

# Overview

NRM Consulting is an internationally recognised consultant group widely involved in Indonesia and around the world in exploration, mining & investment in coal project to provide SPECIALIST TECHNICAL SERVICES TO THE INDONESIAN COAL INDUSTRY. We are fully staffed to be able to handle all coal jobs, large and small, from exploration to mine development (including project Due Diligence, JORC CODE (2012) Statements, VALMIN (2015), KCMI (2017), Independent Technical Reviews, and Pre-Feasibility Studies). NRM Consulting is often called upon to prepare reports for financial institutions and support technical advisory, including Mine Mouth Coal Fired Power Plant to the Indonesian Government power utility. The NRM mining consultancy based in Jakarta, Indonesia.

Our teams of Indonesian consultants are all qualified geologists and mining engineers having “hands on” experience in major mining and consultancy companies in Indonesia. We are proud to stand by our motto of “TECHNICAL EXCELLENCE” and constantly strive to deliver on time and on budget. We look forward to continue working with our current Clients and introducing NRM to our future Clients. NRM’s Principal Consultant, Bill Park has more than 43 years in the coal industry including senior technical and management positions in Indonesia over the past 25 years and well known in financial companies, while our Principal Associate Consultants, Chris Spiliopoulos have a further combined 29 years’ experience in Indonesia.

Our emphasis is on technical excellence and professional outcomes that benefit the client.



## COMPANY PROFILE

### Services

#### 1. Geology

- Review of proposed exploration programs including exploration mapping, multi-stage drilling programs, coal quality, survey, and geotechnical requirements.
- Review of data collection methodology to ensure that data is to appropriate international standards to meet reporting standards.
- Validation of Client geological database and geological models and geological modeling using Minescape and Minex computer software.

#### 2. Mine Planning

- Review of Client short, medium and long term mine plans and proposed mining fleet.
- Preparation of mine plans using appropriate software (Minescape/ Minex).
- Review of economic assumptions (cost and revenue) used in the determination of Client pit limits and pit optimization.
- Mine production scheduling including waste haulage and dumping.
- Reporting of coal and waste production quantities and preparation of stage plans at appropriate intervals to illustrate the mining and dumping sequence.

#### 3. Independent Technical Review, JORC CODE (2012) Resource & Reserve, VALMIN (2015), KCMI (2017)

- Preparation of Corporate technical report requirements to stock exchanges, potential third party investors or financial institutions. (IDX, IQPR SGX, ASX)
- Preparation of independent JORC Code (2012) compliant Coal Resource and Reserve Statements.
- Preparation of Independent Technical Review and Due Diligence reports.
- Preparation of independent JORC Code (2012) compliant for PT PLN's IPP (Independent Power Producer) or MMPP (Mine Mouth Power Plant)

#### 4. Mine Infrastructure

- Analyze the type of major and minor infrastructure in open pit mining such as hauling road, offices, workshop, camp, fuel storage, communication, Coal Processing & Handling (CPP).
- Determine the detail information of infrastructure such as location, capacity, capital expenditure (CAPEX), and operating cost.

#### 5. Mine Operations

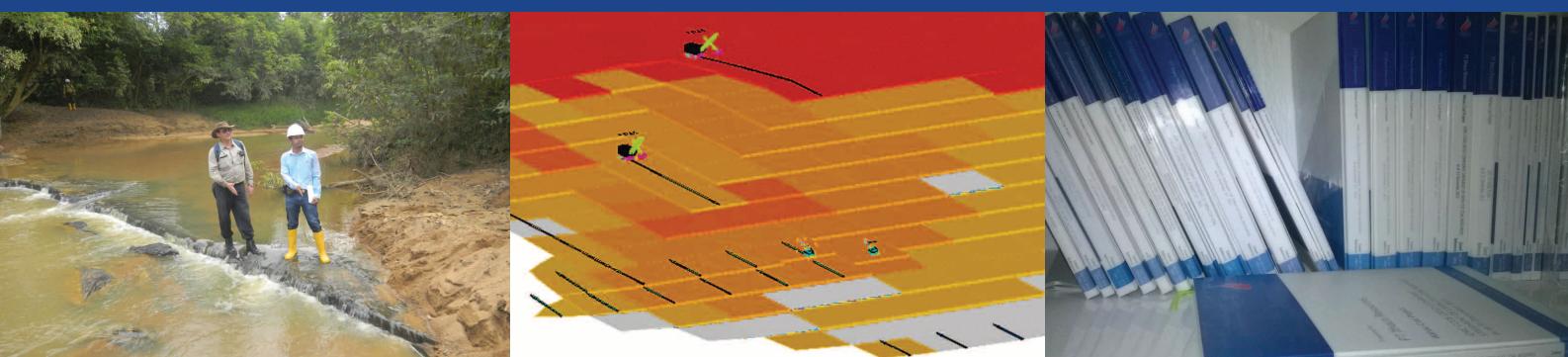
- Mine visits and discussions with key Client and contractor personnel.
- Review of contractor performance in relation to Client mine schedules.
- Review of technical standards to include geology, mine planning, coal quality control, water management, waste dumping and rehabilitation.

#### 6. Mining Economics

- Cost analysis from Pit to Shipment which will include detailed build-up of: Total mining costs (including equipment selection); Coal transportation costs (truck, train, and barge); Coal processing & handling costs; Coal trans-shipment costs.
- Calculate cash flow with major economics parameter such as Net Present Value (NPV), Internal rate of Return (IRR), Payback period (PBP), and analyze profitability.
- Analysis of uncertainties and major risk including sensitivity chart of cash flow parameters.

#### 7. Mining Computer Software

NRM has capability in the following computer software used in the coal mining industry such as Ventyx (Mincom) Minescape, 3DS GEOVIA (Gem com) Minex, ALT WellCAD, ESRI ArcGIS, and Adobe Creative Suite design packages.



### PT NEW RESOURCE MINE CONSULTING

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**WILLIAM (Bill) PARK – Principal Consultant  
MAIG, MAusIMM (CP), MIAGI, MPerhapi  
BSc (Geology), BEcon, The University of Queensland, Australia**

Bill is based in Jakarta and has over 45 years' experience (the past 27 years in Indonesia) as a Geologist and Manager in open cut coal mining, including project development, mine management, resource and reserve assessment, project due diligence, feasibility studies, and exploration. He has held senior mining positions from Mine Superintendent (PT Kaltim Prima Coal) to General Manager (PT Bahari Cakrawala Sebuku, Noble Coal Indonesia and PT Runge Indonesia). Experience has included projects in Indonesia, Australia, the Philippines and New Zealand. Bill is a member of the AIG and AusIMM and under the Australasian Code for Reporting of Identified Mineral Resources and Reserves (2012 JORC Code), he is considered a Competent Person to validate statements for Coal Resources. He has been signatory to JORC Statements for most major Indonesian coal mine projects. He also a member of Indonesian Association of Geologists (IAGI), and Association of Indonesian Mining Professionals (Perhapi).



**CHRIS SPILOPOULOS - Principal Associate Consultant  
MAusIMM (CP), BE Mining, The University of Queensland, Australia**



Chris is an Australian based Mining Engineer with over 31 years of experience in estimating, contract administration, management, technical and production roles for both owner operator and contractor operations in open cut and underground coal and metalliferous mines. His experience in project development in particular, and the management of cost estimates and technical proposals for mine operations, transport, ports, barging, shipping and associated infrastructure has covered Australia, Indonesia and Africa. Chris has lived and worked in Indonesia for over 15 years.



## Team



**ABDUL GHOFUR – Technical Director (Geology)  
CPI-PHE/ESB, MAusIMM, BE (Geology), Bandung Institute of Technology, Indonesia**

Ghofur has over 15 year of experience in the Indonesian coal mining industry as a Geologist (PT Kaltim Prima Coal, "KPC") and PT Golden Energy Mines) and as a consultant (PT Straits Consultancy Services and PT Runge Indonesia). His specific areas of expertise include management of exploration programs, geological modelling, coal quality, resource assessments and due diligence of numerous Indonesian coal mining companies. He also has over 1 year experience in the Indonesian Oil & Gas industry as an Operation Geologist (Total E&P Indonesia). **MX**



**ABDUL HADI R – Project Manager (Mining)  
MPerhapi, MAusIMM, BE (Mining), Bandung Institute of Technology, Indonesia**

Hadi has over 12 years of experience in the Indonesian coal mining industry, and has worked with a number of major coal companies (KPC and PT Sinarmas Mining & Energy). His specific area of expertise include long, medium and short time mine planning, pit optimisation, dump design, mining equipment selection and fleet analysis, operating cost analysis and reserve estimation. **MX|TP**



**ALMU'MIN SYARIF – Project Manager (Mining)  
CPI-ECB, IPM, MPerhapi, MAusIMM, BE (Mining), Universitas Sriwijaya, Palembang, Indonesia**

Almu has over 14 years of experience in the Indonesian coal mining industry, and has worked with a number of major coal companies (Leighton, KPC and PTRI). He also has overseas job experience with a major Australian coal company (Griffin Coal - NSW). His specific areas of expertise include long and short term mine planning, pit optimisation, dump design, mining equipment selection and fleet analysis, operating cost analysis and reserve estimation. **MX|XP|TP**

**ONY EKO YUSANTO – Project Manager (Geology)  
MPerhapi, MAusIMM, BE (Geology), Universitas Pembangunan Nasional, Yogyakarta, Indonesia**

Ony has 17 years of experience in the coal mining industry in Indonesia as a Geologist (PT Banpu, PTRI). He also has overseas job experience with a major Vietnam coal company (Vietmindo). His specific areas of expertise include management of exploration program management, geological modelling and resource assessments. **MS|CAD|RW**



**YANA PERMANA – Project Manager (Mining)  
MAusIMM, BE (Mining), Bandung Institute of Technology, Indonesia**

Yana has over 14 years of experience in the Indonesian coal mining industry, and has worked with a number of major coal companies (KPC and PTRI). His specific areas of expertise include long and short term mine planning, pit optimisation, dump design, mining equipment selection and fleet analysis, operating cost analysis and reserve estimation. **MX|TP**



**KURNIA WIJAYA - GIS Manager and IT BSc (Geography), University of Indonesia, Jakarta, Indonesia**

Kurnia has over 17 years of experience in the Indonesian consulting company. He has held senior position with EarthLine as GIS Specialist and Manager, more recently as a Senior Draftsman with Runge. His specific areas of expertise include GIS mapping management, cartography, drawing design for variety of technical reports, IT and network administrator. **GIS|ACS|MX**



### Software Capabilities

**MS** : Minescape

**MX** : Minex

**ACS** : Adobe Creative Suite

**GIS** : Geographic Information System

**XP** : XPAC **TP** : TALPAC **XE** : XERAS

**RW** : Rockware

**MI** : MapInfo

**CAD** : AutoCAD



### Business Registration

**NRM Mining Service License Number : 10/1/IUJP/PMA/2018**