Wagner (Poland), M. Marques and D. Flores (Portugal), R. Menendez and M. A. Gomez-Borrego (Spain), H. Pinheiro, H. Roux and V. Du Cann (South Africa), and A.H.V. Smith and D.G. Murchison (United Kingdom).

ICCP Homepage

The President announced that Carla Araujo wished to resign from her position as webmaster due to heavy workload. 7ffie President expressed the thanks of ICCP for her invaluable contribution in the past and announced that David Pearson would be invited to succeed Carla as Homepage Editor.

Past President

The second General Assembly unanimously endorsed a proposal by the Council that the position of Past President be introduced. The creation of this position will ensure that there is continuity in the long term objectives of the ICCP and that some of the day-to-day business of running the ICCP can be coordinated or even shared. The President will take seat in the Council meetings but will not have voting rights because this would require a change of the Statutes first.

Meetings of the three Commissions

Reports of the meetings of the Commissions were presented during the final plenary session on September, 17 by Alan Cook (Chairman of Commission 1), Petra David, acting for Wolfgang Kalkreuth (Chairman of Commission 2) and Petra David as Chairperson "ad hoe" of Commission 3, in place of the chairman. In the absence of the Secretaries of Commission I (Walter Pickel), Commission 2 (Angeles Gomez-Borrego) and the Chairperson of Commission 3 (Judy Bailey) the following colleagues acted as Chairman/ Secretaries during the meeting: Commission 2: Lila W. Gurba (Secretary) and Commission 3: Petra David (Chairman) and Diego Alvarez (Secretary).

Alteration of Statutes

A ballot on alterations, and amendments to the Constitution has been organized by the President during the year. The recommendations brought forward by the Council found the overwhelming support of full members, although participation in the ballot was low.
The President Manuel Lemos de Sousa announced that he will circulate a revised version of the Statutes, together with an updated membership list, early in 2000.

Elections

Elections for President of ICCP and Chairperson of Commission 3 were held during the year. Results were as follows:

President:
Alan Cook (Australia)
Chairperson of Commission 3:
Rosa Menendez (Spain)

Forthcoming Elections

For the next yen, elections were required for the positions of

General Secretary
Editor
Chairperson of Commission I
Secretary of Commission 3

Following the changes to the Statutes concerning the number of candidates for any vacancy in the Council the General Secretary presented to the General Assembly the following list of candidates for the vacancies on the Council:

General Secretary:
Petra David
Editor:
Peter Crosdale
Chairman of Commission 1:
Walter Pickel
Secretary of Commission 3:
Georgeta Predeanu and Henrik Petersen

As no other names were proposed from the floor of the Plenary Session the President submitted to the plenary the list of candidates for the forthcoming elections. The list was approved by the majority of the eligible members present in the plenary session.
The elections for the positions with just one candidate were done during the plenary session and the following candidates were elected:

General Secretary:
Petra David (The Netherlands)
Editor:
Peter Crosdale (Australia)
Chairman of Commission 1:
Walter Pickel (Australia)

As the current Chairman of Commission 1, Alan Cook, was elected President and will begin his term after this meeting the position was filled immediately with the newly elected Chairman (Walter Pickel) and the position of Secretary of Commission I was vacant.

After the elections the ICCP Council has the following members:

President:
Alan Cook (1999-2003)
Vice-President:
Barbara Kwiecinska (1999-2003)
General Secretary:
Zuleika Carretta Corr□a da Silva (I 996-2000) **Treasurer:**
Rudolf Schwab (1997-2001)
Editor:
Monika Wolf (1996-2000)
Chairman of Commission 1:
Walter Picket (1999-2003)
Secretary of Commission 1: vacant
Chairman of Commission 2:
Wolfgang Kalkreuth (1998-2002)
Secretary of Commission 2:
M. Angeles Gomez-Borrego (1998-2002)
Chairman of Commission 3:
Rosa Menendez (1999-2003)
Secretary of Commission 3: vacant

In accordance with the Statutes 11.c.ii the Council nominated two candidates for the vacant positions as follows:

Secretary of Commission 1:
Deolinda Flores (Portugal) and Lila W. Gurba (Australia)

Secretary of Commission 3:
Georgeta Predeanu (Romania) and Henrik Petersen (Denmark)

The names were approved by the plenary,

Elections for the Council positions will be held before the next ICCP meeting:

Treasurer Report

The Treasurer of the ICCP, Dr. Rudolf Schwab, presented a Financial Report covering the 12 months from 1 September 1998 to 31 August 1999. A summary of the Treasurer's Report is presented in Appendix 2. Following a recommendation by the Treasurer, the Council agreed to introduce the position of an Honorary Auditor. Creation of this position will not only give reassurance to the members but also to the Treasurer himself. In the final Plenary Session the President announced that Alan Davis had accepted this role.

Membership

The following Associate Members were elected to **Full Membership** of the ICCP:

Hrusikesh **Mishra** and
Henrik Ingermann **Petersen**

The following colleagues were elected to **Associate Members:**

Wan Hasiah **Abdullah** (Malaysia)
Regina **Schäfer** (Germany)
José Pedro B.M. **Fernandes** (Portugal)
Bronislawa **Hanak** (Poland)
Stavros **Kalaitzidis** (Greece)
C.J. **Kommeren** (The Netherlands)
Maria **Mastalerz** (USA)
Luis Pedro D. **Moço** (Portugal)
Stefanos **Papazisimou** (Greece)
Cristina F.A. **Rodrigues** (Portugal)
Magrieta **Segers** (USA)
Bruno R.V. **Valentim** (Portugal)

Handbook of Coal Petrology

The saleable copies of the Handbook and supplements, will continue to be located in The Netherlands, at the Nedertands Instituut voor Toegepaste Geowetenschappen (TNO) under the care of Dr. Petra David (for details on prices and payment procedures see the ICCP homepage).

ICCP Archives

The Archives, enlarged with the collection of Dr. A.H.V. Smith, were transferred last year to the Central Library of the Faculty of Sciences of the Porto University, Portugal.

Forthcoming Meetings

The 2000 meeting will be organized by Dr. Carla v. Araujo, PETROBRAS, and will be held in Rio de Janeiro, Brazil, in connection with the 31st International Geological Congress (IGC) in August 2000. Inquiries should be addressed to:

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The Geological Survey of Denmark and Greenland has invited the ICCP to hold its 53rd meeting in Copenhagen, Denmark; for the year 2002, an invitation has been received from Prof Dr. Lopo Vasconcelos, Head of Geology Department, Eduardo Mondlane University, Maputo, Mozambique. Dr. H. Pagnier, Chairman of the XV ICC-P Congress Organizing Committee which will be held in Utrecht, The Netherlands, from 10 to 16 August 2003, invited to link the ICCP Meeting to the Congress. The invitation was approved by the plenary and, the schedule for the foregoing meetings is as follows:

2000 - Rio de Janeiro, Brazil (13-18 August)
2001 - Copenhagen, Denmark (7-12 August)
2002 - Maputo, Mozambique (early September)
2003 - Utrecht, The Netherlands (August)

Thiessen Medal

The Thiessen Medal was awarded this year to Dr. Paul Robert for his contribution as an innovative research in organic petrology, especially in the establishment of a laboratory, which was highly influential in the way the science has been applied in the petroleum industry.-The *Laudatio* was read by Dr. Alan Cook on behalf of the Award Committee. As Dr. Robert couldn't attend the meeting Dr. Alan Davis read the letter he sent to the Award Committee; the Medal will be send to Dr. Robert by Prof. Lemos de Sousa. The full text of the *Laudatio* will be published in the ICCP News.
Alan Davis has been Chairman of the Thiessen Award Committee for five years and will be succeeded by Geoff Taylor.

Poster Session

The poster presentation was held in the conference room in September 17. Fourteen posters were presented by different authors.

Abstracts will be published in the next issue of the ICCP News and on the Homepage.

Field trip and social program

On September 14 the program included a Bucharest sightseeing tour, visit to the Geological Museum, Village Museum, Tombe of Vlad Tepes King and lunch. All the program was guided by officers of the Travel Agency Adcomar. Conference Dinner was held in September 17 in the old restaurant "Cu Bere", followed by typical dances. The field trip took place on September 18, guided by Dr. Costel Nedelcu, and crossed a part of the Plane of Romania, Subcarpathian area, East and South Carpathian, along of 400 km and close an area of 3500 km² with lunch in Brasov included.

2. Reports of the Commissions

2.1 Commission 1: General Coal and Organic Petrology

Monday 13 September

Chair: **Alan C. Cook**

In opening the meeting, the Chair noted that the Secretary, Dr. W.M. Pickel, the Editor of the Handbook, Professor Dr. Wolf, and the Coordinator for the Accreditation Program, Aivars Depers, were all unable to be present.

Accreditation

A short report was available from Aivars Depers giving a summary of the present developments. The salient features are shown below:

1. the Review Panel procedures were modified and improved;
2. the ICCP's Accreditation Programme website was updated and now includes the Review Panel Procedures and a list of accredited petrographers in the Accreditation Programme;
3. the three Review Panel experts were contacted to invite them to continue on this committee for a further three years;

4. the assessments and certificates for the 1996 Exercise were forwarded to all petrographers in the period late March to early April 1999;
5. preliminary discussion were held with the Editors of *Fuel, Organic Geochemistry and TSOP Newsletter* regarding the inclusion of an advertisement about the Accreditation Programme in a future edition; and
6. samples for the 1999 Exercise were sent to 22 registered petrographers, from 13 laboratories, in August 1999.

It was noted that Aivars Depers is concerned that for some groups of analysts the present charges do not meet the costs of including them within the program. Aivars Depers has been requested to provide a suggested modified charging system. This was not available at the time of the meeting but became available immediately after its conclusion.

P. Crosdale suggested that each analyst should get a different suite of samples to prevent collusion (author's term not Crosdale's). It was pointed out from the Chair that if different blocks of the same samples were sent, collusion would still be possible and that at the present time, we do not have sufficient blocks and large data sets for sufficient samples to be able to send different samples. It could be an aim to achieve this, but we would not want to use coals with fewer than about 35 analyses. That is, there have already been 35 analyses or the coal will be analyzed by at least 35 analysts including a high proportion of accredited petrologists.

H. Read supported an increase in charges but A. Davis was concerned incase these were raised before the system had achieved wide acceptance. The low costs when related to the charge for analyses was highlighted, but it was also pointed out that participation in the Accreditation exercises has an opportunity cost. It was agreed that any proposal from A. Depers relating to changes in charges would be circulated as soon as it became available.

The frequency of re-accreditation was discussed. H. Read believes that accreditation at frequencies of less than a year would be better but A. Davis thinks that two years is a better interval. No members believed that the period between analyses should be more than two years.

It was also proposed that the ICCP might consider and additional charge for the use of its logo in advertisements by analysts having accreditation once property rights have been established over the logo.

Handbook

In introducing this topic, the Chair pointed out that many of the section conveners as well as the Editor were not present at the meeting. It was also noted that major international journals are still publishing papers with manifestly incorrect identifications of relatively simple macerals. An example was shown where a telovitrinite with inclusions of resinite was identified in the caption as desmocollinite (1998 number of Organic Geochemistry). It was suggested that this was symptomatic both of a poor general understanding of our terminology and of lax standards in refereeing some papers in relation to petrology.

Currently, the revision of vitrinite is complete, revision of inertinite has been concluded and illustrations provided by C. Diessel. W. Pickel reports that for liptinite, discussion of some macerals is complete, but that further editorial work remains to be done on some macerals. At the Porto meeting it was determined that liptinite would be finalized at the current meeting but this has not proved possible due to W. Pickel's move to Australia and the impossibility of his attending such a short time after starting in a new position.

A short report was available on Lithotypes but there appear to be some typographical errors such as to prevent further discussion.

In order to assist a discussion over publishing formats, the Chair demonstrated an archive file system on a notebook computer. It was not possible to arrange a demonstration with a conventional screen. The file contains thumbnail and medium resolution JPEG images. The file demonstrated showed all 42 images that were considered for the alginite illustrations at the 1998 meeting of Commission 11. It is possible to insert the text for a set of sheets into the archive file although this had not been done for the file used in the demonstration. File size is 1.35 MB so that it will fit on a floppy disk although the version seen was run from a compact disk. This also contains high resolution images of the same plates with 42 files occupying 150 MB. The archive file is displayed by invoking Netscape from the file in Windows Explorer. It was noted that there may

be other technologies that may be better and almost certainly better ones would develop.

However, use of the archive type files would offer the possibility of providing large numbers of illustrations at moderate resolution for the whole handbook in a single CD with the option of additional CDs providing high resolution versions of these images. Thus instead of illustrating the handbook with of the order of seventy plates at a high cost, it would be possible to offer possibly 500 plates at a much lower cost.

It was noted that the costs of burning a CD RON4 disk are at present about 2 dollars although the set-up costs to make the disk are considerable. However, these set-up costs can be treated in the same way that writing and editorial costs are treated for current publications. Printing costs and those for the preparation of plates cannot be similarly treated and lead to very high costs for conventional publications.

Discussion then followed about the relative merits of access to large numbers of images compared with the convenience of hard copy versions. It was noted that printed versions of CD images could be printed, but L. Stasiuk suggested that these are always inferior to the quality obtained from analogue reproduction. W. Kalkreuth drew attention to the high costs of paper and consumables for printing colour images. It was pointed out that these would only be incurred if the owner of a CD-ROM wished to print pages.

R. Schwab and P. Crosdale suggested that CD technology could be used to get interim versions into wider circulation for use and comment. Petra David is anxious that a deadline be placed on the whole handbook project. A. Cook commented from the Chair that he could not suggest one without consulting others involved. However, discussions will be held with a view to setting a deadline and options for formats for materials. A reply to these questions will then be circulated to members to permit a decision to be made on the form and timing of publications**.**

P. Crosdale and L. Stasiuk will form a sub-committee to advise on use of CD-ROM in relation to the Handbook.

Huminite

It was announced that G. Taylor has had to withdraw from this revision due to personal circumstances. The Chair has been in close contact with G. Taylor on huminite revision, and an electronic version of the old text had been prepared partly at Keiraville Konsultants and partly by G. Taylor. This material has now been passed on to W. Pickel who is assuming G. Taylor's role as coordinator.
Ivana Sykarova then gave a presentation of a revision of huminite. In the discussion that followed, H. Read commented that it would be desirable to have the terms at the sub-group level as consistent as possible with those for vitrinite. J. Koch suggested that it would be desirable to end the split between vitrinite and huminite. A. Davis believed that some comment on this had been made during revisions of vitrinite. The Chair undertook to establish the nature of any previous decisions. Prior to resumption of the meeting on Thursday 16 September it was established that immediately prior to the vote to accept the new vitrinite sheets at the Oviedo meeting in 1994, the following agreement was made:

A question was raised about the use of rank terms and harmonization of terminology throughout the whole spectrum of coal rank. It was agreed that this represented a further stage and was not presently under discussion.

At an earlier stage in the Oviedo meeting objections made by M. Teichmüller (italics) had been raised as shown below with the response shown in bold.

3. The *differences between huminite and vitrinite were being obscured by parts of the proposed new system. 7he level of geochemical gelification sets brown and bituminous coals apart.* The work of Greg Smith forms some of the conceptual basis for the revisions and this was specifically directed at brown and bituminous coals of Tertiary age where the degree of compaction of the tissues was a major variable. Use of the M. Teichmüller maceral terms for brown coals allows discrimination of this type of texture to be undertaken in a way that was not possible with the previous ICCP system for vitrinite. Nevertheless, these changes are ultimately "rank-driven" and the system has been designed to be as neutral as far as possible to the level of rank.

It appears that a decision could now be made to adopt a course of action different from that adopted in 1994.

It was also suggested that the differences between texto-ulminite and eu-ulminite were partly a result of rank change. Similarly to the differences between attrinite and densinite, these could be considered as separate macerals making the treatment of macerals more consistent down the table of huminite macerals.

The meeting adjourned at 18.20,

The adjourned meeting was reconvened **at** 09.00 am on 16 September, 1999.

Handbook (cont.)

An outline was given of the contents of the Meeting at Oviedo in 1994 and members were asked if they wished now to revisit the issue of combining the vitrinite and the huminite groups. With one vote against, members did wish to do this.

It was agreed that for the time being in working documents, Telovitrinite, Detrovitrinite and Gelovitrinite should be written in the appropriate sections of the huminite table in brackets below the existing terms. The working group was then asked to take this into account during its revisions.

Bitumens: J. Burgess

A survey was provided of earlier methods of classification for bitumens and it was suggested that ICCP should concentrate on optical methods although, where possible, consideration should be given to chemical and other data. A generalized scheme for the recognition of primary and secondary bitumens was given to indicate the general way in which future work was likely to proceed.

L. Stasiuk also outlined some of the work he has been undertaking in Canada (the subject of a poster in the poster session) on bitumens within Devonian reservoirs. Some correlation of the form with the chemistry of the parent substances is evident, with the bitumen cokes being derived from the more aromatic parts of the oil and the isotropic bitumens from fractions rich in NSO compounds.

Graphites, Semigraphites, Natural Cokes and Pyrolytic Carbons: B. Kwiecinska

The presentation indicated the difference in reflectance between graphite, semigraphite and meta-anthracite but did not deal with natural cokes and pyrolytic carbons. A treatment was given of the crystallographic structure of graphite and the characteristics of some graphites were described. It was pointed out that reflectance measured on polished surfaces of graphite are much lower than those obtained from cleavage fragments if these can be satisfactorily mounted.

Temporal Variation of Coals: L. Vasconcelos

A summary was presented of recently published material showing that Carboniferous coals generally have a higher vitrinite content compared with Gondwana coals. Mesozoic coals are generally less rich in inertinite although some exceptions exist with the Triassic from Australia and the Cretaceous from Canada. Coals from the Tertiary are much richer in vitrinite and show a much lower content of inertinite on average compared with older coals.

Measurement of Reflectance Standards: H. Read

A report from the previous convenor (W. Pickel) was read. Small differences exist between the Rr and Rmax figures and these seem to represent different subsets of participants with all having measured Rr but only a smaller number having measured Rmax, Standard deviations and ranges for the measurements are higher than desirable. It is also noted that they are not much less than those for vitrinite reflectance in the Standardization Programs suggesting that a high proportion of variation for measurements on vitrinite can be attributed to calibration. A YAG standard is now being circulated and steps will be taken to speed up the progress of the glass standards and the YAG.

Coal Blends: I. Suárez Ruiz

In introducing the Convenor, it was pointed out from the Chair that although the Convenor is also a Convenor of a similarly named Working Group in Commission 3, the present work relates to preparation of a new set of sheets for the Handbook, whereas the Commission III work relates to improving methods. Thus, the Handbook will take the present state of the procedures and codify them. The Commission 3 Group will continue its work to improve methods and as much of this material will be incorporated within the Handbook as possible.

An outline was given of the main sections that will be in the new sheets. The old sheets are in considerable need of updating and do not represent the current practice. In answer to a question from Read the Convenor stated that many laboratories commonly run of the order of five blend samples a day and that the **aim** is to determine the component coals. Blend analyses are a major part of the everyday work of many petrographers.

Meeting concluded at 12.05

2.2 Commission 2: Application of Coal and Organic Petrology to Geology

Chairman: W. Kalkreuth
Secretary: A. G6mez Borrego

Commission 2 sessions were attended by 36 members, associated members and guests. L. Gurba acted as secretary on behalf of A. Gomez and her contributions to these minutes are gratefully acknowledged.

Environmental Applications of Organic Petrology: A. Depers

The Chairman of Commission 11 presented on behalf of Aivars Depers the status of the working group, including the white paper, atlas, classification and Round Robin analyses. In the following discussion it was suggested to contact the environmental committee established by TSOP for possible joint efforts in this area.

Aivars Depers, in a letter to the chairman, indicated that his workload does not permit him to continue to chair the working group and as a consequence we need to find a new chairman.

In regard to the atlas P**.** Crosdale suggested to store the images on a CD-ROM. It is anticipated that the new chairman will organize the round robin analysis and explore the possibilities for publication of the white paper.

Coal Facies: M. Hàmor-Vidó and G. Nowak

M. HAinor-Vid6 presented the current activities of the WG. In the past year new contributions were received for the white paper including an extensive bibliography on coal facies related studies from the USA and Great Britain.

For the next year it is planned to review the existing data and to publish the results in Earth Science Reviews. It is also planned to have the white paper available as an ICCP report.

Thermal Indices: C. Araújo

C. Araújo reported on the results from spectral analyses on two samples of boghead coal from Australia. At present time the data indicate very good agreement on Imax and Ro but the data set is based on two labs only. The other members of the working group are urged to submit their results to complete the ring analysis.

Additional information was provided by J. Newman using a "VRF TM" combining reflectance with quantitative fluorescence analysis. According to her results the reflectance values determined by conventional methods (0.29-0.34%) are depressed and are actually in the order of 0.75%.

For this coming year it is planned to continue the analysis, as more labs are willing to participate. The samples analyzed represent boghead coals and it is now planned to complete the analysis by analyzing humic coal from the same seam.

L. Gurba has offered to contact A. Hutton (the source of the round robin samples) to provide additional background information on the geological setting of the samples.

Classification of DOM: A. Hutton, L. Stasiuk, J. Burgess

A progress report on the DOM atlas project was given by the chairman of Commission 11 followed by J. Burgess discussing the proposed classification scheme for DOM. The new classification scheme will be circulated for comments to the members of the WG followed by publication as a research paper in an appropriate journal.

L. Stasiuk discussed recent development in the characterization of amorphous matter. It was emphasized that the new classification of amorphous matter should serve the oil industry to distinguish oil-prone organic matter from non-oil prone material. In the context of this discussion L. Stasiuk suggested to analyze a set of Kimmeridge clay samples for which detailed chemical data are available.

The general discussion was followed by a slide demonstration presented by J**.** Burgess showing various amorphous and structured OM in form of strewn slides.

Coalbed Methane: P. Crosdale

P. Crosdale commented on the current status of the WG based on a questionnaire circulated to members of the WG.

At present time it was suggested to standardize the gas adsorption isotherm, procedures, including aspects of sample size, moisture content, equipment and analytical protocols such as evaluation of the influence of dead volume and calibration of the measuring bombs.

Since only a few ICCP members have the facilities to perform the isotherm experimentation it is planned to contact laboratories outside ICCP to participate. Once the standardization procedures for the gas adsorption isotherms have been established it was suggested to consider the following activities:

- study the physical and chemical parameters that control adsorption
- study porosity and permeability
- study the cleat and fracture system

Pseudovitrinite: L. Gurba

L. Gurba presented a progress report on the activities of the WG. This included evaluation of Ro data from telocollinite, desmocollinite and pseudo-vitrinite obtained from polished blocks cut perpendicular to bedding. Principal confusions are: pseudo-vitrinite has the highest reflectance of all vitrinite macerals and is characterized by a slit pattern perpendicular and/or oblique to bedding. It is common that many of the slits contain small pyrite inclusions.

One phenomenon is the observation that pseudo-vitrinite reacts with immersion oil to reveal the original botanical cell-structure while at the same time produce an intense blue colour. The reaction is at this time not understood.

A final report will be prepared for the next ICCP meeting in Rio, followed by publication.

Alginite Sheets: A. Cook

The format of presenting the alginite sheets and plates approved previously was discussed and it was decided:

- to publish the text and a limited number of microphotographs in FUEL or other relevant journals (1999/2000)
- to produce a CD-ROM with relevant micrographs, which will be available to the general public from ICCP (price to be determined).

Presentation on Ro data evaluation: J. Koch

A Ro data qualifying system used at the BGR, Germany was presented. The system is based on

- assessment of the quality of the vitrinite surface (grade 5 is best, grade I is worst)
- statistics, especially variation coefficients.

In the following discussion it became apparent that ICCP needs to establish a standard procedure for vitrinite reflectance determination in DOM including a data evaluation program such as the one presented by J. Koch.

As a first step a round robin exercise including 3 samples will be performed in the coming year with the aim to analyze more samples in the corning years to establish an Accreditation procedure for DOM. Laboratories interested to participate in the exercise please contact the convener.

Shell Interlaboratory Exercise:
K. Kommeren

This contribution presented results of an interlaboratorv exercise on the evaluation of two maturity parameters (Rock Eval, Ro) involving 20 commercial laboratories.

Comparison of the results indicated

- Rock Eval. Hydrogen Indices, S2 and Tmax values showed the largest variations from one laboratory to the other
- Ro. Ro variations were in particular large in the higher rank sample, whereas the spread was somewhat reduced for the lower rank sample.

It was concluded, that the results from this exercise demonstrate that we need indeed to establish an Accreditation Program for vitrinite reflectance measurement in DOM to produce reliable data in our scientific work and for our clients in industry.

2.3 Commission 3: Application of Coal Petrology to Utilization

Peter Crosdale
Acting Secretary

Chairman of Commission 3, Rosa Menéndez, apologized for her absence. The position of chair was taken by Petra David, the convener of the Automation Working Group. Peter Crosdale acted as secretary.

Commission 3 sessions were attended by 26 members and guests.

Coke Textures Working Group:
Raphael Javier

Activities for the last year consisted of the distribution of a CD-ROM containing a variety of pictures of coke textures, taken at high and low resolutions and with and without the lambda plate. At a previous meeting in Oviedo it had been decided to work on pictures because of poor results when using real samples. Previously, problems had been identified with texture size and shape, rotation position, influence of position of the texture, crumpled layers and problems relating to human perception. Circulation of the CD-ROM was designed to overcome these problems.
The CD-ROM was in html format and a demonstration of its operation was given. The CD-ROM contained 15 fields with points of interest for identification and a scale. Each picture was linked to 3 other pictures: a high resolution black and white image, one without annotation, and one rotated by 90 degrees.

An exercise was proposed by CD-ROM for identification of the coke textures. It was also proposed to add the CD-ROM to the ICCP web site provided that sufficient hard disk space was available (only about 30 MB would be required). The chairman is to ask permission to link other people's web sites to the ICCP site.

After demonstration of the CD-ROM, a discussion of the ASTM and Alpern coke classification schemes followed, along with some comments on the recognition of various coke textures. It was proposed to use a modified Alpern scheme as the basis for future work.

Problems were noted with the evaluation of reactivity from coke textural studies. Coke texture and porosity determine the reactivity. It was thought that it may be better to think in terms of the progenitor of the coke to check the coal blend. Coke reactivity can be measured by CRI- CSR testing. Coal blend composition can only be deduced from coke texture analysis.

Point counting was discussed in the context of the classification scheme. In a complex scheme with many categories, the binomial theory indicates that very large numbers of points must be counted (1000's) in order to obtain accurate results. A classification scheme containing about 12

categories was thought to be optimal to describe the range of textures present while still keeping the minimum number of points to be counted within a reasonable limit.

Proposed work for next year was that the CD-ROM and real samples be distributed for comparison. It is hoped that identification problems can be resolved in this manner.

Discussion

Barbara Kwiecinska wanted to know if the samples will be the same as previously distributed.
Raphael Javier: yes, and they will correspond to the pictures on the CD-ROM

Harold Read wanted to know if only one sample or many will be distributed.
Raphael Javier: Several samples of the same coke are to be distributed among members of the working group.

Comment from the chair regarding the web site

Following the comment from Javier regarding putting the coke texture working group CD-ROM on the web site, the chair noted that there is nothing at present on the web for commission 3. The chair proposed that all conveners of commission 3 working groups should make a contribution to the web site before the end of the year.

Coal Blends Working Group:
Isabel Suárez-Ruiz

Objectives of the working group were restated as well as a summary given of the exercises between 1996 and 1998. In the 1996 exercise, artificial coal blends were used and results from both manual and automated methods were satisfactory. In the 1997 exercise, high inertinite coals were used and large differences were noted in blend composition determined by point counting and by reflectance analysis, with the point counting results being closest to the actual blend composition. The 1998 exercise was designed to check the accuracy of the point counting method and a high vitrinite, low mineral matter coal was used; the main conclusion reached was that pro-rataing the inertinite was a good method.

For the 1999 exercise, it was decided to utilize commercial coal blends used in industrial processes. The coals used were blends known as Norwell and Turon. Both were low in mineral matter and inertinite and were composed of 2 groups of coals of widely different mean reflectance. The exercise consisted of manual reflectance measurements and point counting. No results from automated analysis have been received to date.

Participants were distributed 4 polished grain mounts, 2 from each blend. 500 vitrinite reflectance measurements were to be determined (250 on each block) and 1000 maceral counts made (500 on each block). From the reflectance measurements, a histogram was to be constructed and the mean random vitrinite reflectance of each coal in the blend determined as well as the proportion of each coal. In the point count analysis, maceral groups only were to be counted as well as determining whether or not the maceral belonged to the high rank or the low rank coal in the blend and the proportion of each coal in the blend determined. For the automated analysis, participants were requested to determine the proportion of each coal in the blend.

A discussion of the sample preparation was given. The Norwell blend was made up of a 50150 (wt %) mix of Norfolk and Welch coals from the USA. Once corrected for density (determined in helium) the volume percent on a moist basis was 50.85 % Norfolk and 49.15% Welch. The Turon blend was a natural blend taken from a deputation plant and consisted of hvb and lvb coals from the Westfalian of Spain. The precise blend composition was unknown.

Results were obtained from 20 participants to date, all of which were from manual analyses. Results from laboratories performing automated analysis were expected in the very near future.

Reflectance analysis of the Norwell blend showed that the two coals were well differentiated. Mean vitrinite reflectance values were slightly lower from the blend data than from the unblended coals, which is perhaps related to the complexity of the blend. However, comparison of all

exercises from 1996 to 1999 showed that the mean vitrinite reflectance of the component coals is usually lower when determined in the blend than when determined on the unblended coals. Reflectance results from the Turon blend showed that the means had a greater standard deviation than the Norwell data, especially for the high rank component.

Determination of the blend composition was determined by both point count and reflectance analysis. For the Norwell blend, point counting gave results very close the actual blend composition but the standard deviation was high (4.67); reflectance analysis slightly underestimated the low rank component but the standard deviation was much lower (2.52). It was concluded for the Norwell blend that point counting gave the most accurate assessment of the blend composition, which was also the conclusion reached in previous exercises.

Assessment of blend composition of the Turon coal was complicated by the composition of the blend being unknown. Results from both point counting and reflectance analysis were similar but again the standard deviation was lower by the reflectance method.

In maceral analysis of the two blends, all participants recorded very low amounts of non-assignable particles for each blend. All analysts reported high vitrinite contents for both blends. Despite the closeness of the ranks, all participants could easily assign most particles to either the high rank or the low rank. component.

Four proposals for future work were then presented for discussion:

1. similar work with two coals of close rank
2. the use of 3 coals
3. blends of anthracites
4. the inclusion of other particles e.g. petroleum coke.

Discussion

Peter Crosdale noted that there was a large variation in maceral compositions and reflectance between analysts and wanted to know if this could be due to variations between the samples.

Isabel Suárez-Ruiz: This is very unlikely as samples were prepared according to ISO standards. However, pairs of blocks analyzed by different people have yet to be evaluated in detail.

Alan Cook requested clarification of the number of points counted and the number of reflectance measurements made and expressed surprise that the standard deviation for the reflectance was lower than for the point counting.

General discussion from Cook / Crosdale / Davis Suárez-Ruiz followed about the complexity of the blend.

Harold Read suggested for next year's exercise to use another commercial blend but with a known composition so that the validity of the results can be tested.

Alan Cook and Georgeta Predeanu thought it would be useful to use high vitrinite Tertiary coals, perhaps using one as a "blank".

Isabel Suárez-Ruiz thought it would be useful to investigate blends of anthracites.

It was decided for the next exercise to blend some Tertiary coals which would be provided by Alan Cook and Georgeta Predeanu.

Automation Working Group: Petra David

Last year it had been decided to perform analyses on samples form the accreditation scheme. To date only 2 sets of results have been received but others are expected following the meeting. It is hoped that it will be possible to obtain accreditation for automated analysis techniques. It was noted that for the results obtained to date, both semi-automated and fully automated image analysis systems gave results which were in good to very good agreement with those manually determined.

Future activities are to compile the results and evaluate them using the statistical scheme developed for the accreditation programme. The approaches used in automated analysis are to be discussed. Samples for future round robin analyses may include samples used by the coal blends working group as they will have well determined, manual reflectance and maceral profiles.

Combustion Working Group: Ed Lester and Diego Alvarez; presented by Diego Alvarez

Apologies were received from Ed Lester.

Activities for the year were char analysis determined manually and on images distributed by CD-ROM.

Manual analysis was by point counting of the same sample as used in the previous year but with a new classification scheme. A description of the classification followed. Results from the manual exercise were considered to be poor, as in previous years, with the standard deviation exceeding the 95% confidence interval in most cases.

CD-RON4S were distributed to 13 laboratories and 7 replies received, totaling 13 participants. Of the 140 char images, 17% had 100% agreement in their classification, while all images had greater than 50% agreement. A series of images were then shown and discussed. Problems were noted with the crassinetwork / mixed / mixed network category as it lumped together too many different char types. Problems were also noted in particular instances in the categories of i) tenuinetwork vs. mixed; 11) tenuinetwork / mixed / cenosphere; iii) crassisphere vs. mixed; iv) mixed vs. crassisphere + inertoid; v) some cenospheres and; vi) bizarre shapes.

Discussion

Bruno Valentim suggested that because of the poor results that it may be better to further simplify the classification and proposed a) to group the crassispheres and tenuispheres because wall thickness does not seem to play an important technological role and b) group the mineroid / solid because of their similar technological properties.

Diego Alvarez responded that he thought a more complex system was required until we know precisely what is and what is not important for technological purposes. This view received support from John Vleeskens, Per Rosenberg and Henrik Petersen.

It was then decided to subdivide the mixed category into (a) crassinetwork and (b) mixed and mixed to be further divided into porous (<50% solid) and dense (>50% solid).

Another manual exercise was proposed but this was universally rejected by the floor,

To take advantage of lessons learned over the last 12 months it was decided to create a database containing the char images where participants had universally agreed, and use it for training purposes in a new CD exercise including these plus many more new images. This iterating procedure could be continued in the future, i.e. incorporating the images agreed in one exercise into the training database for the next exercise, and so forth. The aim of this is to get to an agreement on more than just the conspicuous members of each char type, and then consider development of an atlas of char occurrences.

The convener asked participants to send their reports within a couple of weeks after receiving their CD's, so that 3 or 4 iterations can be done every year in the process of refining the classification system.

Inertinite in Combustion Working Group: Angeles Gomez; presented by Diego Alvarez

Apologies were received from Angeles Gomez.

A summary of activities up to the 1998 meeting in Oporto was given.

For 1999, a CD-ROM of images was distributed to 12 people at 6 institutions as well as 2 manual exercises derived from the char working group. The classification scheme was the same as used in the previous exercise. This scheme was briefly discussed and a series of images was shown.

Results from the CD exercise: Images were shown in which the level of agreement between participants varied from 100% to 67% (noting, that at, say, 83%, then 2 people from 12 disagree). The results were generally very good with all participants agreeing for over 70% of the particles. A detailed account was then given of reasons for dubious identifications. In summary, there was disagreement for vitrinite derived in 3% of cases; for anisotropic vs. isotropic in 4% of cases; porosity problems in 14% of cases, and inertintine structure / behaviour in 14% of cases.

Conclusions from the CD exercise were that the results were very good. Especially good agreement was found for vitrinite-derived

material. Major differences were related to degree of porosity and behaviour of the least plastic inertinites. No difficulties were found with the identification of anisotropic vs. isotropic, which was problematic last year. The high rank coal and the BB2 concentrate had the highest level of discrepancy.

In the manual analysis, 7 analysts participated. There was a large scatter of results. The results had not improved from last year's exercise.

The conclusion was reached that the CD image results were very good but the manual analysis was very bad. The only suggestions as to why this is so related to variable illumination conditions or magnifications.

Discussion

Diego Alvarez asked for ideas from the floor on ways to improve the manual analysis. The following suggestions were put forward:

- more CD-ROM exercises
- better standardization of illumination conditions
- participants to take photographs and send to the convener for comparison of image quality I illumination conditions
- use different sorts of chars.

It was noted that the input of working group convener was highly desirable to help solve these problems.

It was recommended that the next exercise should consist of the same samples along with the CD-ROM, with participants taking additional photographs for comparison of identifications and illumination conditions.

Note: the convener of the working group has subsequently suggested to include in the images of the CD-ROM some taken with retarder plate and some without since she is aware that many of the participants do not use retarder plate in the analysis. This might help to determine some of the reasons responsible for the poor manual results. The CD will contain a summary of this year results with a description of the main problems encountered and some additional guidelines or examples related to the size of the field to be considered when taking a decision, since this was one of the problems affecting many of the fields where porosity discrepancies were detected.

Commission 3 closed at 15:00

Appendix 1: **List of Participants**

AUSTRALIA
Alan Cook
Peter Crosdale
Lila Wanda Gurba
Basil R. Johns (NM)
Harold Read

BRAZIL
Carla V. Araujo
Zuleika Carretta Corrêa da Silva
Wolfgang Kalkreuth

CANADA
Lavern Darsy Stasiuk

CZECK REPUBLIK
lvana Sýkorová

DENMARK
Henrik Petersen
Per Rosenberg

FRANCE
Raphael Javier

GERMANY
Joachim Koch

GREECE
Kimon Christanis
Stavros Kalaitzidis (NM)
Stephanos Papazisimou (NM)

HUNGARY
Maria Hámor-Vidó

JAPAN
Atsuo Aihara

MOZAMBIOU
Lopo de Sousa c Vasconcelos

THE NETHERLANDS
Petra David
C.J.Kommeren (NM)
John Vleeskens

NORWAY
Turid Vidvei (NM)

POLAND
Bronislava Hanak (NM)
Barbara Kwiecinska
Marek Pozzi (NM)

PORTUGAL
Manuel **J.** Lemos de Sousa
Bruno Valentim (NM)

ROMANIA
Frumuzache Barca (NM)
Cornelia Bitoianu
Magda Ciulavu (NM)
Comeliu Dinu (NM)
Ovidiu Dragastan (NM)
Calin Dumitrescu
Paul Georgesku (NM)
Gabriela Hristea (NM)
Antonela Neacsu (NM)
Costel Nedelcu
Cornelia Panaitescu
Anea Ileana Penu
Gheorghe Popescu (NM)
Ion Preda (NM)
Georgeta Predeanu
Marin Seclaman (NM)
Nicolae Ticleanu (NM)
Gheorghe Udubasa (NM)
Florian Zamfireseu (NM)

SPAIN
Diego Alvarez
Isabel Suarez-Ruiz

UNITED KINGDOM
Rudolf Schwab
Krystyna Tokarska-Schwab

USA
Jack Burgess
Alan Davis

(NM - Non Member)

Dead line for the next issue of the ICCP NEWS is April 30,2000!

Appendix 2: **Summary of Treasurer's Report for 1998 - 1999**

1. **Introduction**
This Summary Report is for the period I September 1998 to 31 August 1999 and is unaudited. The items of income and expenditure during the year are listed below. All data are **in** British pounds (GBP).

2. Receipts

GBP	Particulars
3,134.35	Membership Subscriptions (net)
506.05	After tax Bank Credit Interest
196.14	Proceeds from Handbook Sales
1,502.98	Exceptional items (indemnities)
5,339.52	**Total Receipts**

3. Expenditure

GBP	Particulars
1,269.45	ICCP News
1,163.77	General Secretary expenses
221.02	Liaison ICCP- ISO/TC27 (travel expenses)
52.90	Treasurer expenses (postage of invoices)
78.75	Bank charges Sept. 1998 - Aug. 1999
-37.48	Handbook Account: Summary of expenditure 1998-1999 (refund)
2,748.41	**Total Expenditure**

4. Comment
ICCP finances are in a healthy state due to a period of stabilization after high levels of expenditure from 1992 to 1996. In 1998/99, income exceeded expenditure by £2,591 so that capital has grown for the third year running. Caution is required however as the balance sheet contains exceptional items on the income as well as on the expenditure side, some relating to expenses incurred in the financial years 1996 to 1998.

Both income and expenditure must be adjusted downwards before they can be used as a projection for medium-term trends. Adjusted data shown below take into account only the receipts and expenditure relating to this financial year and show that regular income has decreased by 23 %, but this reduction of income has been more than compensated by a decline of expenses by 52 %.

4.1 Subscription Income 1998-1999

Income from membership subscriptions is the largest source of ICCP revenue. In 1998/99 it amounted to £3,134, which is £1,183 or 27 % less than in the previous year. Last year's Treasurer's Report noted that subscription income in 1997 and 1998 had been abnormally high and the treasurer warned that future levels of subscription income would be lower. This year's income from subscription payments is attributed for about 1/3 each to back payments for previous years, actual payments for 1999 and advance payments for 2000 and 2001. This pattern will continue for another one or two years until the effects of changes to Statutes are implemented.

4.2 Subscription Fees and Payment Procedures

Payment of subscriptions by credit card is now the most common method of payment (64% up from 42% in previous year). This saved bank charges and is generally the most cost efficient way of payment for all members whose domestic currencies are not British pounds or US dollars.

At this stage no proposals will be made for a change of membership fees.

4.3 Number of ICCP members

Membership stands at 193 but this includes 54 members who are in arrears. 34 members are in arrears for two and more years. These members will now be informed about the new regulations that membership will be frozen and eventually lost after two years of non-payment. It is hoped that a positive response is received from all of the members concerned. Three members had to be removed from the records because their arrears reached four years, and five members have resigned during the year.

No less than 114 members are already in good financial standing for the year 2000. On the one hand, this is good news for the Treasurer who will have to send out fewer invoices. On the other it is quite obvious that with so many members having already paid in advance a further drop in income from subscriptions is projected for the next financial year.

4.4 Expenditure

Expenditure was down 20 % from 1998. When exceptional items (i.e. expenditures relating to previous financial years) are excluded then there is a very substantial decline by 52 % from £3,447 in 1997/98 to £1,665 in 1998/99. This fall of expenditure is largely due to the implementation of drastic cost savings measures, but may also reflect a slow-down this year in the activities of the Working Groups. It is therefore very likely that in future costs will rise again.

	1998/99	1997/98	Change [GBP]	Change [%]
Reported Receipts	5,339.52	4,985.00	354.52	+7.1
Reported Expenditure	2,748.42	3,447.39	-698.08	**-20.3**
Adjusted Receipts *excluding £ l,502,98 exceptional items 98199*	**3,836.54**	4,985.00	**-1,148.46**	**-23.0**
Adjusted Expenditure *excluding £ l,083.34 exceptional items 98/99*	**1,666.07**	3,447.39	**-1,782.32**	**-51.7**
Total Assets ultimo	**20,528.10**	17,936.99	**+2,591.11**	**+14.4**

5. Matters arising from the 1997/1998 Treasurer's Report

A number of recommendations in the 1997/1998 Treasurer's Report were directed to halting, if not reversing the rapid decline of funds that had drained resources in the period 1992-1996. Some of the proposals had repeatedly been suggested by the predecessor as Treasurer, Professor D.G. Murchison, but Council had not implemented them.

The recommendations were now supported by Council. Some of the proposals required alterations of the Statutes, and a ballot organized by the President resulted in overwhelming support for the changes suggested. Details of constitutional changes will be announced by the incoming President in the forthcoming Newsletter and can then be implemented. The issues of recommendation included Institutional Membership, stabilization and increase of membership, a Friendship scheme, removal from lists of members with arrears of two or more years, substantially cutting administration costs, adherence to an accepted budget and adoption of bookkeeping practices for expenses.

6. The longer term trend of ICCP Financial Position

The ICCP bank balance reached a peak of £26,288 in 1990/1991 and fell to a low of £14,458 in 1996. The fall would have been more severe but for action by the previous Treasurer to request

more actively subscriptions and to introduce a system of discounting payments for advance subscriptions. Major factors in the fall in the balance had been a substantial decrease in interest income (due to lower interest rates) and rise in expenditures (in part a greater difficulty in getting support for ICCP from employers).

A range of cost-saving measures and further optimizing subscription income has meant that ICCP finances have returned to a healthy state and substantial progress in their consolidation has been made. Over the last three years the balance has risen to £20,528. It appears that the extremely downwards trend of the 1992-1996 worrying period has been successfully stopped. There is not, however, room for a complacent approach to the finances of ICCP.

7. **Projection for the Financial Year 1999-2000**
Unless a major recruitment programme adds to membership and the implementation of institutional membership will materialize, income will fall in the first two to three years of the next century. However, provided the fall in expenditure proves part of a new pattern, this should not be a problem as long we make sure that activities are within budget. Expanded use of the opportunities afforded by Email and the Website offer additional scope for cutting costs without adverse effects on the scientific work of IC C P.

Rudi Schwab
Honorary Treasurer

Any member wishing to receive a copy of the full Treasurer's Report 1998-1999 (at no cost to the ICCP), please contact the Treasurer at rudi@chesternet.co.uk

Call for Nominations for the Reinhardt Thiessen Award

Nominations are sought for candidates for the year 2000 Reinhardt Thiessen award. The award is made for individuals who have made outstanding contributions in the field of coal or organic petrology. Any person of high standing is eligible for the award; ICCP membership is not a prerequisite. Only full members of the ICCP may submit a nomination.

The award is made by the ICCP Council acting on the recommendation of the members of the Thiessen Award Committee and will be presented at the 2000 ICCP meeting to be held **in** Rio de Janeiro. The committee invites you to send nominations to: Dr. Geoff Taylor, Chairman of the Reinhardt Thiessen Award Committee, 15 Hawkesburv Crescent, Farrer, ACT 2607, Australia (Email: ghtaylor@com.au). **Letters of nomination** should provide the reasons for and justification of the proposal and **must be received by March 17, 2000** at the latest.

Reinhardt Thiessen Medal Award, 1999

Each year the ICCP may award its Reinhardt Thiessen Medal to one outstanding petrologist who has made significant contributions in the field. In 1999 the ICCP was pleased to honour Dr. Paul Robert of Saint-Gaudens, France.

Paul Robert was born in Thenezay, France, on August 28, 1929. His studies at the 1-figh School of Geology in the University of Nancy emphasized mining geology; he obtained his first degree and License en Sciences naturelles from that institution in 1952. In 1983 he presented his Thése d'Etat on "Histoire Géothermique et Diagenèse Organique" at the University of Bordeaux ID.

From 1954 to 1956 Paul Robert was employed by Bureau Minier de la France d'Outre Mer to undertake geological mapping, mining geology and prospecting for gold in the Ivory Coast of Upper Volta (now Burkina Faso), Central Africa. Then in 1957 he became involved in oil exploration for various companies which have since been grouped into Elf-Aquitaine. He remained with that company until his retirement in 1987. From 1957 until 1963 he worked in Gabon as a petroleum geologist concerned with drilling operations, field training activities and the operations of a petrological and petrophysical laboratory. In 1964 he returned to France to work in a sedimentological laboratory at Chambourcy, and then in 1966 he began the establishment of a laboratory for organic petrology in Pau, France.

Paul Robert taught at several universities during the period 1980 to 1994, including annual presentations at the University of Bordeaux. Other universities to benefit from his teaching were

Nancy, Paris Orsay, Neuchatel (Switzerland) and Stavanger and Bergen (Norway). He also served on the committees of nine graduate students at the Universities of Bordeaux, Marseille, Montpelier and Orl6ans and three at the University of Wollongong.

Among Paul Robert's publications are French and English versions of "Organic metamorphism and Geothermal History: Microscopic Study of Organic Matter and Thermal Evolution of Sedimentary Basins", the latter published by Elf Aquitaine and D. Reidel in 1988. These books provide modem treatments of organic petrology with special emphasis on thermal regimes and the use of organic petrology in petroleum exploration. Paul Robert is one of the few organic petrologists to come to the field with a broad background in oil industry experience as a basis. This is evident in the integrated approach taken in his books where the study of source rocks and maturation are placed in the more general context of basin prospectivity. He also saw the need to extend organic petrological techniques to sections where vitrinite is absent, and his work on integrating bitumen reflectance with more commonly used measurements has been extremely valuable. Dr. Robert was also one of the international group of authors of the 1998 book "Organic Petrology". Dr. Robert's other publications include a classification of sedimentary organic matter which is based on biological, depositional and geochemical considerations and which provides a useful tool for understanding petroleum source rocks and the primary migration of hydrocarbons.

Dr. Robert ran a very comprehensive and meticulous program in his laboratory. Unusually, most of his work was undertaken on polished thin sections of whole rock grain mounts prepared to extremely high standards. Measurements were made to permit maximum review. To this end, for each field measured (mainly vitrinite) co-ordinates were also recorded. This enabled him to refer to specific measurements as well as the more general procedure of re-examining a specimen. Although the work was directed mainly at maturation and thermal history studies, these were some of the most detailed studies of organic matter assemblages that have been done. With the use of polished thin sections, the benefits of the transmitted light observation mode were combined with data collected using reflected light and the fluorescence mode.

Dr. Robert was Chairman of the ICCP's Commission 2 for several years. In 1981 he hosted the ICCP meeting in Pau and was one of the scientific organizers of the very successfully associated meeting on "Geology of Coal, Oil Shales and Kerogens". The papers presented at the latter were shortly thereafter published as an excellent book of the same name within the Elf-Aquitaine series of publications.

In 1999, the ICCP awarded its Reinhardt Thiessen Medal to Dr. Paul Robert for his contributions as an innovative researcher in organic petrology, especially in the establishment of a laboratory which was highly influential in the way the science has been applied in the petroleum industry.

Dead line for the next issue of the ICCP NEWS is April 30,2000!

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