International Mine Water Association Symposium 1987

Hydrogeology of Coal Basins

Kattowice, Poland
14-18 September 1987

ISBN: 978-1-62276-982-7
Contents

HYDROGEOLOGICAL EXPLORATION OF COAL BASINS

Bielawski
HYDROGEOLOGICAL EXPLORATION OF LIGNITE BASINS .......... 15

Brown, M. Greenberg
DRAINAGE Dewatering AS A KEY ASPECT IN PRE-MINE FEASIBILITY
PLANNING IN THE SEMI-ARID WESTERN UNITED STATES .......... 21

Grabowska, A. Różkowski
HYDROGEOLOGIC INVESTIGATIONS ON COAL DEPOSITS IN THE UPPER SI-
ESSIAN COAL BASIN (POLAND) ........................................ 37

Grmela
IDENTIFICATION OF BASIC HYDROGEOLOGICAL WATER TYPES AND THEIR
INTERACTIONS IN MIXED SAMPLES OF MINE WATERS IN THE CZECHOSLOVAK
ART OF THE UPPER SILESIAN BASIN ................................. 47

Hancock, A. Bowden
HYDROGEOLOGICAL INVESTIGATION OF THE GELLIONDALE LIGNITE DE-
POSITS VICTORIA, AUSTRALIA ........................................ 55

Kuan Rong, Cao Yuqing, Yang Bin
HYDROCHEMICAL MODEL IN KARST WATER AND THE EVALUATION OF THE
CORROSION FEATURE FOR THE MID-ORDOVICIAN LIMESTONE IN FENG-
FENG COALFIELD .................................................. 69

Jezný, J. Kováč
HYDROGEOLOGICAL SURVEY WORKS AT LIGNITE DEPOSITS IN THE SLO-
AK PART OF THE VIENNA BASIN ................................. 89

Jordan
IN THE CONTRIBUTION OF ISOTOPE-HYDROGEOLOGICAL INVESTIGATIONS TO
MINING SAFETY ................................................. 99

Kessert, G. Szilágyi, G. Szentai, I. Havassy, I. Tóth
EXPLORATION AND EVALUATION OF THE HYDROGEOLOGICAL CONDITIONS
OF COAL DEPOSITS WHERE THE WATER DANGER STRONGLY DEPENDS ON
MINING METHODS .............................................. 105

Ja. Kipco, O. Ju. Lushnikova, I. Popov
EZE ESTIMATION OF WATER-SEALING CURTAINS AROUND MINE WORKINGS
BY HYDRODYNAMIC TESTING .................................... 125

Krečić
ROUND WATER HAZARD OF COAL EXTRACTION FROM MARLSTONE BASINS
DUE TO SURROUNDING KARST .................................... 131
**II. HYDROGEOLOGICAL CHARACTERISTICS OF COAL BASINS**

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. Cabala</td>
<td>HYDROGEOLOGY OF EAST SLOVAKIAN NEOGENE COAL DEPOSITS</td>
<td>203</td>
</tr>
<tr>
<td>Chen Shijie</td>
<td>THE HYDROGEOLOGICAL DIVISION AND CLASSIFICATION OF COAL MINES IN CHINA</td>
<td>215</td>
</tr>
<tr>
<td>V. D. Choube, I. Sankaranarayana</td>
<td>HYDROGEOLOGY OF EASTERN PART OF JHARIA COALFIELD, INDIA</td>
<td>225</td>
</tr>
<tr>
<td>B. C. Egboka</td>
<td>HYDROGEOLOGICAL AND HYDROTECHNICAL CONSTRAINTS IN COAL MINING AT ENUGU AREA OF NIGERIA</td>
<td>237</td>
</tr>
<tr>
<td>J. Fides, M. Varga</td>
<td>HYDROGEOLOGY OF THE DOLINA MINE BROWN COAL DEPOSIT AT VELKÝ KRČIŠ</td>
<td>251</td>
</tr>
<tr>
<td>Ce Liangtao, Gao Honglie</td>
<td>BASIC HYDROGEOLOGICAL CHARACTERISTICS OF THE COAL DEPOSITS IN CHINA</td>
<td>265</td>
</tr>
<tr>
<td>J. Hanzlík</td>
<td>HYDROGEOLOGY AND GEOTECHNICAL SAFETY OF AN OPENCAST MINE IN THE NORTH BOHEMIAN BROWN COAL BASIN</td>
<td>275</td>
</tr>
</tbody>
</table>
E. Hufová, J. Tylčer  
HYDROGEOLOGICAL DIVISION OF THE CZECHOSLOVAK PART OF THE UPPER SILESIAN COAL BASIN ................................. 283

M. Jeney R. Jambrick  
HYDROGEOLOGY OF AN OPEN PIT MINE IN HUNGARY ............. 291

Z. Ježerský  
CHEMICAL COMPOSITION OF GROUNDWATER IN THE FORELAND OF THE ČE- SKOSLOVENSKA ARMADA OPEN PIT LIGNITE MINE (NORTH BOHEMIA) ... 303

J. Libicki, Z. Wilk  
HYDROGEOLOGICAL CRITERIA OF LIGNITE BASINS DEVELOPMENT IN PO- LAND .......................................................... 319

A. Majka-Smużkiewicz, A. F. Adamczyk  
THE HYDROGEOCHEMICAL ZONES OF THE CARBONIFEROUS FORMATIONS OF THE K-1 MINE IN RELATION TO THE REGIONAL HYDROGEOLOGICAL SUR- VENYING OF THE LUBLIN COAL BASIN (LCB) ................... 329

T. Nałęcki  
HYDROGEOLOGICAL CONDITIONS OF SMALL BROWN COAL STRATA DEPOSI- TION ................................................................. 343

T. Nałęcki  
WATER-BEARING CAPACITY OF THE ŚWIERKLANIEC BEDS IN BYTOM SYN- CLINE AREA ......................................................... 351

E. Posyłek  
HYDROGEOLOGICAL CHARACTERISTICS OF THE LOWER SILESIAN COAL BA- SIN ............................................................ 357

M. Rogoź, A. Różkowski, Z. Wilk  
HYDROGEOLOGIC PROBLEMS IN THE UPPER SILESIAN COAL BASIN ..... 365

A. Różkowski, Z. Wilk  
HYDROGEOLOGY OF THE LUBLIN COAL BASIN ...................... 383

I. P. Trofimuk, B. M. Shenkman  
HYDROGEOCHEMISTRY OF THE IRKUTSK BASIN AND QUALITY OF COAL .. 403

Vu Ngọc Ky  
HYDROGEOLOGICAL CONDITIONS IN THE MAIN COAL BASINS OF VIETNAM 415

Wang Youyu  
THE KARSTIC SINKING-COLUMNS IN PERMO-CARBONIFEROUS COAL FIELDS OF NORTH CHINA ........................................... 421

Zhu Dizhi  
CONTROL OF STRUCTURES ON VERTICAL REPLENISHMENT OF GROUNDWATER IN FOURTH MINE ........................................ 429

III. FORECASTING METHODS OF HYDROGEOLOGICAL PROCESSES EFFECTED BY COAL MINING

Z. Burzyński, L. Jarodzki  
IDENTIFICATION OF HYDROGEOLOGICAL PARAMETERS FOR MODELLING OF A LIGNITE BASIN (WITH DRMNO LIGNITE FIELD AS AN EXAMPLE) ..... 447
P. Millert, J. Tesch
A METHOD TO FORECAST THE CONCENTRATION OF SALT IN WATER DRAINED OFF DEEP OPEN-CUT MINES ........................................... 457

P. Norton
LATEST METHODS OF PREDICTION AND PREVENTION OF THE HYDROGEOLOGICAL IMPACT OF COAL MINING IN THE U.K. ...................... 467

N. S. Robins, M. A. E. Browne
THE MODELLING OF GROUNDWATER FLOW PATTERNS IN THE UPPER PALAEZOIC COAL BASINS OF THE MIDLAND VALLEY OF SCOTLAND .... 477

A. Schmieder, Z. Kessetl, G. Szilágyi, P. Gerber, A. Harsányi R. Jáki
THE METHODOLOGY OF FORECASTING THE KARSTIC WATER INBRUSHES FROM THE ROOF UNDER SPECIAL CONDITIONS .................. 485

IV. CHANGES OF HYDROGEOLOGICAL CONDITIONS RESULTING FROM COAL MINING

V. M. Bankovskaya
CHANGES IN UNDERGROUND WATER REGIME AT AREAS OF THE USSR COAL MINING ENTERPRISES IMPACT ..................................... 503

J. Kuszneruk, L. Seweryn
REGIONAL CHANGES OF HYDROGEOLOGICAL CONDITIONS EFFECTED BY DEWATERING OF BELCHATÓW LIGNITE OPEN PIT ...................... 509

J. Libicki
HYDROGEOLOGICAL CONDITIONS OF LIGNITE BASINS IN POLAND AND THEIR CHANGES CAUSED BY DEWATERING OF OPEN PITS .......... 525

M. Makusa, M. Suchova
NOVÁKY COAL DEPOSIT AND ITS RELATION TO BOJNICE THERMAL WATERS ......................................................................................... 537

J. Moravec
RELATION BETWEEN THE HYDROLOGICAL REGIME OF A SPOIL BANK AND CHEMISTRY OF GROUNDWATERS IN THE NORTH-BOHEMIAN BROWN-COAL BASIN ......................................................................................... 545

M. Rogoź, E. Staśzewski, Z. Wilk
IMPACT OF MINING ACTIVITIES UPON THE AQUATIC ENVIRONMENT WITHIN THE UPPER SILESIAN COAL BASIN (USCB) ............... 553

M. Rogoź, K. Zarębski
FORECASTED CHANGES IN HYDROGEOLOGIC CONDITIONS AT THE LUBLIN COAL BASIN ................................................................. 567

R. N. Singh, S. M. Reed
SPATIAL DISPLACEMENTS OF OPENCAST MINE BACKFILL ASSOCIATED WITH GROUNDWATER RECOVERY ................................. 575

J. Tyličer
COEXISTENCE OF THE COAL MINING AND THE MINERAL WATER EXPLOITATION IN THE OSTRAVA-KARVINA MINING DISTRICT .......... 587
W. H. Williamson, L. M. Whitfield
THE EFFECTS OF COAL EXTRACTION ON THE OVERLYING GROUNDWATER REGIME ADJACENT TO CATARACT RESERVOIR, NEAR SYDNEY, AUSTRALIA