



# WoCQI News



Keeping you informed on the USGS  
World Coal Quality Inventory

Issue 1

May 31, 2000

# WELCOME

## **Introduction to the Newsletter**

Welcome to WoCQI (World Coal Quality Inventory) News. The WoCQI project is now firmly established and making substantial progress. We will be using these periodic electronic newsletters to keep everyone informed of the many WoCQI activities. We invite you to contribute news items that you feel may be appropriate for the newsletter. Send the information by return e-mail for consideration. Also, if you have contacts in the coal-science communities of countries where we have not yet made contact, please let us know. Our goal is to generate reliable, internally consistent coal quality analyses for all coal-producing countries.

The objective of this first newsletter is simply to inform you of the WoCQI status for each of the coal-producing countries. Future editions of the newsletter will provide more detailed information about the activities, samples, and results for individual countries.

## **Purpose of WoCQI**

Policy makers in all corners of the globe require accurate information on coal, including coal quality data, to make informed decisions regarding international import needs and export opportunities, foreign policy objectives, technology transfer policies, foreign investment prospects, environmental and health assessments, and byproduct use and disposal issues. Unfortunately, the information needed is generally not available because: much of the data is in obscure publications, commonly in the native languages of the authors, or the data reside in paper files that are not readily accessible; geographic coverages are not comprehensive; analytical data may not be accurate or may be incompatible with accepted analytical schemes; the coal samples analyzed may not be representative of the full deposit, or the samples may have been collected and analyzed years to decades ago; and information is lacking on trace element concentrations, mineralogy, and modes of occurrence. For these reasons the U.S. Geological Survey

(USGS), in conjunction with partners from most of the world's coal-producing countries, has initiated an integrated electronic database (World Coal Quality Inventory: WoCQI). WoCQI will contain coal quality information for samples representing major coal beds in all of the important coal-producing countries, as well as from many of the smaller coal producers and will emphasize information from coals currently being burned. The information that will be incorporated into the database includes, but is not limited to, proximate and ultimate analyses, sulfur-form data, major, minor, and trace elements, semi-quantitative analyses of minerals, modes of occurrence, washability, petrography, and other factors that affect technological behavior, economic byproduct recovery, and environmental impact. The coal quality information will be linked to Geographic Information System databases that show coal basins and sample locations along with geologic, land use, transportation, industrial and cultural information. WoCQI will be accessible on the USGS web page that will be updated on a regular basis. This multi-national cooperation in developing a reliable, comprehensive, global coal quality database that contains a broad array of technologic, economic, and environmental parameters should help to ensure the efficient and environmentally compatible use of our global coal resources in the 21<sup>st</sup> Century.

**GEODE (GEO-DATA Explorer)** - GEODE is a GIS application that provides capabilities for data querying, display, and analysis. Users can compose maps that integrate multiple data layers, control map appearance, and query supporting data sets based on user-defined criteria. Custom maps can be downloaded and printed as image files and can be imported into other applications. This can be accomplished on the internet without special hardware and licensing. [Contact: Marc Levine ([mlevine@usgs.gov](mailto:mlevine@usgs.gov))]

**FIRST PRODUCT!**



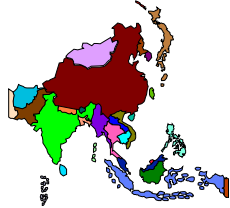
Steve Podwyssocki and Vivian Lovern have produced the first product of WoCQI. *Coal-bearing Regions and Structural Sedimentary Basins of China and Adjacent Seas* (USGS Open-file Report 00-047) is a CD-ROM containing a digital map of China depicting the coal-bearing regions. This map, also available in hard copy, will form the basis of our GEODE-based presentation of data on China. If you would like a complimentary CD-ROM or a paper copy of the map just send us your name and mailing address by return e-mail. Digital files in Adobe Acrobat and ESRI ArcView and ArcInfo formats are available on-line at <http://pubs.usgs.gov/openfile/of00-047/index.html>

China will be the first country for which WoCQI data will be posted on the USGS Web page (<http://geode.usgs.gov>). We are seeking electronic coverages of the geology, topography, sedimentary basins, etc. of other coal-producing countries. Please let us know if you can help us acquire this information.

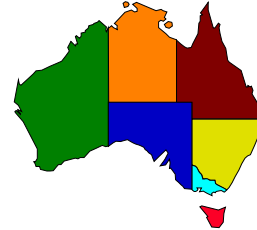
A formal USGS Fact Sheet describing WoCQI is being prepared. Ron Stanton has prepared a document that describes recommended guidelines for sample collection.

## Country Status

(The numbers in parentheses are 1998 production in millions of short tons)



### Asia and Oceania



**Australia (314)** – Initial contact made. [Contact: Susan Tewalt ([stewalt@usgs.gov](mailto:stewalt@usgs.gov))]

**Bangladesh (<1)** – Dr. Rafiqul Islam, Dhaka University, has agreed to provide samples from the one active coal mine. In the meantime we have initiated a preliminary GIS cover of base data. [Contact: Bob Milici ([rmilici@usgs.gov](mailto:rmilici@usgs.gov))]

**P. R. China (1,351)** – 19 coal samples provided by Dameng Liu, China University of Geosciences, Beijing have been submitted for analysis. Geologists, under the guidance of Baoshan Zheng, Institute of Geochemistry, Guiyang, will soon be collecting up to 500 coal samples for WoCQI. In addition to the completed map of coal-bearing regions and sedimentary basins other GIS layers for China are being compiled. These include information on coal production, power generation, and health issues. [Contacts: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov)) & Vivian Lovern ([vlovern@usgs.gov](mailto:vlovern@usgs.gov))]

**India (359)** – The USGS is developing an agreement with the Central Fuels Research Institute and the Geological Survey of India (GSI). In other activities, in collaboration with the GSI, more than 100 coal and rock samples from the Sohagpur coalfield in Madhya Pradesh have been analyzed. Eight samples of high chlorine coal from Rajasthan have also been analyzed. GIS layers have been completed that show coal field boundaries, political boundaries, drainage, etc. [Contacts: Peter Warwick ([pwarwick@usgs.gov](mailto:pwarwick@usgs.gov)) & Bob Milici ([rmilici@usgs.gov](mailto:rmilici@usgs.gov))]

**Indonesia (66)** – In November Bob Finkelman met with Taufik Sastrawinata, head of the Fuel and Combustion Group of the Energy Technology Laboratory, Agency for the Assessment and Application of Technology and with scientists at the Bandung Institute of Technology. Both parties expressed interest in participating in WoCQI. Yo Sumartojo

will represent the USGS at the *SOUTHEAST ASIAN COAL GEOLOGY CONFERENCE* to be held in Bandung, Indonesia in June developing agreements for sample and information exchange. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**Japan (4)** – In March two representatives from Japan Coal Corporation (JCOAL) visited the USGS to discuss possible collaboration on the World Coal Quality Inventory project. They agreed to provide samples from the two operating coal mines in Japan. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**South Korea (5)** – K-W. Park of the Korea Institute of Geology, Mining & Materials, has agreed to collect coal samples from all 11 operating mines. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**Mongolia (5)** - Initial contact made. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**New Zealand (4)** – CRL Inc. has provided 10 samples of New Zealand coal for analysis. About 6 additional samples will be provided. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**Pakistan (3)** - Approximately 860 coal samples were collected and analyzed between 1985 and 1993 for a comprehensive coal assessment made in cooperation with the US Agency for International Development. The results of these studies will be incorporated with some new information into a GIS based summary report available on CD-ROM sometime during FY2001 and also posted on the USGS Web page. GIS covers of the coalfields and base data are being reviewed. [Contact: John SanFilipo ([jsan@usgs.gov](mailto:jsan@usgs.gov))]

**Philippines (1)** – In April Bob Finkelman met with coal scientists from the Philippine Department of Energy, Coal and Nuclear Minerals Division. They agreed to participate in WoCQI and provide samples of Philippine coal. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**Taiwan (<1)** – Louis Tsai, National Central University, has collected samples of coal from all 4 operating mines. The samples were received on May 1. [Contacts: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov)) & Vivian Lovern ([vlovern@usgs.gov](mailto:vlovern@usgs.gov))]

**Thailand (22)** - Contact anticipated in June.

**Vietnam (12)** - Initial interest expressed, no recent response received. [Contact: Curtis Palmer ([cpalmer@usgs.gov](mailto:cpalmer@usgs.gov))]

## Western Europe



**Austria (1)** - No contact.

**France (8)** - No contact.

**Germany (229)** - No contact.

**Greece (65)** – George Hatziyannis of the Institute of Geology and Mineral Exploration has offered to provide samples and analysis [Contact: Ron Affolter ([raffolter@usgs.gov](mailto:raffolter@usgs.gov))]

**Norway (<1)** - No contact.

**Spain (29)** - No attempt to obtain samples.

**Turkey (67)** – Ertem Tuncali, General Directorate of Mineral Research and Exploration in Turkey (Maden Tetkik ve Arama:MTA), has provided about 145 samples for chemical analysis, one sample from each of the active mine in Turkey. Seventy-one of these samples have already been analyzed for up to 54 elements (*Palmer, C. A., Tuncali, E., and Finkelman, R., 1999, The distribution of trace elements in Turkish lignites western Anatolia and the Thrace Basin. Proceedings, Sixteenth Annual International Pittsburgh Coal Conference & Workshop. PDF file on CD-ROM.*). We expect that the analysis of the remaining samples to be completed in about 3 months. [Contact: Curtis Palmer ([cpalmer@usgs.gov](mailto:cpalmer@usgs.gov))]

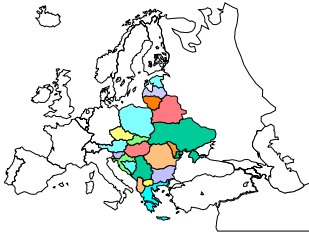
**United Kingdom (45)** - No attempt to obtain samples.

**Serbia (48)** - More than 100 analyses of Kosovo Basin lignite samples have been completed. Contacts on hold.

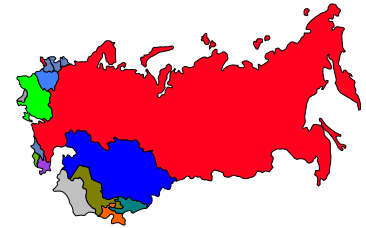
**Bosnia (2)** - No contact.

**Macedonia (7)** - No contact.

**Slovenia (5)** - No contact.



## Eastern Europe & Former USSR



**Armenia (<1)** - The USGS conducted a Coal Exploration and Resource Assessment of Armenia Project, funded by USAID, from 1994 to 1999. As part of this multifaceted project, the USGS: mapped and studied the six major coal fields of Armenia; conducted exploration drilling, coal quality analyses, and detailed studies including an economic and mining pre-feasibility study of one coal field; created a state-of-the-art coal quality laboratory that was part of an international round robin program for two years; created a mobile borehole geophysical logging station; computerized the Ministry of Environment's Geology Department and created data bases of all archival coal information and digitized many archival maps; recalculated all of the coal resources in each of the coal fields based upon the newly created data bases and the new geologic information from the mapping projects; and created a satellite image map of Armenia and surrounding territories. As a result of this project, the USGS discovered and analyzed a minable, economic coal deposit in Armenia. A number of coal quality analyses were obtained during this project which will be entered into the World Coal Quality Data Base. A number of publications on the various aspects of the project are also available from the contact listed below or on the USGS Web site (<http://geology.usgs.gov>). [Contact: Brenda Pierce ([bpierce@usgs.gov](mailto:bpierce@usgs.gov))]

**Bulgaria (33)** - During the summer of 1992, the USGS obtained chemical data on 184 Tertiary coal samples from the Elhovo Basin in Bulgaria from the Bulgarian Committee of Geology and Mineral Resources. The Survey also collected 7 Miocene coal samples from the Chuckurovo strip mine in the Sofia Basin and discussed the development of a coal quality database for Bulgarian coals. [Contact: Mick Brownfield ([mbrownfield@usgs.gov](mailto:mbrownfield@usgs.gov))]

**Czech Republic (83)** - No attempt to obtain samples.

**Hungary (16)** – In 1996, the USGS became the cooperating partner with the Hungarian Geological Survey in Joint Project Fund Number 539. Ed Landis, Tim Rohrbacher, and Hal Gluskoter of the USGS and Bela Fodor, Gizella Gombar, and Istvan Sebestyn of the Hungarian Geological Survey cooperatively studied and compared the coal mining industry of the two countries. In 1998, bench and face channel samples were collected at five mines. Thirty-nine of the coal samples have been submitted for analyses. A publication summarizing the results of the analyses is planned for calendar year 2000. [Contact: Hal Gluskoter ([halg@usgs.gov](mailto:halg@usgs.gov))]

**Kazakhstan (77)** - No contacts.

**Kyrgyzstan (1)** - During the three year period from 1992 through 1996, a team of four geologists, a mining engineer, and a coal utilization specialist made an assessment of the coal resources of the Kyrgyz Republic. As part of that study, a broad sampling of the operating coal mines of the country was conducted. Sixteen samples, each of which represented as complete a vertical section of the coal bed as possible, were collected and analyzed. All of the analyses are reported and summarized in the following open file report: *Landis, E.R., Bostick, N.H., Gluskoter, H.J., Harrison, C.D., Huber, D.W., and Johnson, E.A., 1997, Assessment of the Coal Resources of the Kyrgyz Republic: U.S. Geological Survey Open File Report 97 137A (English) and Open File Report 137B (Russian), 145p.* [Contact: Hal Gluskoter ([halg@usgs.gov](mailto:halg@usgs.gov))]

**Poland (198)** - Discussions with the Polish Institute of Geology on hold. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**Romania (29)** – Dorina Diaconita, coal scientist with the Geological Survey of Romania agreed to provide coal samples for WoCQI. She will also do the petrology on a sample of lignite collected in April with Bob Finkelman. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**Russia (272)** – Coal mine operators in the Kuzbas Basin have been contacted and will be visited in July. We expect to add data from Kuzbas Basin coalmine samples to the WoCQI data base. Additional contacts will be made in Russia through various research institutions such as the Russian Academy of Sciences. [Contact: Brenda Pierce ([bpierce@usgs.gov](mailto:bpierce@usgs.gov))]. The USGS and the Vernadsky State Geological Museum are jointly developing a coal database for Russia and the Former Soviet Union. The database consists of an ArcView project containing geographical and geological data on coal deposits and chemical data on coal. Presently the database contains data on 266 coal deposits and 146 coal analyses. The joint project will produce Arc/Info export and shape files with documentation on the samples and geologic maps. [Contact: Mick Brownfield ([mbrownfield@usgs.gov](mailto:mbrownfield@usgs.gov))]

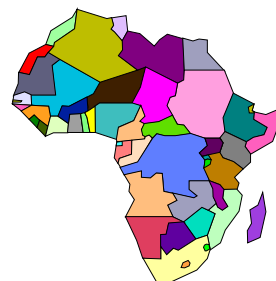
**Slovakia (4)** - No contact.

**Tajikistan (<1)** - Mike Gaffen, consultant to the USGS, has made contact with the Tajikistan coal sector. [Contact: Brenda Pierce ([bpierce@usgs.gov](mailto:bpierce@usgs.gov))]

**Ukraine (83)** – Dr. Boris Panov, Academician, Donetsk State Technical University and Dr. Tatiana Shendrick, Institute of Physical Organic & Coal Chemistry have agreed to provide coal samples for WoCQI. Dr. Shendrick immediately provided 7 samples for analysis. [Contact: Allan Kolker ([akolker@usgs.gov](mailto:akolker@usgs.gov))]

**Uzbekistan (3)** - No contact.

## Africa & Middle East



**Botswana (1)** - No contact.

**Egypt (<1)** - Initial interest expressed, no further response.

**Iran (1)** - No contact.

**Morocco (<1)** - No contact.

**Nigeria (<1)** - Initial interest expressed, no further response.

**South Africa (247)** - The South African Dept. of Mines and Energy has agreed to participate in the WoCQI. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**Zambia (<1)** - Four samples from two localities have been obtained from Imasiku Nyambe, University of Zambia. [Contact: Bob Finkelman ([rbf@usgs.gov](mailto:rbf@usgs.gov))]

**Zimbabwe (6)** - No contact.



## North & South America



(Note: A pre-WoCQI digital coalfield map of South America is available at: <http://pubs.er.usgs.gov/usgspubs/ofr/ofr95235>)

**Canada (83)** - Data for about 50 samples received from Geological Survey of Canada [Contact: Linda Bragg ([lbragg@usgs.gov](mailto:lbragg@usgs.gov))]

**Mexico (11)** - Initial interest expressed, letter of agreement signed by USGS. No recent response from Mexico.

**U.S.A. (1,119)** - Analyses of approximately 15,000 coal samples have been completed. About half of the data may be obtained through the USGS Web page



([http://energy.er.usgs.gov/coal\\_quality/coalqual\\_database.html](http://energy.er.usgs.gov/coal_quality/coalqual_database.html)) or from a published CD-ROM. [Contact: Linda Bragg ([lbragg@usgs.gov](mailto:lbragg@usgs.gov))]

**Argentina (<1)** - No contacts.

**Brazil (5)** - Wolfgang Kalkreuth, Universidade Federal do Rio Grande do Sul, has provided us with 39 samples representing 33 coal seams in 3 coalfields. Preliminary results will be presented in August at the upcoming International Geological Congress in Brazil. [Contact: Jason Willett ([jwillett@usgs.gov](mailto:jwillett@usgs.gov))]

**Chile (1)** - Initial - no recent contact.

**Colombia (38)** - A letter of agreement has been signed by the USGS Chief Geologist and the InGeoMinas Director. GIS compilation of coalfields and base information is underway. [Contact: Peter Warwick ([pwarwick@usgs.gov](mailto:pwarwick@usgs.gov))]

**Peru (<1)** - Contacts being sought.

**Venezuela (8)** - Contacts being sought. GIS compilation of coalfield and base information is underway. [Contact: Peter Warwick ([pwarwick@usgs.gov](mailto:pwarwick@usgs.gov))]

In addition, the USGS has 1980-vintage coal quality data for Argentina (6 samples), Belgium (6), Costa Rica (37), W. Germany (7), Haiti (7), Hungary (18), India (2), Indonesia (20), S. Korea (4), Malawi (4), Mauritania (2), Mexico (2), P.R. China (24), Philippines (16), Taiwan (4), Thailand (24), and Trinidad (1).



## **Upcoming Events**

Please provide us with information on upcoming coal science conferences and new products such as books and maps for inclusion in this section.

### **2000**

- June 19-20 Southeast Asian Coal Geology Conference: Bandung, Indonesia
- August 6-17 International Geological Congress: Rio de Janeiro, Brazil  
<http://www.31igc.org>
- September 12-14 3<sup>rd</sup> UK Meeting on Coal Research and its Applications: Birmingham, UK  
[helen.graham@powertech.cp.uk](mailto:helen.graham@powertech.cp.uk)
- September 26-28 4<sup>th</sup> European Coal Conference: Ustron, Poland  
[roig@pigog.com.pl](mailto:roig@pigog.com.pl)
- September 11-15 Seventeenth Annual International Pittsburgh Coal Conference:  
Pittsburgh, PA, USA

### **2001**

- June 25-29 9<sup>th</sup> Coal Geology Conference: Prague, Czech Republic
- September International Coal Science Conference: San Francisco, CA USA