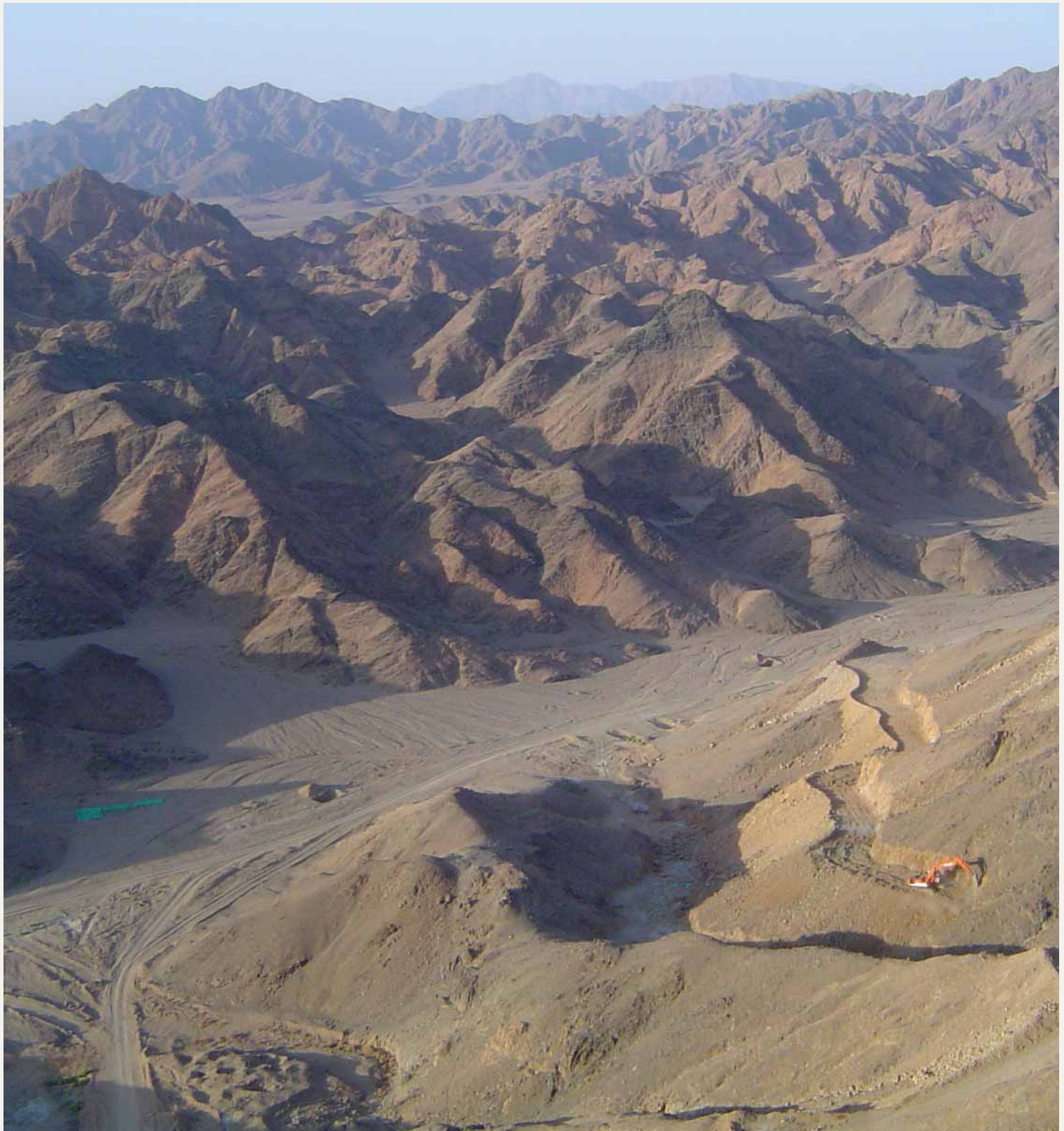


**PARTNER WITH US AND DISCOVER A  
WEALTH OF SPECIALIST EXPERIENCE**





## **OUR VISION**

Global specialists solving emerging challenges to improve the lives of communities.

## **OUR PROMISE**

We share your challenge and passionately deliver smarter solutions.

# ABOUT US

## COFFEY MINING

Around the world, the mining industry faces ongoing challenges to efficiently and responsibly extract resources. From target generation to mine closure, specialist knowledge can promote the sustainable development of mining operations and boost their efficiency, productivity and profitability.

At Coffey Mining, we partner with clients at every stage of the mining lifecycle to understand their challenges and deliver practical, innovative and cost-effective solutions across all commodities. Operational experience in over 70 countries reflects the global reach of our specialist services and products.

Coffey Mining has over 50 years' experience in supplying specialist services to the international mining industry. We provide 'turn-key' consulting and operational support and optimisation services, due diligences, independent reports and a range of technical audits and studies.

Our products range from innovative spatial data management solutions through to leading geotechnical instrumentation and monitoring systems, analytical quality control and hydraulic transport applications.

Featuring some of the best industry specialists, professionally accredited in all mining jurisdictions globally, our team is supported by a network of offices throughout the Americas, Africa, Asia Pacific, Europe and the Middle East.

Coffey Mining is proud of its independence and is recognised by all major international financial institutions, resource funds and securities exchanges. This accreditation ensures that all tasks are performed and completed to accepted international audit standards.

## A PART OF A LEADING GLOBAL PROFESSIONAL SERVICES CONSULTANCY

Coffey International Limited is a specialist professional services consultancy with expertise in geosciences, international development, and project management. With more than 50 years of experience, we are well known in our markets for deep technical skills and market-leading solutions to complex tasks. We are listed on the Australian Securities Exchange (ASX:COF).



## OUR SPECIALITIES

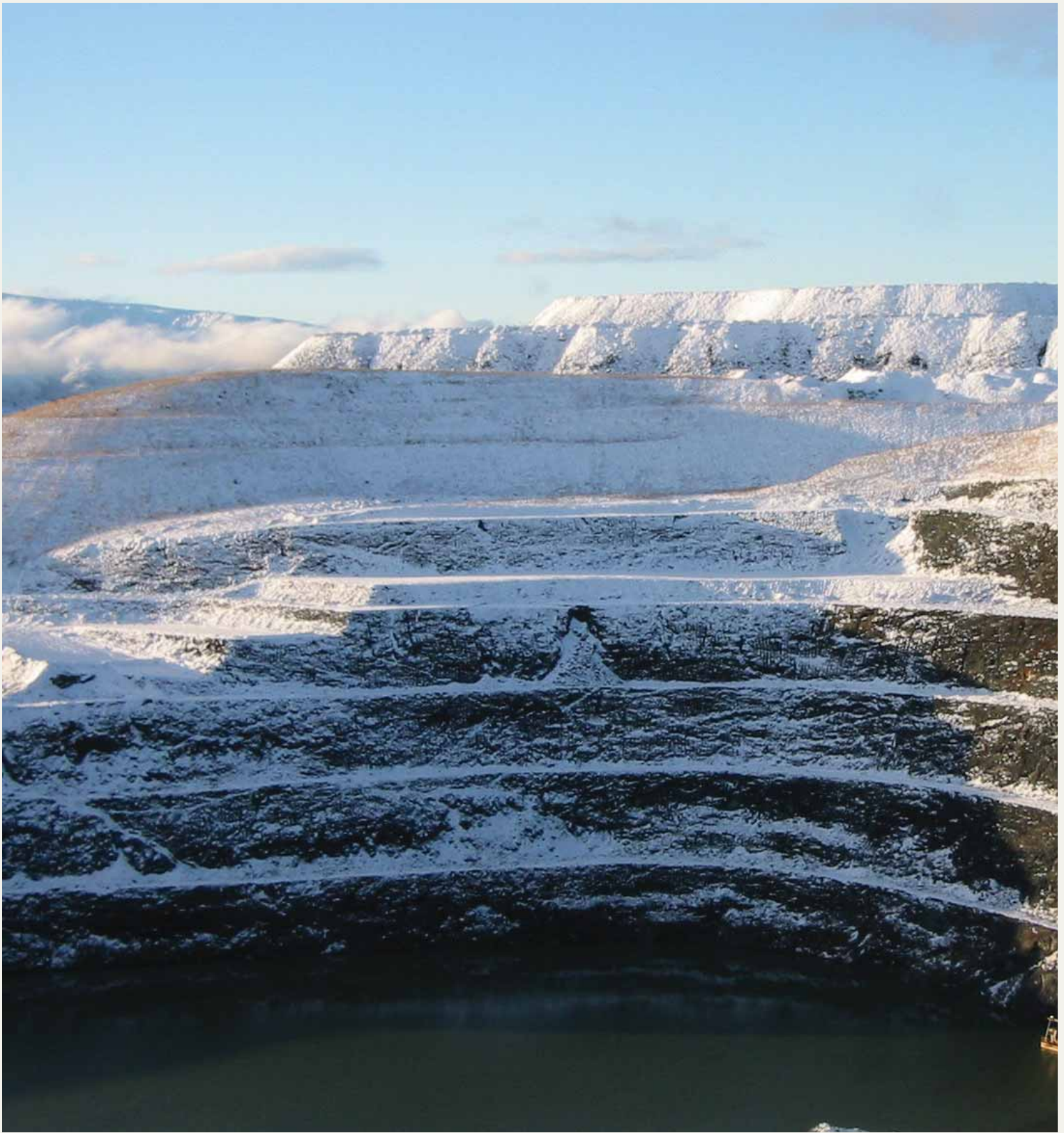
Coffey Mining is one of the few global mining consultancies that offer the full range of mining industry specialities under a single corporate entity.

Clients engage our specialities on a consulting level or as integrated multi-disciplinary teams to complete major studies and audits.

We firmly believe in working with, rather than for, our clients. In many cases, the larger corporate objectives and inherent knowledge our clients bring to a project are a key part of our integrated approach.

- Geology
- Resource Evaluation
- Mining Geotechnics
- Hydrogeology
- Mining Engineering
- Metallurgy
- Tailings Engineering
- Backfill Engineering
- Business Improvement





## OUR SERVICES

The consolidation of all key technical mining industry capabilities' within a single entity uniquely positions Coffey Mining to provide practical operational support, corporate services and studies in a highly integrated and cost-effective manner.

### Studies

- concept studies
- scoping studies
- pre-feasibility studies
- bankable feasibility studies
- due diligence studies
- project optimisation reviews.

### Audit

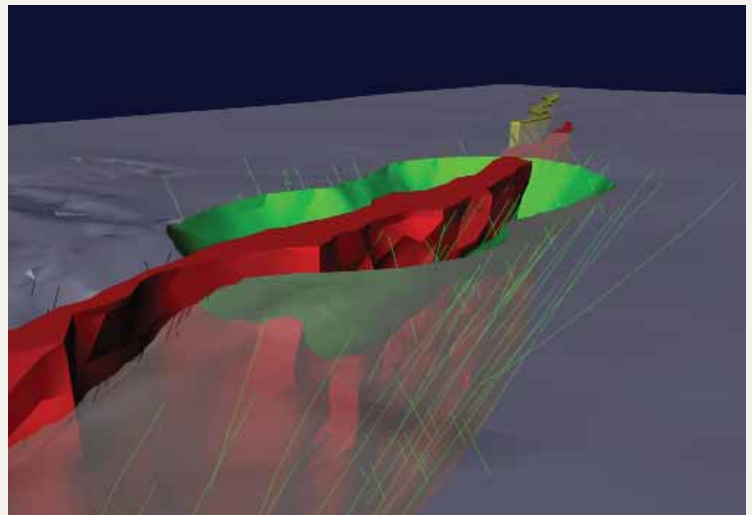
- full technical audits for project financing
- periodic exploration audits
- independent laboratory audits
- analytical quality control audits
- grade control audits
- geotechnical audits
- ground control audits
- mining audits
- process plant audits
- tailings and cyanide audits
- environmental audits
- full reconciliation audits
- project risk assessment and analysis.

### Corporate Services

- preparation of information memoranda
- independent 'expert' reports in all jurisdictions
- listing documents in all international jurisdictions
- technical valuations and 'fair and reasonable' opinions
- takeover documentation and valuations
- cashflow modelling, financial analysis and sensitivity studies
- 'expert witness' technical advice and court appearances
- project acquisition and divestment advice
- advice on joint venture and farm-in strategies
- evaluation of business plans and financing proposals
- corporate and operational management reviews.

### Technical Services

- project, regional and country scale GIS compilations
- data capture, validation and re-formatting services
- technical software development, sales and training involving multiple technical disciplines
- project management software development applications
- expertise in all internationally recognised estimation, optimisation and mine planning software
- training in technical services, software packages and computing applications.



## Exploration Project Management

- planning, implementation and execution of 'greenfields' and 'brownfields' exploration programs
- resource definition drilling program management, guaranteed to audit standard
- implementation of strict data collection procedural systems and analytical protocols
- geotechnical drill planning, implementation, management, logging and interpretation
- provision of logistic, technical, materials and communications support
- customised design of data entry importation, validation and reporting systems
- digital capture and migration of historic datasets
- integrated digital and spatial data management.

## Geochemical Drilling

- fleet of four Landcruiser-mounted Scout 1750 auger rigs available for programs throughout West Africa
- capability of completing regional and project scale open auger drilling programs to a depth of 20 metres
- cost-effective solution to testing beneath transported regolith

## Operational Support

- geotechnical data collection and monitoring
- site resource modelling and estimation secondments
- site grade control modelling, optimisation and reconciliation
- mining, maintenance and supply contract evaluations
- owner-mining implementation management
- periodic pit re-optimisation studies
- mine planning secondments, supervision and management
- mineral process secondments, supervision and management
- tailings management secondment and supervision
- backfill secondments, supervision and management
- environmental monitoring, rehabilitation and closure secondments
- investigations, 'trouble-shooting' and problem resolution
- independent operational management reviews and recommendations.



# OUR SERVICES

## Mine Closure

- environmental closure design and end use planning
- progressive rehabilitation planning, implementation and supervision
- pre-decommissioning environmental and social reviews
- optimisation of materials placement, drainage and re-vegetation
- integrated waste dump and tailings landform designs
- mine decommissioning and closure management
- monitoring and remediation of post-closure environmental standards
- assessment and reporting of relinquishment criteria.

## Mine Seismicity

- verifying mine design
- extraction sequencing
- support selection and design
- delineating the seismogenic zone in caving
- monitoring hydrofracturing
- developing procedural requirements to help create a safe workplace.

Services include:

- system design
- system installation and operation
- data processing and analysis
- data interpretation
- geomechanical and mine design recommendations

## Ground Support Selection

- evaluation of potential failure mechanisms based on a ground condition assessment
- determination of static and dynamic loading conditions
- selection of the most appropriate support elements taking into account support performance, operating life, total installed cost and any site access constraints
- quality control and on-site supervision of support installation
- audits of installed ground support
- monitoring of support performance
- support rehabilitation assessments
- on-site testing of support elements performance.

## Instrumentation & Monitoring

- support optimisation
- model calibration
- hazard control with alarms and telemetry.
- 2D & 3D rock stress measurement
- instrumentation monitoring system design
- supply of geotechnical instruments
- installation of geotechnical instruments
- project management for the installation of geotechnical instruments
- data logging and management
- geotechnical data interpretation



## Hydraulic Transport & Pipe Testing

- backfill, paste backfill and thickened tailings systems design
- shotcrete and concrete design from mine tailings or traditional aggregates
- foamed products and grout development from mine tailings
- closed loop pipeline test work and pipeline design for backfill, paste backfill, concrete, shotcrete and thickened tailings
- in-situ pipeline analysis of flow rates and pressure gradients
- backfill plant design
- in-situ placement or application of backfill or cementitious products, procedures and training
- flowmaster simulations and Caesar stress analysis
- quality control procedures.

## GIS & Remote Sensing

- target definition utilising multi-criteria analysis
- remote sensing applied to mineral exploration
- creation of prospective basis and data management of mineral exploration
- geological data diagnosis, validation and organisation
- planning, processing and analysis of geochemical data
- mine planning support, environmental management and hydro-geological analysis
- mine operation drainage planning
- geotechnical risk analysis support
- specialised consulting and outsourcing.

## Geophysical Services

- Target selection using magnetometry, gamma spectrometry and electromagnetic
- Integration of geological, geophysical and geochemical environments for target selection
- Management and interpretation of magnetic and gravity field programs
- 2D and 3D modeling of magnetic and gravity anomalies
- Reprocessing of aerial and ground geophysical data.



# OUR PRODUCTS

Coffey Mining's products provide clients with innovative solutions to data management, analytical quality control and geotechnical monitoring. These products are specific to the mining industry and can be tailored, installed and supported by specialists in geoinformatics, geotechnical instrumentation and hydraulic transport applications.

## INSTRUMENTATION & MONITORING SYSTEMS

- SMART Cable
- SMART Extensometer
- Convergence Monitors
- Piezometers
- Inclinometers
- Inclinometers
- H.I. Cells

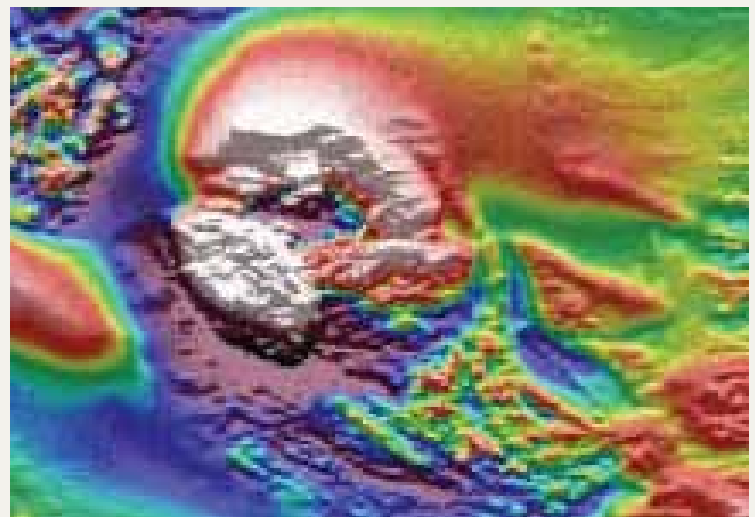
## SOFTWARE

GEOEXPLO Fusion makes possible the integration of mining, environmental and geotechnical datasets, allowing for real time decision making based on key reports and precision maps. Modules currently include:

- Mineral Research
- Geotechnical and Hydrogeology
- Environmental
- Territorial and Mineral Asset Management

Coffey Mining also specialises in the delivery of advanced spatial information solutions, with services including;

- Geoinformatics (GIS and remote sensing)
- Virtual Reality and Geodesy Projects
- GIS Software Factory Management





## CONTACT US

### AUSTRALIA

Brisbane  
Hobart  
Melbourne  
Perth

### BRAZIL

Belo Horizonte  
Salvador  
Sao Paulo

### CANADA

Toronto

### GHANA

Accra

### SOUTH AFRICA

Johannesburg

### ZAMBIA

Lusaka

For a full list of contact details,  
please visit us at [coffey.com](http://coffey.com) or  
email [mining@coffey.com](mailto:mining@coffey.com)

# Discover more about Coffey

Coffey International Limited is a global professional services consultancy focusing on both physical and social infrastructure. We are listed on the Australian Securities Exchange (ASX:COF) and have been operating for over 50 years.



O.R. Tambo International Airport upgrade – Johannesburg, South Africa



Melbourne's Docklands – Australia's largest construction project

## Specialist services from concept to completion

We use specialist knowledge to deliver extraordinary outcomes for our clients across the full lifecycle of a project, from concept to completion.

- Coffey Geotechnics
- Coffey Environments
- Coffey Information
- Coffey Mining
- Coffey Rail
- Coffey International Development
- Coffey Projects

## A world of experience

We have over 3,000 people helping clients on projects in more than 80 countries, with permanent offices throughout the Americas, Africa, Asia Pacific, Europe and the Middle East. All of our people have one thing in common: a passion to solve emerging challenges to improve the lives of communities.

Visit [coffey.com](http://coffey.com) today and find out more about our specialist services



Supporting the Government of Iraq's efforts to rebuild its public management system