

# McElroy Bryan Geological Services

Consulting Geologists since 1970

## CORPORATE PROFILE





# WHO WE ARE

McElroy Bryan Geological Services (MBGS) is a group of professional geologists providing specialist consulting and contracting services to the mining industry within Australia and overseas.

## WHAT WE OFFER

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MBGS provides a reliable quality service to exploration and mining companies and financial institutions through independent JORC resource appraisals, technical reviews, due diligence studies and assessments.

MBGS geologists are experienced in all aspects of coal exploration and technical support from field mapping, design and management of greenfield exploration programs, supervision of drilling

programs and geophysical surveys, coal resource evaluations, feasibility study preparation, through to detailed mine planning geology and production control at mine sites.

Our computer modelling team members are competent in industry leading software packages; including Minex, Vulcan and Minescape; and are specialists at generating comprehensive geological computer models. MBGS' modelling team use their experience to undertake detailed model reviews and audits.

## Fields of expertise include:

- Coal project assessment for due diligence and IPOs
- Technical reviews of coal projects
- Geological computer model development and audits
- Management and field support for exploration programs
- JORC Coal Resource estimation and reporting
- Data review, database construction and maintenance
- Acoustic scanner / televiewer analyses



## EXPERIENCE COUNTS

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The company was established in 1970 and has provided a quality service to the coal and minerals industry since that time.

MBGS has worked extensively in coal basins in Australia and around the world including Asia, South America, North America, Africa, Europe and even Antarctica. MBGS' experience ranges from initial greenfield exploration to supporting large operating mines producing in excess of 30 Mtpa.

Our senior geologists are industry leaders in coal exploration and mining who take great pride in mentoring the company's younger geologists. This allows MBGS to provide successful solutions in all areas of geology. Our objective is to provide our clients with the right result first time every time.



## OUR TEAM

The MBGS team comprises experienced geologists who have particular expertise in exploration and mine development work for open cut and underground mine projects.

MBGS has formed close associations with various engineering, coal quality, geotechnical and geophysical consultant specialists, allowing MBGS to provide integrated services to our clients.



## SAFETY IS PARAMOUNT

The MBGS Safety Management System ensures we meet our primary obligation to protect the health, safety and welfare of our employees and others in the workplace. Senior management is committed to providing a high standard of leadership to constantly reinforce the company's safety culture. They ensure sufficient resources are provided to allow the company to meet its occupational health, safety and rehabilitation objectives and comply with client and legislative

requirements. MBGS recognises each employee's right to a workplace that is, as far as practicable, without risk to their health, safety and welfare. With this right comes the responsibility of each employee to work cooperatively according to company policies, rules and procedures and to have regard for not only their own safety, but the safety of others in the workplace.



# OUR SERVICES

## EXPLORATION & DRILL RIG SUPERVISION

- Exploration design, implementation and management
- Pursuance of WHS and environmental compliance
- Field mapping and remote sensing studies
- Core and chip logging and sampling
- Seam gas desorption testing
- Supervision of geophysical and hydrogeological programs
- Interpretation of downhole geophysical data
- Geological data management and correction



## EXPLORATION PLANNING & MANAGEMENT

- Strategic design of programs to meet client requirements
- Budgeting and scheduling of exploration programs
- Tenement management and statutory reporting requirements
- Tender preparation, evaluation and contractor management
- Management of all aspects of exploration programs
- Concept to Feasibility study geology reporting



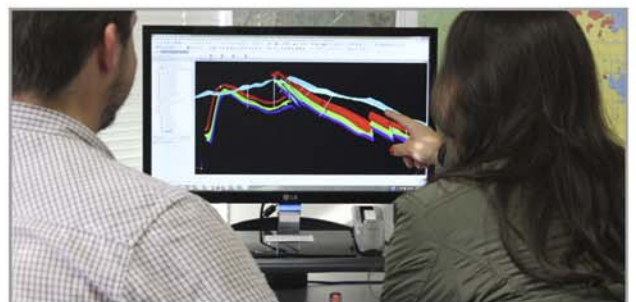
## DATABASE MANAGEMENT & DESKTOP STUDIES

- Database creation, validation and maintenance
- Geology and structural interpretation
- Assessment and utilisation of historical data
- Seam correlation projects
- GIS data management
- High quality data outputs



## COMPUTER MODELLING

- Construction of robust 3D geological models
- Structural interpretation and detailed fault modelling
- Generation of ply models, working section models, coal quality models and block models
- Independent model reviews and audits
- Utilisation of industry leading software, specialising in Minex, Vulcan and Minescape
- Specialising in complex structural areas



## RESOURCE ESTIMATION & REPORTING

- Coal Resource classification and estimation
- Competent Person Reporting in accordance with international reporting codes (JORC, SAMREC and NI43-101)
- Establish systems for corporate governance of resource reporting





## TECHNICAL AUDITS & DUE DILIGENCE

- Review and assessment of relevant technical aspects
- Geological model interrogation
- Checks on database and model veracity
- Review of Coal Resources
- Suitability of existing information to support business plans
- Identification of key project drivers and issues



## STRATEGIC ADVICE

- High level advice to senior management
- Technical review and evaluation of coal projects
- Exploration asset review
- Mergers and acquisition support
- Stock exchange listing/IPO documents
- Life of asset plans



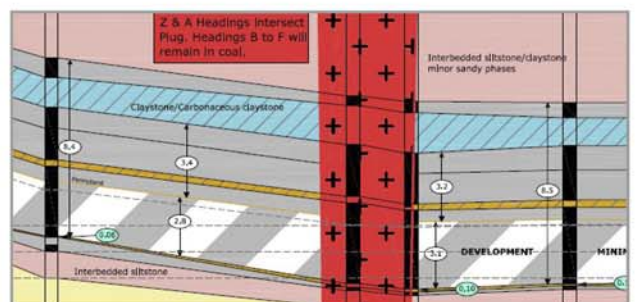
## MINE GEOLOGY SERVICES

- Supervision of pre-development exploration
- Underground mine mapping
- Longwall and gate road geological hazard assessment
- Optimisation of longwall resource extraction
- Grade control and in-pit mark-up
- Geological hazard and mining plans



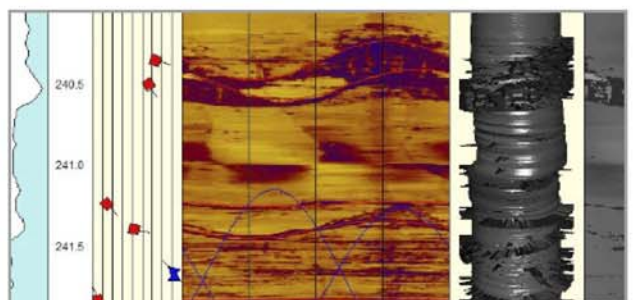
## GIS & GEOLOGICAL GRAPHIC DESIGN

- Specialist knowledge in GIS software
- Development of GIS databases
- Georeferencing and heads-up digitising
- Data manipulation for geological models
- Generation of refined maps, plans and text figures



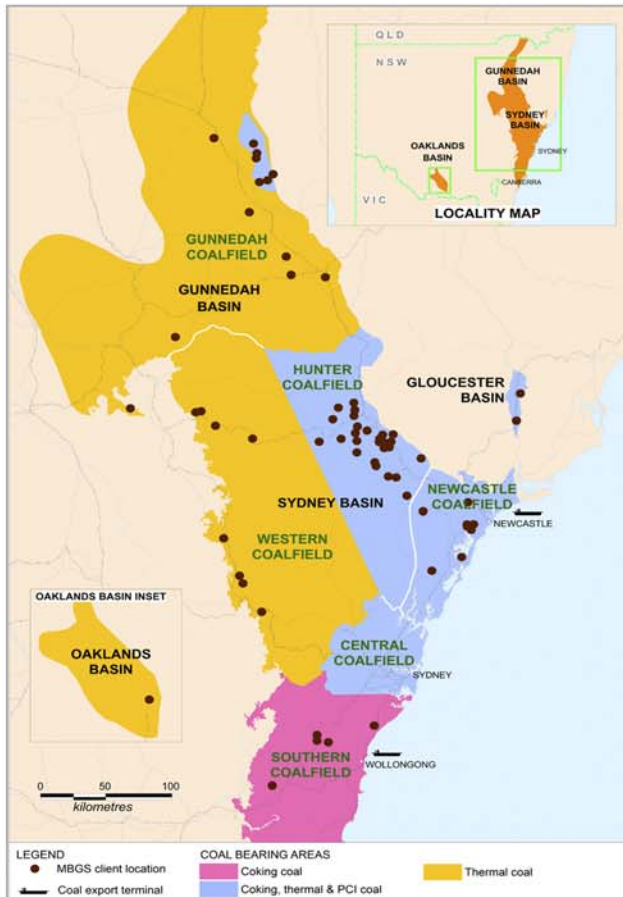
## ACOUSTIC SCANNER / TELEVIEWER & SONIC LOG ANALYSES

- ASIMS is a joint initiative between Seedsman Geotechnical Pty Ltd and MBSGS providing geological and geotechnical data from downhole geophysical logs
- Acoustic scanner interpretation for orientation of principal stress
- Sonic log analysis for strength and massive unit data
- Applications for pit wall stability, optimal longwall orientation, roof and rib support, managing the floor, panel widths and subsidence

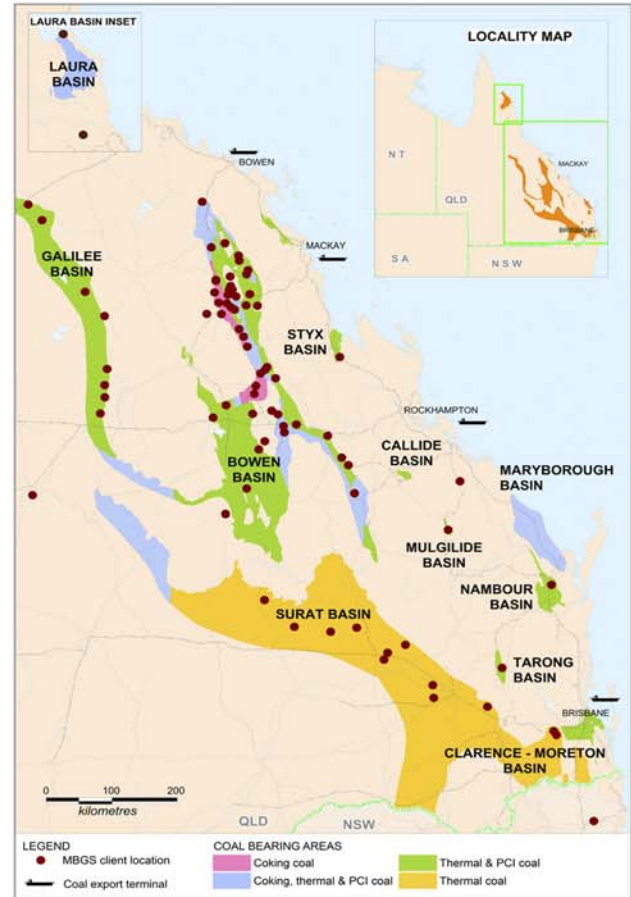


# OUR EXPERIENCE: AUSTRALIA & INTERNATIONAL

## NEW SOUTH WALES COAL BASINS



## QUEENSLAND COAL BASINS



### NEW SOUTH WALES

- Sydney Basin
- Newcastle Coalfield
- Southern Coalfield
- Western Coalfield
- Gunnedah Coalfield
- Gloucester Coalfield
- Oaklands Basin

### QUEENSLAND

- Bowen Basin
- Galilee Basin
- Eromanga Basin
- Surat Basin
- Tarong Basin
- Maryborough Basin
- West Moreton Coalfield

### SOUTH AUSTRALIA

- Arckaringa Basin
- Eucla Basin

### TASMANIA

- Fingal Coalfield

### WESTERN AUSTRALIA

- Collie Basin
- Perth Basin
- Eneabba
- Canning Basin

### AUSTRALIAN CLIENTS

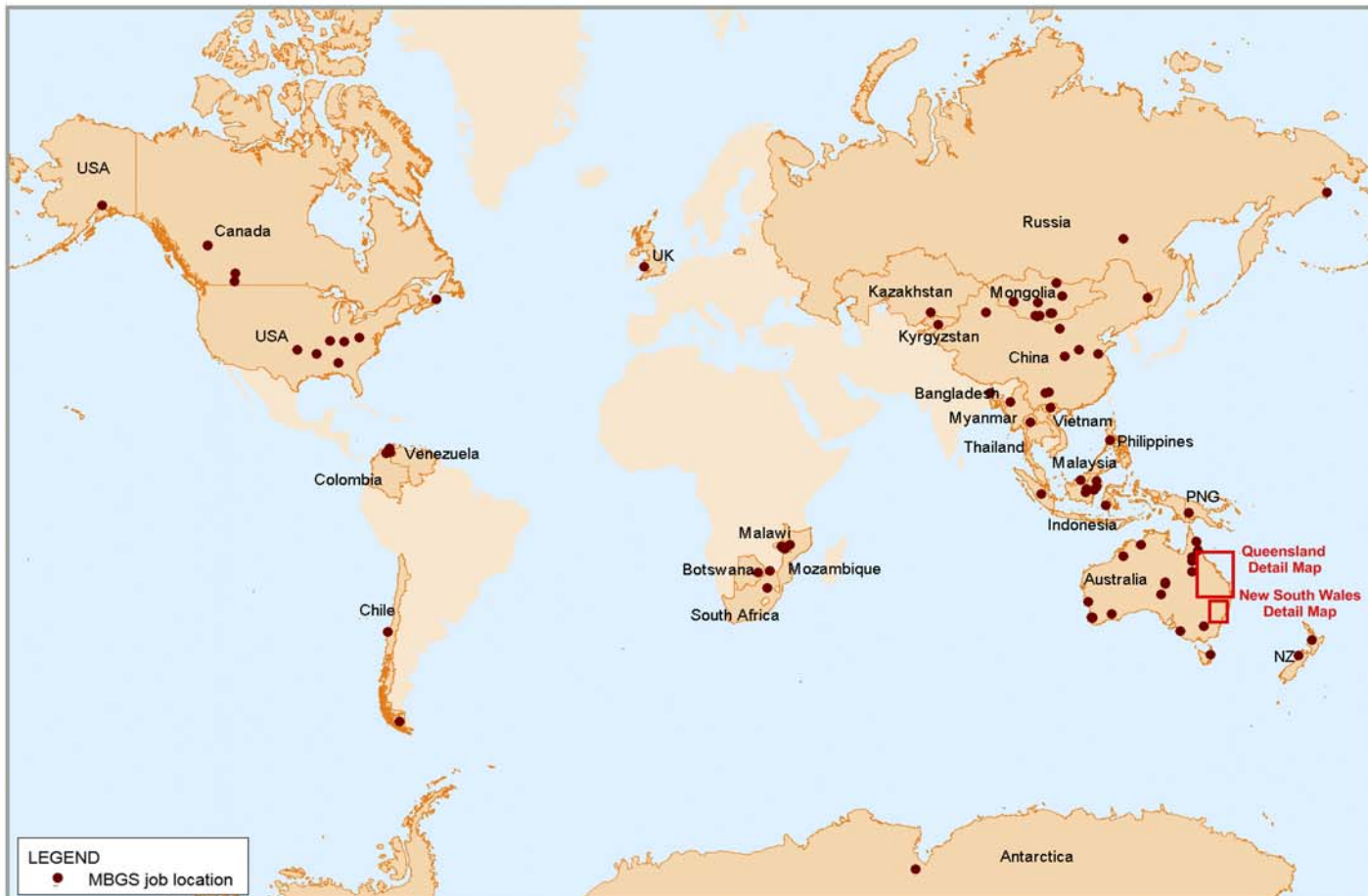
- Acacia Coal
- Anglo Coal
- Aston Resources
- Astar Coal Mine
- Bengalla
- BHP Billiton
- Blair Athol Coal
- Bulga Coal Management
- Burton Coal
- Capricorn Coal Management

- Centennial Coal Company
- Central Pacific Minerals
- Coalbank
- Coal Operations Australia
- Cobbora Holding Company
- Cook Resource Mining
- Dartbrook Coal
- Department of Mineral Resources, NSW
- Department of Natural Resources and Mines, QLD
- Fortescue Metals Group
- Glencore/Xstrata Coal
- Glencore
- Gloucester Coal
- Hunter Valley Coal Corporation
- Korea Resources Corporation
- Macmines Austasia

- Mount Kellett Capital
- Mt Arthur Coal
- Newlands Coal
- Noble Energy
- Oaky Creek Coal
- Pacific Coal
- Peabody Australia
- Rio Tinto Coal
- Rey Resources
- Rolleston Coal
- Saddlers Coal
- SK Networks
- Sirona Capital
- Sumisho Coal Australia
- Tiaro Coal
- UBS AG
- Ulan Coal Mines
- United Collieries
- Wambo Mining Corporation
- Winsway
- Whitehaven Coal
- Yancoal



## GLOBAL EXPOSURE



### COUNTRY/REGION

#### AFRICA

- Mozambique
- Malawi
- South Africa
- Botswana

#### BANGLADESH

#### CANADA

- Ontario
- British Columbia
- Alberta
- Nova Scotia

#### CHINA

- Shandong Province
- Heilongjiang Province
- Shanxi Province
- Shaanxi Province
- Guizhou Province
- Yunnan Province

#### COLOMBIA

- Calenturitas
- Cerrejon
- La Jagua
- Santander
- Norte de Santander

#### INDONESIA

- Kalimantan
- Sulawesi
- Sumatra

#### KYRGYZSTAN

#### MALAYSIA

- Sarawak

#### MONGOLIA

- Bayanhongor Province
- Khuvsgul Province
- Omnugobi Province
- Selenge Province

#### MYANMAR

#### NEW ZEALAND

#### PAPUA NEW GUINEA

#### PHILIPPINES

#### THAILAND

#### UNITED STATES

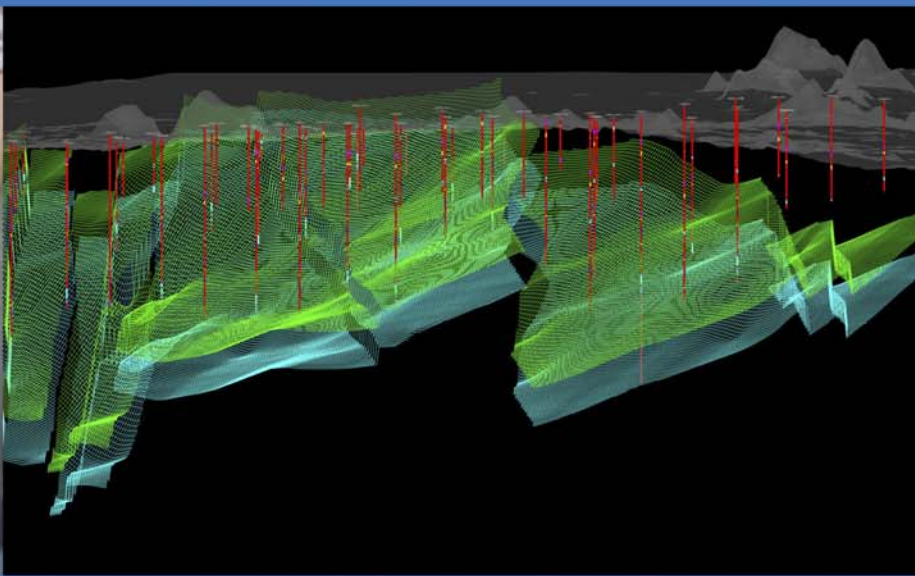
#### VIETNAM

#### RUSSIA

#### VENEZUELA

#### INTERNATIONAL CLIENTS

- Asmin Koalindo Tuhup, Indonesia
- Coal of Africa, South Africa
- Draig Resources, Mongolia
- Cerrejon Coal, Colombia
- Eurasian Natural Resource Corporation, Mozambique
- Glencore
- Gobi Coal and Energy, Mongolia
- Golden Cross, Mongolia
- Guildford Coal, Mongolia
- Hunnu Coal, Mongolia
- Kaltim Prima Coal, Indonesia
- Kuok Group, Hong Kong
- Minarco
- Noble Energy
- Prodeco, Colombia
- QDX, Mongolia
- Riversdale Mining, Mozambique
- Riversdale Resources, Alaska and Canada
- Solid Energy, New Zealand
- South Gobi Energy Resources, Mongolia
- Tigers Realm Minerals, Russia
- Xanadu Mining, Mongolia



[www.mbgs.com.au](http://www.mbgs.com.au)

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