

# Nickel Ore Capability

**January 2021**

SMGC places exceptional value on clients, employees, and technical leadership



# Why SMGC ?

- **Nickel Experience Overview**

- SMGC has extensive experience working in Nickel. SMGC is presently working with two nickel clients ranging from exploration through to supply to potential and existing process facilities. Since the ban has been in place previously exporting mines are now changing their focus to building process plants or to supplying ore to a process plant. For some this is a challenge as previous QA/QC data collected was collated for the purpose of ore extraction and export, but not for the level of detail required to produce a JORC Code 2012 Resource and Reserves Statement, and therefore to the level of detail required to support the data needed for supply a process plant or smelter.

## **Recent SMGC Nickel Projects**

- PT Stargate
- PT Bumi Modern – Concession 1
- PT Bumi Modern – Concession 2
- PT ASP
- PT Weda Bay Nickel
- Victory West
- POSCO
- PT Asia Nickel Resources
- PT Solway
- PT Omega Resources
- PT Vale Indonesia
- PT Silk Road Nickel
- PT Asera

- **Mining Services Licence**

- **KEPUTUSAN MENTERI ENRGI DAN SUMBER DAYA MINERAL**

- **NOMOR: 4/I/IUJP/PMA/2016**



## Identifying Nickel Ore Concession Investment Opportunities

- Geographical Information System Reviews
- Initial Review
- Concession Reviews
- Due Diligence

## SMGC Nickel Ore Services

- Mapping / Exploration
- Standard Operating Procedures for QA/QC
- JORC Resource and Reserves
- KCMI Resource and Reserves
- Life of Mine Planning
- Process Plant Studies
- Environmental and Geotechnical Studies



## Uniform Conditioning for JORC Resource Modelling

- **Uniform Conditioning** is a process that has the potential benefit of increasing recoverable ore grade tonnages by increased visualisation and interpretation on a block by block basis. This has additional benefits when ore grade is set to a confined range. Block size review is reduced to a selected minable unit (SMU) allowing for a greater degree of accuracy and therefore not allowing higher grade ore to be lost in standard block averaging.

### **Process - Uniform Conditioning and JORC Resources**

- Generate a geological model
- Additional interpretation of the geological model using Uniform Conditioning
- Re-calculate the geological Resource
- Prepare a JORC Resource Statement



# PT. SMG Consultants - Services

## MINING ENGINEERING

### DATA COLLECTION

### OPTIMISATION

### GEOLOGICAL SERVICES

### VALUATIONS

### DUE DILIGENCE

### JORC/N143-101

### FEASIBILITY STUDIES

### KCMI

## MINE PERFORMANCE IMPROVEMENT



# Additional Services

- Site based planning and operational supervision
- Mine design and scheduling
- Due diligence studies
- Feasibility studies
- GIS services
- Turnaround Management of Existing Operations
- Infrastructure Consulting Services
- Metallurgy Consulting Services (Mineral Ore Processing)



# Mineral Concession Sourcing Options

- There is no “One size fits all”
- The decision requires a thorough understanding of the purchasers business drivers
- The decision is not simple and implications profound
- A structured process can guide to the best mix of solutions
- Establish Clients acquisition criteria
- GIS Search based on clients supply criteria
- High Level Concession Filter (based on criteria)



# Assisting our clients in Metals

## SMGC's Skill Set - Meeting Existing Market Conditions

- Turnaround of Distressed Assets
- Valuations
- Identifying Hidden Development Opportunities in Concession Portfolios
- Adding Value and NPV to Existing Mining Operations
- In Association with Whittle Consulting
- Find the Money and Deliver the Money

**KEPUTUSAN MENTERI ENRGI DAN SUMBER DAYA MINERAL  
NOMOR: 4/I/IUJP/PMA/2016**



# Reporting Codes

- JORC
- VALMIN
- KCMi
- NI-43101

~ The VALMIN Code ~  
2005 Edition



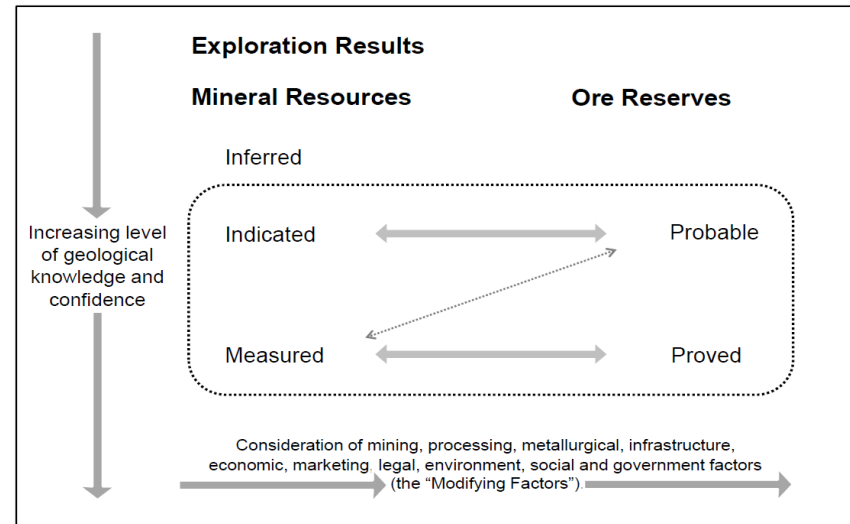
**AusIMM**  
AUSTRALASIAN INSTITUTE OF MINING & METALLURGY



**PERHAPI**  
PERHIMPUNAN AHLI PERTAMBANGAN INDONESIA  
ASSOCIATION OF INDOONESIAN MINING PROFESSIONALS

KODE PELAPORAN HASIL EKSPLORASI, SUMBERDAYA  
MINERAL DAN CADANGAN BIJIH INDONESIA  
KOMITE CADANGAN MINERAL INDONESIA

**Kode-KCMI 2011**



**NATIONAL INSTRUMENT 43-101**  
**STANDARDS OF DISCLOSURE FOR MINERAL PROJECTS**



# Nickel Ore Principal Consultants

- **Principal Geologist and Engineer:** Keith Whitchurch (JORC / KCMI - CPI Exploration, Resource and Reserves Estimation for Lateritic Ores)
- **Principal Engineer:** Ruth Sitorus (JORC / KCMI - CPI Reserves Estimation for Lateritic Ores)
- **Principal Geologist:** Bambang Widodo (JORC / KCMI CPI – Exploration and Resource Estimation for Lateritic Ores)



# Selection of Indonesian Clients

Aries Capital Partners, Credit Suisse, East Asia Minerals Corp, Essar Group, Essar Mineral Holdings Ltd (Mauritius), Geo Energy Resources Ltd, Korean Western Power Co. Ltd, Macquarie Capital (Singapore) Pte Ltd, Peabody Energy, PT Adimas Puspita Serasi, PT Ancora Indonesia Resources Tbk, PT Asmin Koalindo Tuhup, PT Asmin Koalindo Tuhup/CIMB Niaga, PT Astan Raya, PT Bima Feroindo, PT Borneo Indobara/Sinarmas, PT Borneo Prima Coal Indonesia, PT Borneo Tiga Mandiri, PT Bumi Modern Group, PT Bumi Resources Mineral Tbk, PT Cahaya Duta Fajar, PT China Indonesia Rich, PT Duta Bara Utama, PT Dwi Putra Indo Bara, PT Gandang Garantung Mining, PT Gunungbayan Pratamacoal, PT Griya Sumber Setia, PT Indo Rak Resources, PT Multi Resources Indonesia, PT Indomining, PT Indonesia Coal Development/Churchill Mining, PT Kalimantan Energi Lestari, PT Kapuas Tunggal Persada, PT Mangala Alam Lestari, PT Mamahak Coal Mining, PT Middle East Indonesia, PT Multi Resources Indonesia, PT Nusa Persada Resources, PT Nusantara Thermal Coal Mine, PT Pamapersada Nusantara, PT PLN (Persero) Tbk, PT Polytama Propindo, PT Raya Fortuna Mining, PT Raja Kutai Baru Makmur, PT Renaissance Capital Asia, PT Stargate Pacific Resources, PT Titan Mining Indonesia, PT Toba Bara Sejahtera Tbk, PT Trans Power Indonesia, PT Weda Bay Nickel, PT Wisma Benhil, Sinarmas Energy and Mining Group, Standard Chartered Bank, Straits Corporation Pte Limited, Transpacific Group, Yastra Energy, PT Stargate Resources, PT Omega Ni.



# **SMG Consultants Mining Services License :**

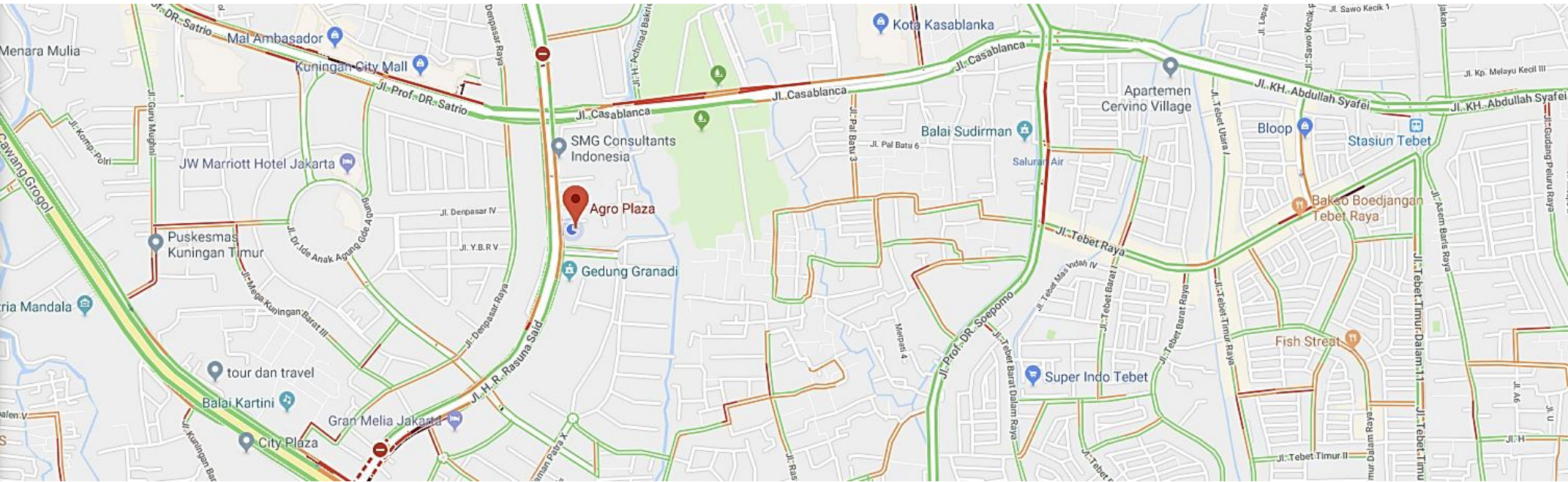
## **NOMOR: 4/I/IUJP/PMA/2016**

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# **Thank You**



# CONTACT



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