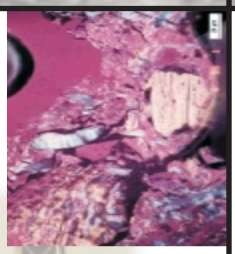
Founded 1953

ICCP News

http://www.iccop.org

On Line ISSN 1445-4858

No 24 June 2001

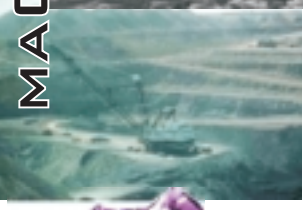


COKE

Reflectance

KerogeN

MACERAL



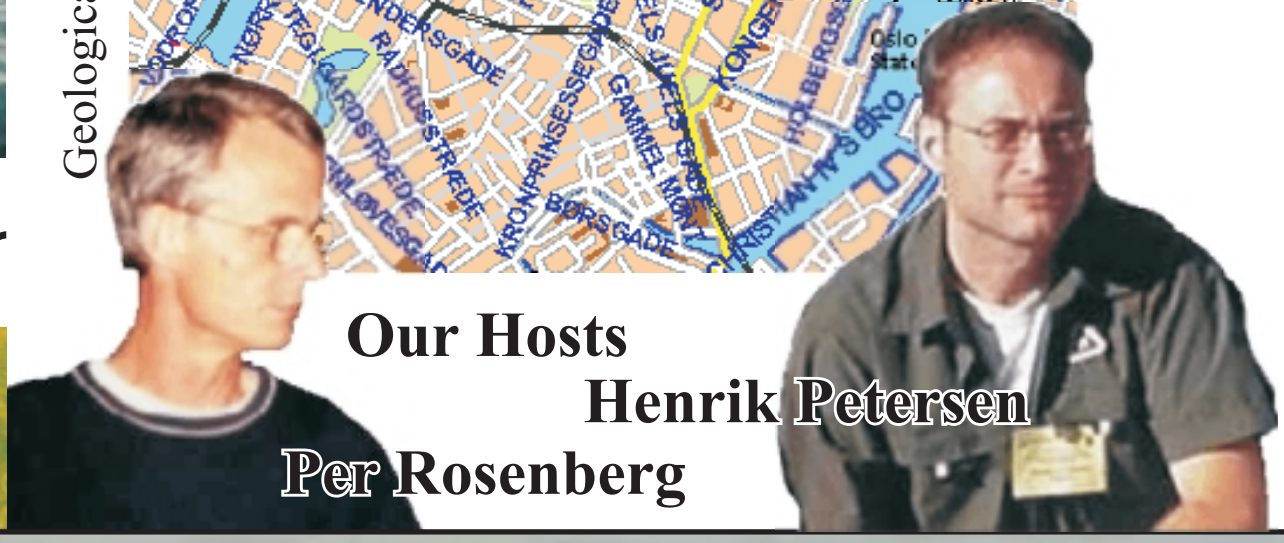
char

53rd ICCP Meeting København Danmark

GEUS

The GeologialSurvey of Denmark and Greenland

Geological Institute Øster Voldgade 10



Our Hosts

Henrik Petersen

Per Rosenberg

inside this issue

From the Editor

A number of new features appear in this edition of ICCP News which will have most impact for the web-based readers. The most important of these innovations is a new section called **"ICCP News Web Extra"**. This section contains information which is of general interest to the to the ICCP membership but for which space constraints do not allow it to be published along with the printed version. Information in the "Web Extra" section is available ONLY in the pdf file at the ICCP web site but will be fully indexed in the main body of the printed newsletter. Types of information encouraged for the "Web Extra" include thesis abstracts, detailed agendas of meetings (other than our own!), longer reports from Working Groups or Commissions (which could also be abstracted in the main newsletter) etc.

Web-based readers will also find a new, more convenient format. All items are now fully bookmarked (like in the membership directory) as well as being indexed on the front cover. This should allow for easier navigation.

Close observers of the front cover will have seen that ICCP News now has an **International Standard Serial Number (ISSN)**. The ISSN uniquely identifies ICCP News and can be used whenever information needs to be recorded or communicated. The ISSN provides researchers, librarians and publishers (and even booksellers!) with a simple and accurate method of identifying ICCP News. Note that the web-based pdf version has a different ISSN to the paper copy (in accordance with ISSN rules).

It is planned that all members with valid email addresses will receive a new version of the current **ICCP Membership Directory** after the meeting in Copenhagen. A revised edition, so soon after the March 2001 edition, is warranted due to the large number of small changes to people's email addresses and telephone numbers as well as other changes (see page 10). The same security restrictions will apply unless decided othewise at Copenhagen. Hard copies of this revised directory will hopefully also be distributed, otherwise it is hoped to distribute a revised hard copy early next year following budgetary approval by Council.

As always, I am still on the hunt for any nice photomicrographs you may have of coal macerals suitable to grace the pages of the ICCP Handbook.

Cheers, Peter
ICCP Editor - email Peter.Crosdale@jcu.edu.au

From the President

Very soon now, members will be gathering at the 53rd meeting of ICCP in Copenhagen. At the time of writing, 63 members are registered to attend, which is a relatively high proportion of our membership compared with many previous meetings. Agendas for the meeting are published in this issue, as agreed at the Oviedo meeting in 1994. We hope that members attending will be able to use the Agendas to plan their attendance better. Perhaps more importantly, we hope that those members not attending (a majority in spite of the expected good turn out) will use this opportunity to express their views about any of the items listed for discussion, or suggest additional matters that they wish to be discussed. Contributions on items included within the Plenary Session should be sent to the General Secretary. Those relating to items within the individual Commissions should be sent to the appropriate Commission Secretary. Contributions can be sent by conventional post, or by Email - with or without attachments. If you are sending attachments, please remember that not all members have high speed connections so attachment size should be kept to a reasonable size (say less than half a megabyte).

Members have previously sent material for inclusion in discussions, but the number of occasions has been small and was effectively limited to the "lucky" few who knew in advance what was to be discussed. It is hoped that publication of Agendas will provide sufficient information to draw out contributions from members, especially those unable to attend the Copenhagen meeting.

Recent events have shown how little information we have about most (probably all) of our members. It would be relatively easy now to store career details for all members on a single CD. Some privacy considerations apply, but the details stored could be as basic or as detailed as individual members require. I would welcome some input from members about the desirability of keeping a central record of members that goes beyond names, addresses and telephone numbers.

I look forward to meeting many of you in Copenhagen, and to hearing from ALL the others before the meeting about some (or all) of the issues I have raised in this column in the last two issues.

Alan Cook

53rd ICCP Meeting - Copenhagen Provisional Programme

The 53rd annual meeting of the International Committee for Coal and Organic Petrology (ICCP) will be hosted by the Geological Survey of Denmark and Greenland (GEUS). It is a great pleasure for us to announce that this years meeting will include a one-day session under the auspices of The Society for Organic Petrology (TSOP). In addition, a Marlies Teichmüller symposium will be held on Sunday 19th August.

Registration, ice-breaker and all meetings will be held at: Geological Institute, Øster Voldgade 10, 1350 Copenhagen K.

GENERAL INFORMATION

The 53rd annual ICCP meeting and TSOP/ICCP session will be hosted by GEUS and held at the Geological Institute in the centre of Copenhagen close to restaurants, cafés, shops and the beautiful Rosenborg Castle and garden, built by King Christian IV in the early 17th Century.

Copenhagen, the capital of Denmark, is a relaxed, safe city with a typical Scandinavian atmosphere. Copenhagen was founded more than 1000 years ago and is now a modern city with a well-preserved city-area with a number of small streets, squares, canals, historic buildings, the parliament and Amalienborg, the royal castle. More tourist information is available at : http://www.woco.dk http://www.aok.dk and http://www.copenhagen-excursions.dk .

The average temperature of August is 17°C. However, August may be warm with temperatures of to 30°C, but cooler, rainy days occur. So don't forget your raincoat or umbrella and appropriate footwear.

Copenhagen is served by an international airport with many options of direct flights. Busses, trains ('Metro') and taxi connect the airport with the city centre. Approximate cost for bus/train to the city centre is 20 Dkr. and for taxi 170 Dkr. For more information: http://www.kastrup.dk In addition, Copenhagen can be reached by train from Europe and by ship from Poland.

Meeting fees

· Registration fee:	50 US$
· Conference dinner:	40 US$
· Excursion:	35 US$

The registration fee includes ice-breaker party, meeting material/TSOP abstract volume and coffee, tea etc.

Fees should not be send in advance; payment will occur on arrival, at registration, in US$ or Danish kroner (Dkr.). Payment by credit card is not possible. It is possible to change currency at the airport, at the main train station, in banks (closed Saturday and Sunday) and in exchange bureaus (open Saturday).

Registration

To register, please fill in the registration form and send it to:

Henrik Ingermann Petersen
Department of Reservoir Geology
Geological Survey of Denmark and Greenland
Thoravej 8
DK-2400 Copenhagen NV
Denmark

It is also possible to fax the registration form to the above address at fax-number +45 3814 2050.

Alternatively, electronic registration is possible on http://www.geus.dk/ICCP2001

Deadline for registration is June 1st 2001

If you have any questions please don't hesitate to contact us by e-mail:

Henrik Ingermann Petersen:	hip@geus.dk
Per Rosenberg:	pro@geus.dk

See page 16 for additional information regarding accommodation

PROVISIONAL PROGRAMME

Note : this programme is provisional only. Updated programmes will be available on the ICCP website (http://www.iccop.org).

Sunday, 12.08.01
15.00-18.00 Meeting of the ICCP Council (preliminary agenda follows)
18.00-20.00 ***Registration and ice-breaker***

Monday, 13.08.01

09.00-11.00 Opening ceremony/Opening Plenary Session of the General Assembly
09:00-09:10 Welcome by ICCP General Secretary Dr Petra David
09:10-09:20 Dr. Matin Ghisler, Administrating Director of GEUS
09:20-09:40 Dr. Erik Thomsen, Head of the Department of Reservoir Geology - *Hydrocarbon exploration history in Denmark*
09:40-09:50 Per Rosenberg (Organising Committee) - general information
09:50-11:00 Plenary Session - general business
1. Welcome of the organising committee
2. Apologies and other attendance matters
3. Minutes of the Rio meeting
4. Arrangements for the 2001 meeting
5. Future meetings
6. Forthcoming Elections
7. Agenda of Council Meeting
8. Membership
9. Auditor's Statement
10. Treasurer's Report
11. Editor's Report

11.00-11.30 ***Coffee break***

11.30-13.00 Opening Plenary Session (Continued)
13.00-15.00 ***Lunch***

15.00-16.30 Meeting of Commission III
Chair : Rosa Menéndez
Secretary : Henrik Petersen
15.00-15.45 Coal Blends (I. Suárez-Ruiz)
15.45-16.45 Inertinite in Combustion (Á. Gómez Borrego)
16.45-17.00 Discussion on new working groups
16.30-17.00 ***Coffee break***
17.00-19.00 Meeting of Commission III
17.00- 18.30 Combustion Working Group (D. Álvarez, E. Lester)
18.30-19.00 Automation

Tuesday, 14.08.01

09.00-11.00 Meeting of Commission I
Chair : Walter Pickel
Secretary : Deolinda Flores
11.00-11.30 ***Coffee break***

11.30-13.00 Meeting of Commission I
13.00-15.00 ***Lunch and photography***

15.00-16.30 Meeting of Commission I
16.30-17.00 ***Coffee break***

17.00-18.00 Meeting of Commission I

Commission I activities include :
- Accreditation Programme (A Depers)
- Standardization Working Group (W. Pickel, D. Pearson, R. Javier)
- Handbook Editorial Group (P. Crosdale, W. Pickel)
- Graphite, semi graphite, natural coke (B. Kwiecinska), Natural Char (H. Petersen), Pyrolytic Carbon (C. Nedelcu)
- Carominerites
- Liptinite (W. Pickel)
- Huminite
- Hard Coal Lithotypes (M. Wolf, G. Bieg)
- Temporal variations of coal (L. Vasconcelos)
- Review of new methodologies and techniques in Organic Petrology (L. Gurba, R. Schaefer)
- Sample Preparation Techniques (D. Pearson)

Wednesday, 15.08.01

TSOP/ICCP SESSION
Oral presentations and posters
(detailed programme below)

08.30-08.40 Welcome
08.40-10.20 4 presentations
10.20-10.35 ***Coffee break***
10.35-12.15 4 presentations
12.15-14.00 ***Lunch/posters***
14.00-15.40 4 presentations
15.40-15.55 ***Coffee break***
15.55-17.10 3 presentations
17.10-18.30 Posters and draught beer

Thursday, 16.08.01

09.00-11.00 Meeting of Commission I
11.00-11.30 ***Coffee break***

11.30-13.00 Meeting of Commission II
Chair : Wolfgang Kalkreuth
Secretary : Ángeles Gómez Borrego
11.30-12.30 Environmental Applications (M. Masterlerz)
12.30-13.00 Coal facies (M. Hámor-Vidó and G. Nowak)
13.00-15.00 ***Lunch***

15.00-16.45 Meeting of Commission II
15.00-15.15 CBM (P. Crosdale)
15.15 -15.45 In situ analysis of coal macerals, electon microprobe (L. Gurba and M. Masterlerz)
15.45-16.45 Reflectance Data Qualifying System (J. Koch)

Thursday Evening

Conference dinner

Friday, 17.08.01

09.00-11.00 Meeting of Commission II
09.00-10.30 Classification of DOM (A. Hutton, L. Stasiuk and J. Burgess)
10.30-11.00 Thermal Indices (C. Araujo)
11.00-11.30 ***Coffee break***

11.30-13.00 Meeting of Commission II
11.30-13.00 Pseudovitrinite (L. Gurba and C. Ward)
15.00-18.00 Closing Plenary Session of the General Assembly
1. Reports from the Chairs of Commissions
2. Report from the Council Meetings
3. Thiessen Award

Saturday, 18.08.01

Excursion

The one-day excursion will visit the 6 km long, scenic Cretaceous chalk cliffs on the island of Møn, Baltic Sea. These exposed chalk deposits are an excellent example of glaciotectonism and show a complex of thrust sheets displaced by Weichselian ice advances during the latest ice age. We will also visit the medieval Fanefjord church with its remarkable frescoes and a passage grave from the middle neolithic period (about 3200-2400 B.C.).

With luck, the weather will be sunny, but participants should be prepared for rainy weather i.e. bring a raincoat or umbrella. Bring appropriate footwear as the walk along the shore is irregular and rocky in places.

Sunday, 19.08.01

Marlies Teichmüller Symposium

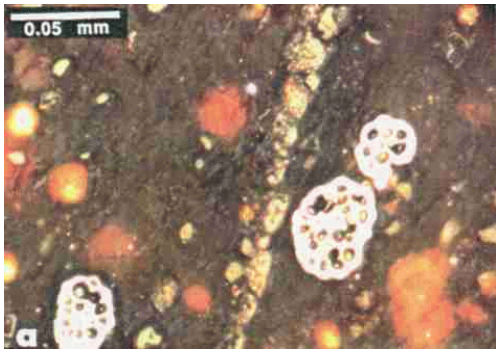
Invited speakers - provisional programme below

ICCP Council Meeting Agenda

Preliminary Agenda for the Council Meeting
ICCP Meeting Copenhagen 2001

1. Apologies for non-attendance
   1.1 Members of Council unable to attend
   1.2 Members of ICCP unable to attend the annual meeting
2. Arrangements for Copenhagen meeting
3. Future meetings
   3.1 Arrangements for Maputo Meeting in 2002
   3.2 Arrangements for meeting in Utrecht in 2003.
   3.3 Arrangements for meeting in Budapest in 2004.
   3.4 Invitations to future meetings
   3.5 Information required in relation to invitations.
4. Membership
   4.1 Applications for Associate membership
   4.2 Applications for Full membership
   4.3 Applications considered by Council between meetings
   4.4 Resignations
   4.5 Membership Directory
5. Thiessen Medal
   5.1 Thiessen Medal Award
   5.2 Production of new Thiessen Medal
6. Financial Matters
   6.1 Statement from the Honorary Auditor: Financial records 1999-2000
   6.2 Treasurer's Report 2000-2001

6.3 Financial procedures and accountancy standards/requirements
6.4 Budget 2001-2002
7. ICCP Young Scientist Award
8. Editor
8.1 New Format of ICCP Newsletter
8.2 Publication of material arising from work of ICCP within the Newsletter
8.3 Copyright and ICCP
8.4 Draft budget for the editor
9. Website
9.1 Publication of material arising from work of ICCP on theHomepage
9.2 Balance between information published on Homepage and in Newsletter
10. New Handbook
11. Trademark of ICCP Logo
12. Communication between meetings
13. Use of multiple language
14. Elections
15. UN Relations
16. Institutional Membership
16.1 Details of the regulations
16.2 Information /advertising package
16.3 Membership fees
17. Publications of Working Groups
18. Statutes of the ICCP
19. Review of ICCP
20. Feedback from MembersCouncil Matters
20.1 Communication of Council between Meetings
20.2 Code of Conduct
21. Other Business



Fungal sclerotia in modern peat (<6000bp) from Baram River, Sarawak, Malaysia - ***a.*** *sclerotinite in moderately altered wood tissue. Photomicrograph courtesy of Joan Esterle*

TSOP/ICCP Session Programme

This years meeting includes a one-day TSOP/ICCP session, which has been organised by GEUS in collaboration with Dr. Charles Barker of TSOP. The organising committee consider this a great opportunity to combine the discussions of the ICCP working groups with more 'formal' presentations of organic petrographic and geochemical studies.

Oral presentations

Organic petrology applied to petroleum and coalbed methane studies

L.D. Stasiuk, M.G. Fowler, Maowen Li, L. Snowdon, M. Tomica, G. Addisson and J. Potter: *Basin-wide thermal maturity evaluation of Devonian-Mississippian source rock strata in the Western Canada Sedimentary Basin: vitrinite reflectance versus primary bitumen from marine amorphinite*

A. Carr: *Thermal history modelling using vitrinite reflectance*

M. Mastalerz and A. Schimmelmann: *Isotopically exchangeable hydrogen in coals relates to thermal maturity and maceral composition*

A. Wan Hasiah and Q. Bachir: *Petrographic insights into liquid hydrocarbon generation and expulsion from oil-generating coals of Sarawak, Malaysia*

C.J. Kommeren: *The "good and the bad news" deduced from organic petrology for petroleum exploration offshore the Falkland Islands*

J.A. Bojesen-Koefoed, J.A. Chalmers, F.G. Christiansen, F. Dalhoff, G. Dam, A. Mathiesen, H.P. Nytoft, A.K. Pedersen, H.I. Petersen and P. Rosenberg: *Petroleum in West Greenland: the role of organic geochemistry and petrography in exploration activities*

B. Ratanasthien, W. Kandharosa, S. Rojanapho and W. Thanakwang: *Comparison of liptinite in the Fang oilfield, northern Thailand, and the Pattani gasfield, the Gulf of Thailand*

S.D. Golding, K.A. Baublys, D.S. Thiede and M. Glikson: *Isotope geochemistry, pyrolysis mass spectrometry and electron microscopy of coals with associated hydrogen sulphide seam gas, Bowen Basin, Australia*

L.W. Gurba and C.R. Weber: *Coalbed methane evaluation - a new look at coal optical properties and their application*

W. Kalkreuth, M. Holz, M. Kern, H. Burger, A. Schauf, R. Prissang, M. Lemos de Sousa and M. Rodrigues: *Assessment of coal bed methane potential in the Santa Terezinha Coalfield, Parana Basin, Brazil*

E.R. Landis, T.J. Rohrbacher, C.E. Barker, B. Fodor and G. Gombar: *Coalbed gas in the Mecsek Basin, Hungary*

M. Glikson, R. Fisher, S.D. Golding and P. Massarotto: *Coalbed methane project in Huibei Basin, China: organic petrology and geochemistry*

Coal characterisation, coal facies and coal utilisation

K.J. Kruszewska: *Fluorescing macerals in South African coals*

A. Iordanidis and A. Georgakopoulos: *Pliocene lignites from Apofysis mine, Amynteo Basin, northwestern Greece: petrographical characteristics and depositional environment*

G. Predeanu, C. Panaitescu and G. Plesa: *Carbonization behaviour of inertinite by thermoplasticity and coke microstructure assessment*

Poster presentations

M.C. Frank and S.L. Bend: *An appraisal of some coal petrographic models*

D. Gmur: *Facies analysis of two seams occurring under and above the "Barbara" marine horizon, Paralic Series, Upper Silesian Coal Basin*

B. Hanak and M. Kokowska: *Relationship between the content of sulphur in coal seams from the Upper Silesian Coal Basin (U.S.C.B.) and the environment of their deposition*

A. Jurczak-Drabek: *The changes of the degree of the carbonification of the Upper Silesian coals based on a coefficient of vitrinite*

S. Kalaitzidis and K. Christanis: *Scanning electron microscope study of the Philippi peat (NE Greece)*

J. Komorek and R. Morga: *Changes of optical properties of vitrinite subjected to heating under inert conditions*

J. Komorek, E. Krzeszowska and R. Morga: *Use of digital picture analysis for determination of petrographic composition of coal*

K. Kruszewska and M.J. Fabianska: *Relationship between petrographic and geochemical characterisation of chosen South African coals*

M. Misz: *Morphological forms of organic and mineral matter in slag samples from the Bedzin power station (Upper Silesia, Poland)*

V.H. Neumann, A.G. Borrego, L. Cabrera and R. Dino: *Organic matter composition and distribution through the Aptian-Albian lacustrine sequences of the Araripe Basin, Northeastern Brazil*

C. Panaitescu, A. Meghea and G. Predeanu: *Electronic spin resonance applied to bituminous coals*

B. Ptak: *The Lublin Coal Basin (NW part) - physico-chemical properties of coal*

S. Pusz, S. Duber and B.K. Kwiecinska: *Microtexture of thermally treated anthracites*

L.D. Stasiuk and J. Potter: *Investigation of fluorescence alteration characteristics of vitrinite macerals in Lower Cretaceous Mannville Group Coals, Alberta, Canada, using laser scanning fluorescence microscopy*

L.D. Stasiuk and H. Sanei: *Characterization of diatom-derived lipids and chlorophyll within Holocene laminites, Saanich Inlet, British Columbia, using conventional and laser scanning fluorescence microscopy*

B. Valentim and M.J. Lemos de Sousa: *The role of explosive ejection of volatile matter for the understanding of NO_x and N_2O emissions in coal combustion*

B. Valentim, D. Álvarez and M.J. Lemos de Sousa: *Scanning electron microscopy (SEM): a qualitative tool for char analysis*

A. Wan Hasiah: *Suberinite-bituminite and phlobaphinite-inertinite associations in the oil-generating coals of Northwest Borneo*

R.J. Williams, P.J. Crosdale, A. Saghafi and E. Yurakov: *Towards standardisation of the high pressure gas adsorption isotherm of coal*

Fungal sclerotia in modern peat (<6000bp) from Baram River, Sarawak, Malaysia
d. *oxidized root with tissues pseudomorphed and oxidised by fungi*

Photomicrograph courtesy of Joan Esterle

Teichmüller Symposium

(Preliminary Programme)

09.00 OPENING SESSION
Chair: President ICCP, Alan Cook

09.10 - 09.50 Duncan Murchison
Organic petrology and the molecular structure of crustal organic matter - the Newcastle connection

09.50 - 10.30 Joan S. Esterle, Yago, J., Le Blanc Smith, G. and Sliwa, R. CSIRO Exploration and Mining, Brisbane Australia.
Depositional and structural controls on coal seam geometry and character in the Moranbah-German Creek coal measures

10.30 - 10.50 ***Morning coffee***

10.50 Chair: Ángeles Gómez Borrego

10.55-11.35 Walter Pickel

11.35-12.05 Detlev Leythauser

12.05-12.30

12.30-14.00 ***Lunch***

14.00 Chair: Barbara Kwiecinska

14.05-14.45 Alan Davis
In the Footsteps of Marlies Teichmuller - Investigations of Coal Fluorescence Phenomena

14.45-15.25 Wolfgang Kalkreuth and others
New Aspects of Sequence Stratigraphy, Petrology, Palynology and Paleobotany of the Coal-Bearing Rio Bonito Formation (Early Permian), Paraná Basin, Brazil

15.25-15.45 ***Afternoon coffee***

15.45 Chair: Petra David

15.50-16.20 Harold Smith
Coal Microscopy in the Service of Archaeology

16.20-16.50 Paul C. Lyons and Aureal T. Cross
Marlies Teichmuller (1914-2000), pioneering genetic coal petrologist: Her dream came true

16.50 CLOSE

17.00 onwards *Informal session for presentation of material relating to the work of Marlies Teichmüller*

HAVE A GREAT MEETING!

ICCP Accreditation Programme 2000 Exercise Summary

The 2000 Exercise realised a record number of participants. There were 55 petrographers who indicated initially that they would participate in the 2000 Exercise, with 50 petrographers completing the required analyses. These petrographers are employed by 28 laboratories in 12 countries.

The Accreditation Committee is proud to announce that the following petrographers have gained Full Accreditation status or have been re-accredited in the ICCP's Accreditation Programme:-

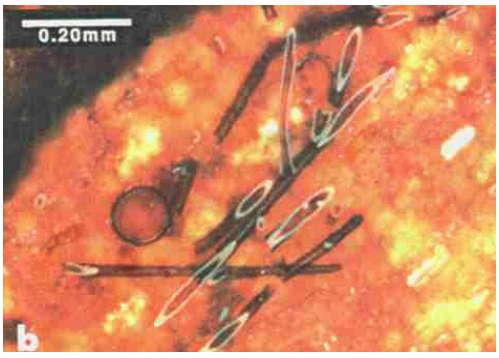
Colin J. Atkinson
Elvira Barcelona
Helen Beath
Kathy E. Benfell
Gareth Chalmers
M. Manuela Coelho Marques
Petra David
Claus F.K. Diessel
Norma Duarte Mergel
Vivien M. Du Cann
Cortland F. Eble
Jodi T. Ewings
Deolinda Flores
M. Ángeles Gómez Borrego
James C. Hower
Dagmar Joa
Paul Johnson
Hakan Kahraman
Wolfgang Kalkreuth
Pirkko Karvosenoja
Ralf Littke
Gareth D. Mitchell
Jane Newman
Graham O'Brien
David E. Pearson
Walter Pickel
Rejane Pujol de Vargas
Adrian P. Reifenstein
Raymond J. Smith
Ben Stonehouse
Elisabeth A. Stumpf Viegas
Maria A. Tomica
Harry Veld
Angelika Vieth
Nicola J. Wagner
Chris Wilson

Successful petrographers will be listed on the official Accreditation Programme's Register of Accredited Petrographers at:

http://www.iccop.org

The Committee congratulates all participants on their achievements.

Aivars Depers
Deolinda Flores
Walter Pickel
Accreditation Programme Committee



*Fungal sclerotia in modern peat (<6000bp) from Baram River, Sarawak, Malaysia - **b.** singular fungal hyphae penetrating well preserved wood tissue. Photomicrograph courtesy of Joan Esterle*

Membership Directory Updates

The following members contact details require updating. Apologies to those members whose contact details in the March 2001 Directory differed to those supplied to the Treasurer prior to publication of the directory. This occurred due to a mixup in database information between the Treasurer and Editor. We will try to ensure that this does not happen again.

Dr. Banani Bardhan
Geological Survey of India
P-50, Southend Garden
Calcutta - 700 084
INDIA

Dr. Eitel Rolando Carrascal-Miranda
Facultad de Ingeniería Geológica Minera y Metalúrgíca
Universidad Nacional de Ingeniería
Jazmines 170. C-5. Dpto. 201
Salamanca Ate-Vitarte
Lima - 003
PERU

Dr. Takashi Miki
Department of Earth and Planetary Sciences
Kyushu University
Hakozaki 6-10-1, Higashi-ku
Fukuoka 812-8581
JAPAN

Dr. Maristela Bagatin Silva
University of British Columbia
Department of Earth and Ocean Sciences
6339 Stores Road
Vancouver BC V6T 1Z4
CANADA
email: masilva@interchange.ubc.ca

Ms. Maria A. Tomica, Geologist
Geological Survey of Canada
Energy and Environment Subdivision
3303-33rd Street N.W.
Calgary, Alberta T2L 2A7
CANADA

Dr. Suzuomi Tomita
Department of Earth and Planetary Sciences
Kyushu University
Hakozaki 6-10-1, Higashi-ku
Fukuoka 812-8581
JAPAN

Dr. Ida Volkova
Russian Geological Research Insitute
VSEGEI
V.O. Sredny Prosp. 74
199106 St. Petersburg
RUSSIAN FEDERATION
email :vyalov@mail.wplus.net
vinvolkov@vv5808.spb.edu

Dr. Nicola Jane Wagner (A,1,2,3)
Coal Research Group,
Sasol Technology R&D
P.O. Box 1
Sasolburg, 1947
SOUTH AFRICA

Telephone and fax numbers of the following members also require updating.

Prf. Dr Z.C. Corrêa da Silva
ph +55-51-3330 3380
fax +55-51-3330 3380

Prof. Dr W. Kalkreuth
ph +55-51-3316 6355 (office)
fax +55-51-3319 1811

Mrs N.D. Mergel
ph +55-51-3287 2088
fax +55-51-3226 0207

Note : other contact details which have been updated will issued in the planned new Membership Directory edition after the Copenhagen meeting

Bad email addresses

The following members have had recent problems in receiving emails from the Editor. Could they please check their details and advise the Treasurer (rudi@chesternet.co.uk) and Editor (Peter.Crosdale@jcu.edu.au) of any necessary changes.
Mr Herudiyanto - email heroe@dmr.dpe.go.id
Mr Nugroho - email corelab@corelab.co.id
Dr Abdullah - email j4has@umcsd.um.cdu.my
Ing García Cuevas - email jmgcuevas@netscape.net
Dr Carrascal-Miranda - email rolandos@mail.fullnet.com.pe

Could all members note that current email addresses are important and forward updates to the Treasurer and Editor as soon as practical.

Dr Marlies Teichmüller (1914 - 2000) : A remembrance

I first met Marlies Teichmuller in 1983 en route to the ICCP Meeting in Oviedo, Spain. We met at the airport where a small part of the ICCP group had gathered and she suggested in a friendly way that I put my heavy luggage on her push cart. Previously, she had informally reviewed my multi-authored manuscript on rodlets of the inertinite maceral group (now secretinite). Her comments on this manuscript were incisive and very helpful.

At the meeting we discussed the degree of coalification of organic matter in coal balls (permineralized peat), a subject that she had come to a conclusion on years earlier (Teichmüller, 1966). In the United States, there existed a widespread notion that such organic matter was of brown-coal rank or even peat. She had found vitrinite in the lyginopterid seed fern Lyginopteris oldhamia from the Ruhr District of Germany that implied that the organic matter had advanced beyond the brown-coal stage. I showed her four slides prepared by C. Thompson-Rizer showing vitrinite (gelinite) in coal balls from the Illinois Basin that implied the same thing, not including geochemical data that USGS geochemists, P.G. Hatcher and F. W. Brown, had gathered for me (see discussion in Hatcher *et al*., 1986). Marlies always seemed to be two to three paces ahead of just about everyone else and would offer formidable arguments (from an organic petrological point of view) to geochemical disagreements.

In Oviedo, Marlies and I visited a famous medieval church, a hobby of Marlies and her husband Rolf Teichmüller, on the flanks of the mountain overlooking the city. Later we had an ice cream cone (a favourite dessert of Marlies!) in the city. Marlies knew many of the Spanish names of the ice cream flavours, much to my surprise.

In 1985, I visited Marlies at her office, which she had long shared with her husband, Rolf Teichmüller (1904-1983). She was proud of the fact that the administration of the Geologische Landesamt NW in Krefeld allowed her to keep her office after her retirement in 1984. She was the only one granted that privilege. She showed me her vast reprint collection (received by her and Rolf from all over the world) occupying two entire closets with reprints, some going back to E. Stach and W. Gothan, her paleobotany professor at the University of Berlin. Thousands of reprints. In July, 1998,two months after the book "Organic Petrology"--she was busy alphabetizing these reprints. Marlies also took me to her botanical garden outside the building. She had carefully obtained arborescent plants that were botanically close to those in the German brown-coal deposit near Cologne and were the basis of her classic 1950 paper. I had the privilege to visit this 80 m thick brown coal deposit with her as part of an ICCP field trip in 1988. At her home, I discussed with her my proposal for a new maceral secretinite, and she advised me to publish the proposal outside the ICCP (Fuel, 1986) because the ICCP approval process took too long. Sure enough, it took ten years!

In 1986, I invited Marlies to deliver the keynote address at the symposium on peat and coal at the International Geological Congress in Washington, DC (1989). Her keynote talk, delivered in a large packed room with barely any standing room, showed in her last slide five possible future directions of organic petrology. Marlies produced an outstanding 87 page paper that appeared in Volume 12 of the International Journal of Coal Geology. She had thought that the paper was too long and that no one would read it but, instead, she said that it became her most popular paper.

During her two last visits to the United States (1989, 1992) I was her host in the Washington DC area. Marlies had a natural curiosity about people and culture. We visited the Museum of Natural History (Smithsonian), the Washington Cathedral, and were very lucky to see a caravan of Amish horse and buggies on the way back from the combined TSOP-ICCP Meeting at Penn State that was hosted by Alan Davis in 1992.

Her first visit to the United States was in 1937-1938 when she worked with R. Thiessen at the U.S. Bureau of Mines in Pittsburgh and, also, visited G.H. Cady, Director of the Illinois Geological Survey. H.J. O'Donnell, Thiessen's assistant, now 90 years young, instructed her on the large thin-section preparation technique that he perfected in the early 1930s. Her doctoral thesis (1941) - which was started under Thiessen) was a comparison of transmitted and reflected light techniques using the Elkhorn coal of Kentucky. Later visits to the United States included 1964 and 1967 field trips to the Everglades led by W. Spackman and attendance at three Gordon Conferences on coal science (ACS, Geochemistry Division) in New Hampshire in 1967, 1973, and 1978.

Marlies was totally devoted to organic petrology and coal geology. Her almost 190 papers touch on almost all aspects of organic petrology and include many contributions on the application of organic petrology to coal geology co-authored with her husband, Rolf Teichmüller, whose expertise was in tectonics and regional geology. In her own research, she was inspired and influenced by the organic petrologic work of E. Stach and R. Thiessen (see Lyons and Teichmüller, 1995) and the regional studies of H. Stille and his renowned assistant, Rolf Teichmüller. Her career accomplishments and activities have been summarized in Kasig (1992), Teichmüller (1994), Lyons (1994) and in a set of tributes by W. Spackman, P. K. Mukhopadhyay, H. Damberger, and R. Littke, soon to appear in the International Journal of Coal Geology.

In retirement, Marlies continued as an important member of the ICCP, the organization that she was devoted to. Her last attendance at an ICCP meeting was in 1996 in Heelen, The Netherlands, where it all began, and where she appeared as a special guest. This was where she was a special guest as a founding member and where I last saw her for dinner at the hotel restaurant where most of us stayed.

After she retired in 1984, Marlies continued with he organic petrological interests in bituminite, TEM studies with G.H. Taylor, the application of organic petrology to archaeology, acritarch reflectance for metamorphic rocks, and with more traditional organic petrological topics. The last great work of her life was being senior author of Chapters 2, 3, 4, and 8 of the book "Organic Petrology" (1998) - all amounting to about half of the book - that she asked me to review (see Int. J. Coal Geol., v. 42, 2000). In May, 1999, she acknowledged receipt of what she considered my too detailed and overly long review that was later reduced in length and published in the Int. J. Coal Geology (March, 2000) .

Marlies received many honous and awards (see Kasig, 1992), including the Reinhardt Thiessen Medal of the ICCP and the Gilbert H.Cady Award of the Coal Division of the Geological Society of America.. She was the only coal scientist outside of North America to receive the Cady Award. Marlies Teichmüller will not just be remembered as a great scientist (the likes of whom we rarely see) but also as a thoughtful, generous, and caring lady.

In 1988, I remember her cooking me a turkey dinner, including cranberry sauce from a far-away place in Europe. She would go to great lengths to accommodate a request, such as in 1994 when I asked her to arrange for me (on short notice) a visit to Essen to meet the famous German tonstein expert, K. Burger. Marlies arranged for the visit to his home and, additionally, for all of us to have dinner at a fine restaurant overlooking the Rhine River.

In my second-to-last letter from her (March 28, 1999 - typed on the same typewriter that she had typed her doctoral thesis on some 60 years earlier and on which she communicated to scientists all over the world) she reminisced: "I very often think of the many discussions we had about scientific problems and of my visit in Reston and your visit in Krefeld with the good scientific relations we had over many years. It was a good time."

Coal science has lost one of its greatest organic petrologists, whose devotion and career are a model of excellence. Her contributions to organic petrology will stand the test of time because she was meticulous, clear thinking, and approached her research in a fundamental way, much like her mentor, R Thiessen - the great genetic coal petrologist. Marlies Teichmuller will long be remembered by those of us who knew her well.

Paul C. Lyons
105 Winnifred Road
Brockton,
MA 02301

Editors Note: Many of you will have fond remembrances of Marlies Teichmüller and some additional thoughts can be found on Elsevier's Contents Direct : International Journal of Coal

Geology, Vol. 46, Issue 1, Mar-2001 by visiting the journal at http://www.elsevier.nl/locate/jnlnr/05337 **OR** directly by visiting the following web sites :

Marlies Teichmüller - 11 November 1914-12 September 2000
http://www.elsevier.nl/PII/S0166516200000379

Obituary: Marlies Teichmüller by R. Littke
http://www.elsevier.nl/PII/S0166516201000131

Marlies Teichmüller (1914-2000): A tribute to an organic petrologist by P.K. Mukhopadhyay
http://www.elsevier.nl/PII/S0166516201000118

Some grateful remembrances of Marlies Teichmüller by H.H. Damberger
http://www.elsevier.nl/PII/S0166516201000106

Remembrances of Marlies Teichmuller by W. Spackman
http://www.elsevier.nl/PII/S016651620100012X

No further reminiscences of Marlies will be published in ICCP News, but space is always available in ICCP News *Web Extra* should anybody wish to contribute.

PSEUDOVITRINITE WORKING GROUP

(Presented in Rio de Janeiro, Brazil: August 2000)

Botanical Structure of Pseudovitrinite as Revealed by Pseudo-Etching

Lila W. Gurba and Colin R. Ward

Recent research at the University of New South Wales has found that prolonged exposure of polished sections of coal to some types of immersion oil produces selective etching of the pseudovitrinite layers, without significantly affecting other vitrinite types (Figure 1). The immersion oil was found to act, long term, as a selective etching agent. The etch effects were apparent only in pseudovitrinite layers, leaving an intense blue residuum and revealing the botanical structure.

More detailed studies of the botanical structures in pseudovitrinite that have been revealed by this etching process are currently in progress. Preliminary results suggest a distinct difference in composition and/or botanical structure, relative to other vitrinite types in the same coal samples.

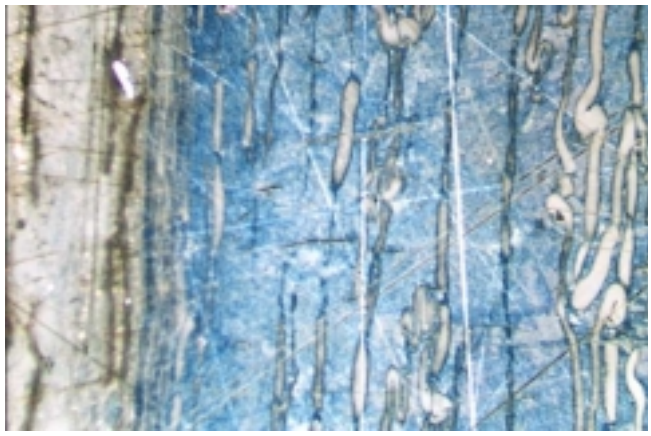


Figure 1 *Botanical structure of pseudovitrinite as revealed by etching using immersion oil. Note the un-etched desmocollinite with spores on the left. Early Permian high-volatile bituminous coal, Gunnedah Basin, Australia. Mean maximum reflectance on pseudovitrinite RPSmax=0.91%; on other telocollinite in the same sample RTCmax=0.80%; and on desmocollinite RDSCmax=0.75%*

The recognition of botanical nature of pseudovitrinite, whether formed from wood or bark, and the plant species from which it was derived, will be very important contribution in our understanding of this material.

Members of Pseudovitrinite Working Group, and all members of ICCP who can contribute to this study, particularly through identification of the plant structures, please contact

Dr L.Gurba
The University of New South Wales
School of Geology
Sydney NSW 2052
Australia
Fax: (61 2) 9385 5935
E-mail:L.Gurba@unsw.edu.au.

Deadline for

ICCP News No. 25

September 28

ICCP Publications for Sale

ICCP Handbook

International Handbook of Coal Petrography, suppplement to the 2nd edition, second print (in English) 1985 US$30

International Handbook of Coal Petrography, 2nd supplement to the 2nd edition (in English) 1986 US$10

International Handbook of Coal Petrography, 3rd supplement to the 2nd edition (in English) 1993 US$20

Prices do not include shipping (approx US$10 in Europe and outside US$18 Europe per item) or cost of money transfer.

Prepayment should be made to Postbank.
Swift code ING-BNL-2A, Amsterdam, NL
Giro account nr. 4292437
with reference to: ICCP HANDBOOK
PO Box 126
6400 AC Heerlen

Contact
Dr Petra David
NITG TNO
University Utrecht
Faculty of Earth Science
PO.BOX 80021
3508 TA Utrecht
Tel.: +31 30 253 5121 or +31 62 290 3402
Fax: +31 30 253 50 30
E-mail: p.david.@geo.uu.nl

ICCP Work in Progress

This series provides a method of rapid communication between workers in relevant fields and a permanent record of activities of working groups. Publications are not final outputs of these working groups but are results of the most recent round robin analyses or other activities of the group. The information will be updated periodically as new data come to hand.

The publications are on CD ROM in the format used by the working group. It is the responsibility of the purchaser to ensure that they have the relevant software and hardware to run the CD.

NOW AVAILABLE :

Work in Progress - ICCP Coke Texture Working Group (2000)

Data under web site structure

Content :
- WG publications from 1995 to 2000
- Proposed coke texture classification
- Previous round robin results
- Coke pictures for practising texture recognition

Computer Requirements :
- Internet navigator
- Powerful computer (Mac or PC)
- 800*600 pixels display (1024*768 or more recommended)

Cost
- US$15 (ICCP members)
- US$25 (ICCP non-members)
- includes airmail postage and handling

Work in Progress - ICCP Combustion Working Group (2000)

Content
- An atlas of char occurrences, classified according to the Char
- Classification System established by the Combustion WG (also enclosed).
- A compilation of the char images agreed in the last two Round Robin exercises of the Combustion WG.

Computer Requirements
- Any computer able to host the Office 2000 package.
- 800*600 pixels display (1024*768 or more recommended)
- Powerpoint 2000 Software.

Cost
- US$15 (ICCP members)
- US$25 (ICCP non-members)
- includes airmail postage and handling

Contact
To purchase either CD, contact
Dr Peter Crosdale
Coalseam Gas Research Institute
School of Earth Sciences
James Cook University
Townsville, Qld. 4811
Australia
Fax : +61-7-4781-5167
email : Peter.Crosdale@jcu.edu.au

WHAT'S HAPPENING

July 9 - 12, 2001

6th International Conference on Technologies and Combustion for a Clean Environment, Oporto, Portugal
Contact : Prof. M. da Graca Carvalho (Lisbon)
email : **cleanair@esoterica.pt**
http://navier.ist.utl.pt/cleanair

July 14 - 19, 2001

25th Biennial Conference on Carbon, Lexington, KY, USA
Contact : Teresa Epperson
email **epperson@caer.uky.edu**
http://www.carbon2001.org

August 12 - 19, 2001

ICCP 53rd Annual Meeting, Copenhagen, Denmark
Includes **Teichmüller Symposium** on Sunday 19th and one day **joint ICCP / TSOP session**
Information : ICCP News No 22 or
Dr H.I Petersen
email : **hip@geus.dk**
Ph. +45 3814 2455
Dr P. Rosenberg
email : **pro@geus.dk**
Ph. +45 3814 2454
http://www.iccop.org

September 10 - 14, 2001

International Meeting on Organic Geochemistry (IMOG 2001), Nancy, France
Contact : Patrick Landais
email : **imog2001@2gr.uhp-nancy.fr**
http://www.imog.uhp-nancy.fr

September 23-26, 2001

The Society for Organic Petrology (TSOP), 18th Annual Meeting, Houston, Texas, USA. Information:
Dr. Coleman Robison,
Texaco Group, Inc., E&P Technology Div
3901 Briarpark Drive, Houston
Texas 77042 USA
Phone: (713) 432-6828
Fax: (713) 838-4628
email: **robiscr@texaco.com**
http://www.tsop.org
Extended abstracts due 6/1/01.

September 30 - October 5, 2001

11th International Conference on Coal Science: Exploring the Horizons of Coal, San Francisco, CA, USA
Contact : Ms Karen Lockhart
email : **karen.lockhart@netl.doe.gov**

December 3 - 7, 2001

18th Annual International Pittsburgh Coal Conference, Newcastle, Australia.
Contact Ms. Marguerite Link (U. of Pittsburgh)
email : **link@engrng.pitt.edu**
http://www.engrng.pitt.edu/~pccwww/

January 6 - 11, 2002

2nd Mediterranean Combustion Symposium, Sharam El-Sheikh, Egypt
Contact : Prof. M. S. Mansour
email : **mansourm@aucegypt.edu**

July 21 - 26 , 2002

29th International Symposium on Combustion, Sapporo, Japan
Contact : Prof. Ken-ichi Ito
email : **ito@york-me.eng.hokudai.ac.jp**

August 25- 30 2002

Gondwana 11 Correlations and Connections, Christchurch, New Zealand.
Contact : Susannah Hawtin
email: **s.hawtin@anta.canterbury.ac.nz**
http://www.anta.canterbury.ac.nz

September 2002

54th Annual Meeting of ICCP, Maputo-Pretoria, Mozambique - South Africa
Contact : Lopo e Vasconcelos
email : **lopo@zebra.uem.mz**
or Ricky Pinheiro
email : **rpin@cet.co.za**
http://www.iccop.org

August 2003

55th Annual Meeting of ICCP, Utrecht, The Netherlands.
Contact : Petra David
email : **p.david@geo.uu.nl**
http://www.iccop.org

2004

56th Annual Meeting of ICCP, Budapest, Hungary
Contact : Dr Mária Hámor-Vidó
email : **vidom@mafi.hu**
http://www.iccop.org

Accommodation for 53rd ICCP Meeting, Copenhagen, Denmark

A restricted number of rooms are available at each hotel, and rooms are reserved in the order we receive the registrations. We therefore cannot guarantee accommodation at a preferred hotel. However, please indicate your 1st, 2nd and 3rd hotel preference on the registration form. The hotels will generally be within walking distance of the meeting venue.

Hotel Esplanaden:
Location: Bredgade 78
Available rooms: 35 single and 5 double rooms
http://www.esplanadenhotel.dk
The hotel is located approximately 0.9 km from the meeting venue and close to Kastellet, a very nice old fortress area, the Little Mermaid, the Royal Castle (Amalienborg) and Rosenborg Castle and garden.

Hotel Maritime:
Location: Peder Skramsgade 19
Available rooms: 10 single and 10 double rooms
http://www.dkhotellist.dk/maritime/index.html
The hotel is located approximately 1.7 km from the meeting venue and close to the centre of Copenhagen: Kongens Nytorv with the Royal Theatre, the pedestrian area starting at Kongens Nytorv, and the atmospheric Nyhavn with its sailing boats and old houses, charming street life, and abundance of cafes, restaurants and bars. Here the citizens of Copenhagen come to enjoy a beer or a glass of wine after work, to eat, to have fun or simply to be "seen". If the weather is good Nyhavn will be crowded with people of all kinds. A place you should visit.
!Note: not available 11th August

Hotel Christian IV:
Location: Dr. Tværgade 45
Available rooms: 10 single rooms
http://www.dkhotellist.dk/christian/index.html
The hotel is located approximately 0.7 km from the meeting venue and very close to the nice Rosenborg Castle and the relaxing Rosenborg Garden. Likewise the hotel is close to Amalienborg, the Royal Castle, Kongens Nytorv (here starts the large pedestrian area of the centre of Copenhagen), and the atmospheric Nyhavn.

Hotel Ibsens:
Location: Vendersgade 23
Available rooms: 5 single and 5 double rooms
http://www.dkhotellist.dk/ibsen.htm
The hotel is located approximately 1.2 km from the meeting venue and close to Peblinge Sø of the very relaxing "lake-area", which is a reminiscent of the old fortification of Copenhagen. The hotel is also located close to the Botanical Garden and the pedestrian area which starts at Nørreport train station.
!Note: not available 11th August

Hotel Quality Østerport:
Locality: Osloplads 5
Available rooms: 20 single rooms
http://www.nordiskhotelgruppe.dk/engelsk/qualitycopenhagen/index.html
The hotel is located approximately 0.6 km from the meeting venue and very close to Kastellet, a relaxing old fortress area. The Little Mermaid and the Royal Castle are also close too.

Hotel Cab Inn Copenhagen:
Locality: Danasvej 32-34
Available rooms: 25 single rooms
The hotel is located approximately 2.3 km from the meeting venue in the area of Copenhagen called Frederiksberg. The hotel is close to the "lake-area".

Hotel Prices

Hotel	Single (Dkk)	Double (Dkk)
Hotel Esplanaden	664	880
Hotel Maritime	800	975
Hotel Christian IV	710	-
Hotel Ibsens	725	740
Hotel Quality Østerport	690	-
Hotel Cab Inn Copenhagen	520	-

All prices are in Danish kroner and include breakfast.

! The prices may be slightly adjusted in 2001.

ICCP News No 24 June 2001 Web Extra Index

Editors note: This material does not appear in the printed version and is only available in the pdf version via the web site http://www.iccop.org

If undeliverable return to :
Dr P. Crosdale,
Editor, ICCP
School of Earth Sciences
James Cook University
Townsville, Qld 4811 AUSTRALIA

ICCP News No 24 June 2001 Web Extra

RESEARCH NOTES: ABSTRACT

Petrographic Characterization and Evolution of the Coal from Pench Valley, Kanhan Valley and Pathakhera Coalfields, Satpura Basin, India*

R. Rakesh Shukla
Dr. H.S. Pareek Research Fellow in Coal Petrology,
Banaras Hindu University,
Varanasi- 221 005, INDIA

Coal occurs in the Barakar Formation (Permian) of Gondwana Supergroup, the formation thickening from 160 m in the Pench Valley, to 350 m in Kanban valley, and 450m in Pathakhera coalfields. The coal seams have been correlated geologically (Pareek, 1970) and by coal seam petrographic profiles (Pareek et al., 1964, Pareek, 1969) earlier, wherein vitrinite content is recorded to increase laterally, thereby enhancing the caking property of the coals. The present four year duration investigation is an outcome of petrographic studies on pillar coal samples collected from working faces in the three coalfields. Utilising the scheme of Diessel (1965), megascopic seam profiles were prepared. Variations of each of the microscopic and chemical constituents were ascertained from bottom to top of each of the coal seams, being related to coal facies, rank and evolution, and their potentiality in utilisation assessed.

These coals have vitrinite from 27.52 to 50.72%, while inertinite is 25.27 to 51.14%, liptinite being 9.80 to 20.27%. Blue irradiation study indicates the presence of the secondary liptinite, i.e., exsudatinite (0.18% to 1.14%), fluorinite (0.23 to 2.09%) and bituminite (nil to 1.28 %). Argillaceous mineral matter is 4.13 to 12.80% carbonates 0.60 to 1.21%, and sulphides 0.30 to 0.60%. In general, mineral concentration is higher in coals of Pench valley. The microlithotype composition indicates that these coals have vitrite 32.46% and inertite 34.26%, duroclarite, clarodurite and liptite being much less that 1%. The mean of random vitrinite reflectance (Rom) is 0.35 to 0.58% in Pench, 0.52 to 0.92% in Kanhan, and 0.53 to 0.88% in Pathakhera coals. As per ASTM classification, these coals are sub-bituminous C to high volatile bituminous A. On volatile matter (daf) basis, they are sub-bituminous "C" to medium volatile bituminous. The H/C versus O/C ratio suggests them type III Kerogen.

The plots of maceral and microlithotype composition cluster in the zone of foreland basin of triangular diagram (Hunt and Smyth, 1989). The microlithotype plots in facies diagram (Hacquebard and Donaldson, 1969) relate these coals to forest moor, under limno-telmatic conditions. The Gelification Index (Diessel, 1986) of these coals ranges between 0.40 to 2.20 and the Tissue Preservation Index 1.57 to 35.94, suggestive of wet and partly dry conditions of peat formation. The ground water index (Calder et al, 1991) indicates development of these coals in fen and bog forest under mesotrophic to ombrotrophic hydrological conditions. On the basis of the international coals classification system (Falcon, 1986), these coals are intermediate in type, meta sub-bituminous to hypo-bituminous in rank and ashy coal in grade. Based on petrographic and chemical composition, the Satpura coal is recommended for gasification and blend coking coals.

REFERENCES

Calder, J.H; Gibbing, M.R; Mukhopadhay, P.K. (1991) : Peat formation in a Westphlian B piedmont setting, Cumberland basin, Nova Scotia :

Implication for the maceral-based interpretation of rheotrophic and raised paleomires, Bull. Soc. Geol. Fr. 162, 283-298.

Diessel, C. F. K. (1985) : Correlation of macro- and micro Petrography of some New South Wales Coals, In Proc. 8th Commonw. Min. Metall. Congr. 6, 669-667.

Diessel, C. F. K. (1986) : On the correlation between coal facies and depositional environment. In: Advancement in the Studies of the Sydney Basin, Proc. 20th Symp., Dept. Geol., Univ. New Castle, N.S.W., 19-22.

Hacquebard, P.A. and Donaldson, J.R. (1969) : Carboniferous coal deposition associated with flood plain and limnic environments in Nova Scotia. In : E.C. Dapples and M.E. Hopkins (Editors), Environment of Coal Deposition, Geol. Soc.Am. Spec. Pap., 114 : 143-191.

Falcon, R.M.S. (1986) : Classification of coals in South Africa, 1899-1921. In: C.R. Anhaeusser and S. Maske (Editors), Mineral Deposits of Southern Africa, I and II. Geol.Soc. S. Afr., 2335.

Hunt, J.W. and Smyth, M. (1989) : Origin of inertinite rich coals in Australian Cratonic basins. Int. J. Coal Geol., 11 :23-46.

Pareek, H.S., Sanyal, S.P. and Chakrabarti, N.C. (1964) : Petrographic studies of the coal seams in the Pench-Kanhan coalfields, India. XXII Int. Geol. Cong., IX, Gondwanas, 1-16.

Pareek, H.S. (1969) : The nature of coal from the Tandsi seam, Upper Tawa Valley Coalfield, M.P. Ind. Mins., 20, 2, 165- 172.

Pareek, H.S. (1970) : On the Geology and the Correlation of coal seams of Pench-Kanhan-Upper Tawa Valley Coalfield. Palaeobotanist, 18, 1, 95-102.

* This work forms a concised abstract of a thesis submitted for Ph.D, under the supervision and research guidance of M.P. Singh, Reader in Geology, and the research fellow being funded under "Dr H.S. Pareek Endorsement Fund" for 4 yr term, or monthly scholarship and annual contingency. The research fellow for next 4 yr term is selected.

- H. S. PAREEK