GEOFIELD
MINING SERVICES

Company Profile

ABOUT US

Geofield Mining Services (Pty) Ltd is a geological, surveying and mining consulting company registered in Zimbabwe and South Africa. The company offers a wide spectrum of geological, surveying and geotechnical engineering consultancy to mining industry in Africa and beyond.

Geofield Mining Services strives to deliver the projects diligently, independently, timeously and in a cost-effective manner to our clients. The company has diversified and experienced team members that collectively have the skillset and expertise to undertake a wide variety of projects in different terrains.

Our team has many years of experienced in designing, implementation and management of projects of different sizes, from junior to large scale corporations. The team comprises professionals that have been involved in many mining operations, mineral exploration and project evaluations.

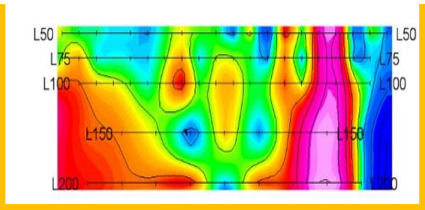
We are guided by professional and statutory requirements which ensures that our work and reporting meets the industry best practices.

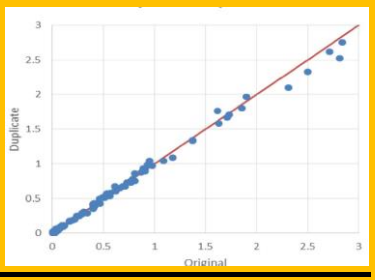
Our Services

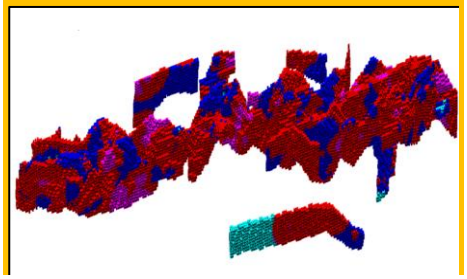
Mineral Exploration and Mineral Resource Management

Geofield Mining Services offers a comprehensive and integrated solutions to mineral exploration, which leads to resource delineation and estimation.

- *Exploration target generation*
- *Exploration programme design & management*
- *GIS data compilation & mapping*
- *Geological mapping*
- *Core logging & sampling*
- *Database design, compilation, review & validation*
- *QAQC systems design, management & auditing*
- *On-shaft exploration projects*
- *Resource management systems*
- *3D geological modelling & wireframing*
- *Mineral resource estimation, audits & due diligence*
- *Manual to digital transformations*
- *Technical reporting*
- *Statistics & geostatistics*
- *Geological & structural analysis*
- *Contract geological services*



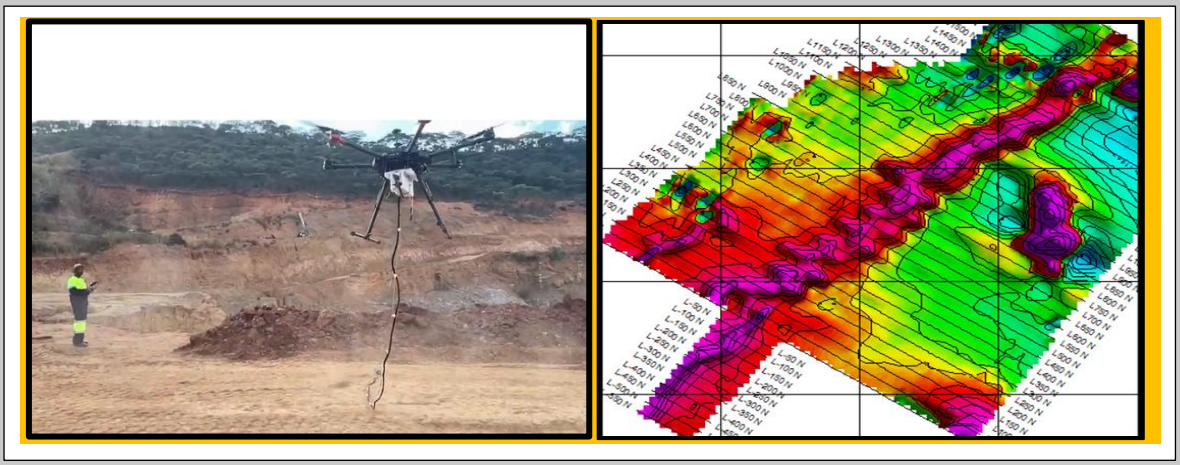




Drone Surveys

Drone Technology is no-longer in the future; it is here today, and we are exploring its unlimited potential in mining. Geofield Mining Services in collaboration with Iron Mask AeroTech has solutions that deliver significant value for mining businesses and various sectors of the global economies. The cost–effective solutions have replaced labour intensive methods of inspection, mapping, exploration and surveying. These solutions include:

- ***Drone magnetic surveys*** *for mineral exploration have proven to be effective in the mapping of possible trends of mineral deposits.*



These insights complement other ground geological and geophysical exploration methods such geological mapping, seismic, ground penetrating radar & induced polarization.

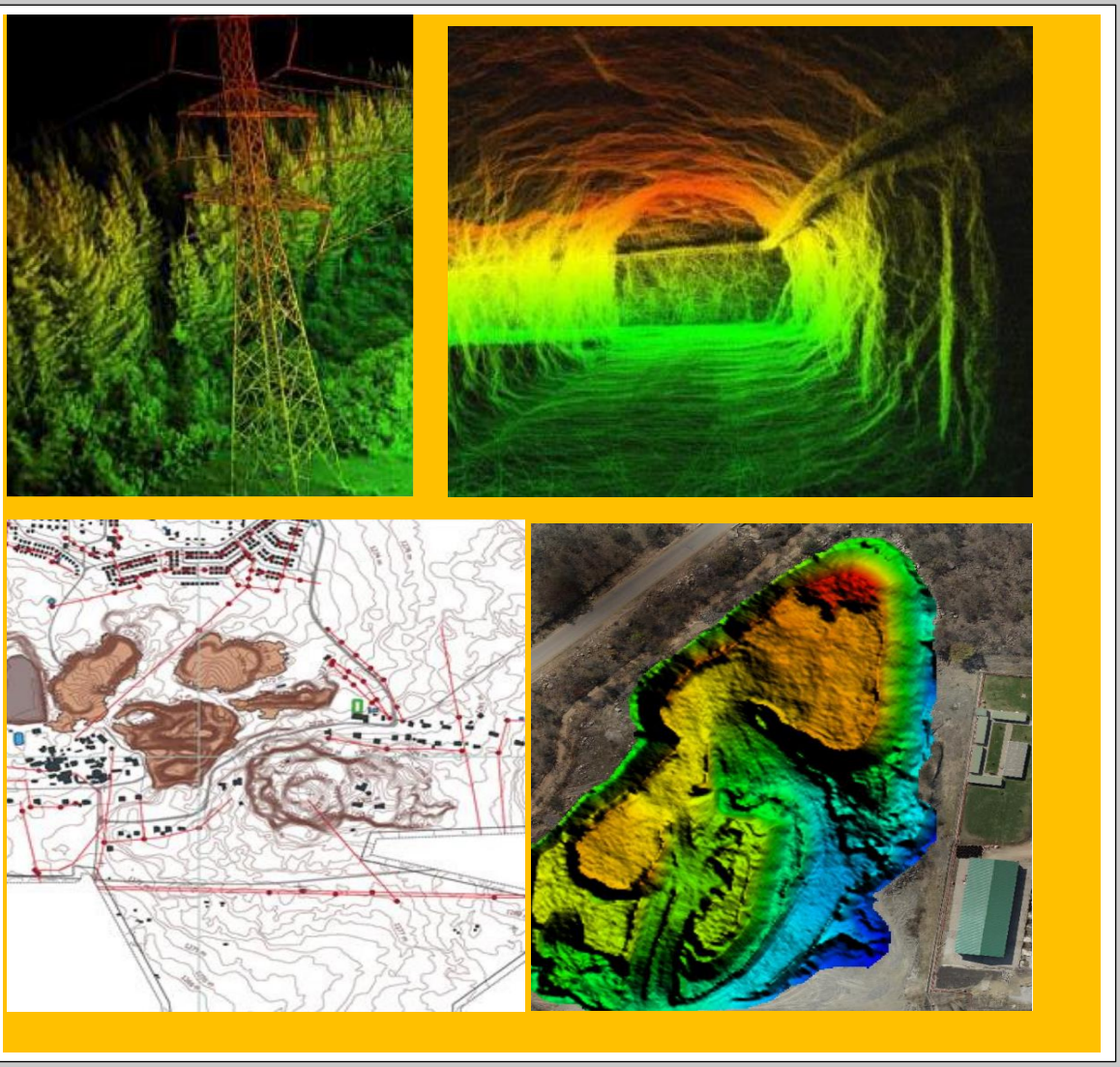
- ***Aerial Surveying & LiDAR Mapping Solution,***
  Low-cost terrain survey for engineering standard topographical mapping, aerial imagery and orthomosaic generation, etc. Depending on scale and project requirements, our team will select the best solution from the different technologies we have available.

  LiDAR's ability to penetrate vegetation is important in the accurate & detailed mapping of densely vegetated areas to generate cartographic standard feature maps and detailed 3D digital terrain models.

- ***Engineering Inspections & 3D Modelling,***
  - ✓ *Stockpile Volumetric & Inventory Management*
  - ✓ *Pre & Post Blast Assessments*
  - ✓ *Digital Twin Surveys & Deformation Monitoring*
  - ✓ *Tunnel & Underground Mapping*

- ✓ *Transmission Towers & Lines Inspections*
- ✓ *Stope Deformation & Stability Assessment*

- ***High Resolution Orthomosaic,***
  Full colour, upto 2cm/pixel ground resolution, measurable and to scale and 2-3 x GSD horizontal accuracy
- ***LiDAR Point Clouds,***
  True colour, less than 5cm Geometric Acuracy, measurable and to scale, 250 points/sq.mtrs
- ***Detailed Topographic Plans,***
  Engineering standard maps defining both natural and man-made structures in the client's area of choice. We produce detailed feature maps, measurable and to-scale with high density points.
- ***Accurate Volumetric Assessment***
  Our stockpile & pit analysis grants you the opportunity to compare your current stockpile with the previous surveys to track site progress. This gives you 100% coverage of surface slope and stability analysis, month reports with detailed change analysis and high positional accuracy.



Geotechnical Engineering

Geofield Mining Services offers the whole spectrum of geotechnical engineering services which encompasses open pit and underground mining to ensure operational safety, stability and efficiency.

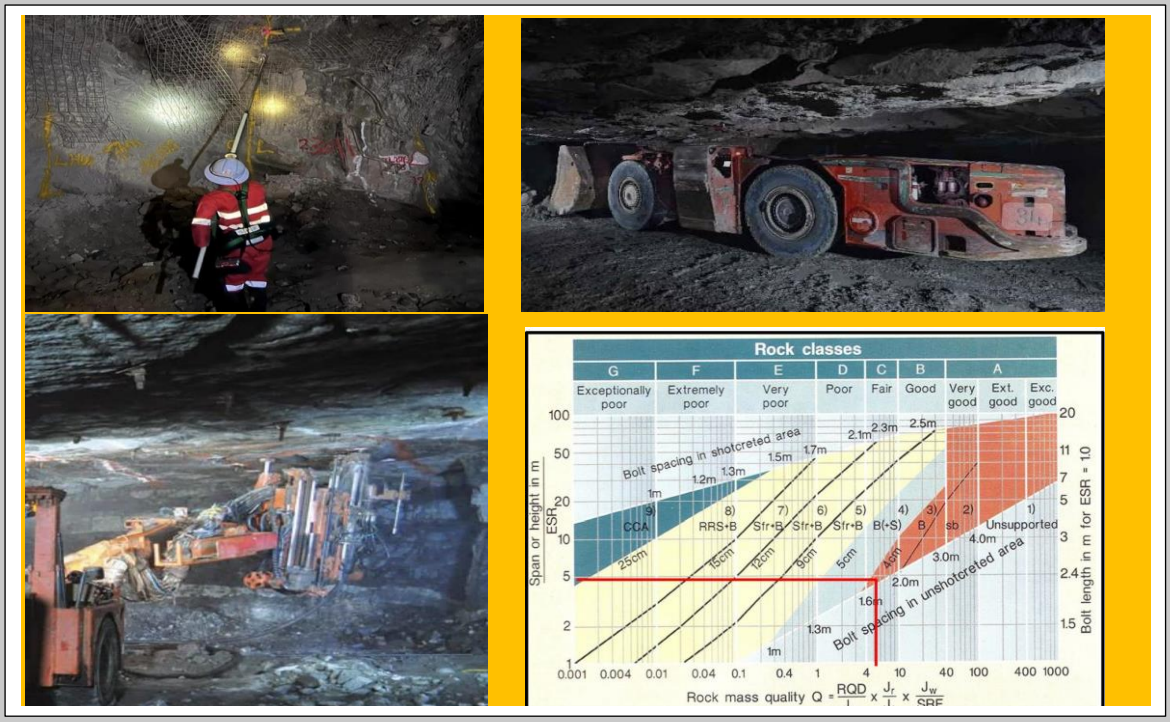
For open pit operations, the company provides the following services:

- *Pit slope designs for concept, pre-feasibility, and detailed design stages;*
- *Monitoring pit slopes;*
- *Conducting geotechnical engineering reviews and compliance audits;*
- *Evaluating slope stability and performance;*
- *Geotechnical logging of core and rock mass characterization.*

For underground mining, the company provides the following services:

- *Designing pillars for underground mining.*
- *Optimizing mining methods.*
- *Designing and implementing ground support.*
- *Conducting geotechnical engineering studies throughout all feasibility stages.*

- *Performing compliance audits for geotechnical practices.*
- *Reviewing geotechnical design performance.*



Geofield Mining Services has the numerical modelling expertise, which stands as a pivotal and increasingly relevant tool in geotechnical engineering and rock mechanics. Our extensive experience in numerical modelling is backed by the application of various numerical analysis tools to address challenges in rock mechanics. We are proficient in a range of methodologies, including boundary element, finite element, limit equilibrium, and discrete element methods.

Geofiled Mining Services works in close collaboration with businesses related to mining such as mining engineering consultancy, geotechnical assessments, surveying, environmental management and ground water management.

OUR TEAM

Takashaya Marova (Principal Consultant-Exploration)

Takashaya holds an Honours Degree in Geology and an MSc in Mineral Exploration. He has 21 years experience in Greenstone Gold exploration (Zimbabwe, Myanmar and Tanzania), Rare Earth Minerals (Mozambique and Uganda), Great Dyke of Zimbabwe, Base metals (Botswana, Namibia, Zimbabwe). He has been involved in numerous projects from inception, with some of these going to full feasibility.

Arimon Ngirazi (Principal Consultant-Resource Evaluation)

Arimon holds an Honours Degree in Geology and Fontainebleau Postgraduate Diploma in Mining Geostatistics. He has 30 years experience in mineral resource evaluation - production and exploration. Arimon has vast experience in resource estimation for different styles of gold mineralization (Zimbabwe, Mali, Tanzania); PGMs (Great Dyke of Zimbabwe); Base metals (Zimbabwe and Botswana). He has been involved in several due diligence and mine reviews in different parts of Africa.

Roy Shiri (Principal Consultant – Geotechnical Engineering)

Roy Shiri is a holder of a Master Degree in the physical sciences, a COM Certificate in Rock Engineering and is a certified Geotechnical Engineer. He has 13 years experience in the field of geotechnical engineering. Roy's expertise extends across various commodities and mining methods, with a geographical footprint that spans different countries in Africa and Europe. His passion lies in applying scientific and engineering principles to address the complex and practical issues encountered in mining, rock mechanics, and geotechnical engineering. Roy is also experienced in leading projects from a managerial and technical vantage point. He has

carried legal appointments as a Rock Engineer across different mining operations and has spearheaded several consulting projects, demonstrating his capability in project management and technical guidance.

Boshomane (Finance and Administration Manager)

Moya has vast experience in administration and Finance. She worked for a leading South African Bank before joining Geofield Mining Services.

Contract Team Members

Geofield Mining Services has many Field Geologists, Geotech Engineers, Surveyors and Technicians that work for the company on contract basis depending on the projects.

CONTACT DETAILS

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