

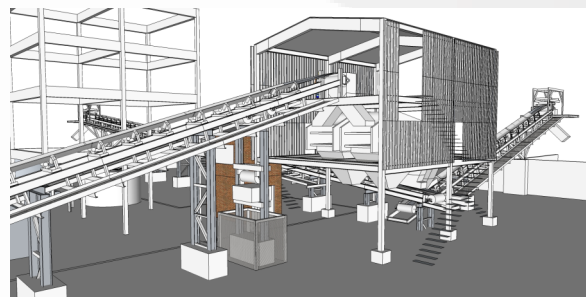


## MECHANICAL ENGINEERING

### Engineering Services

The engineering services can be done to a conceptual or detailed level and includes the following services:

- ▶ Feasibility Studies
- ▶ Concept Designs
- ▶ Detail Designs
- ▶ Plant Improvements (Reliability)
- ▶ Failure Analysis
- ▶ Design Reviews



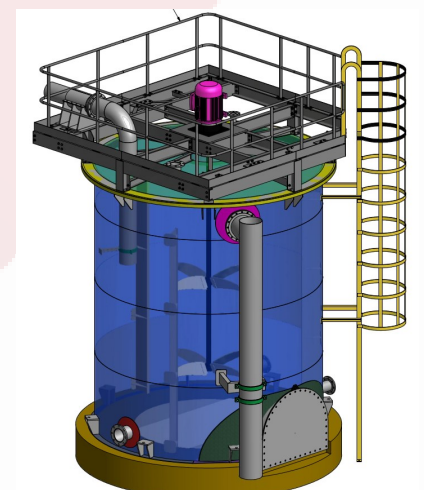
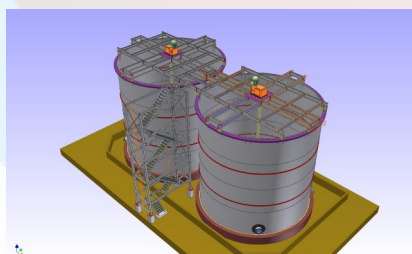
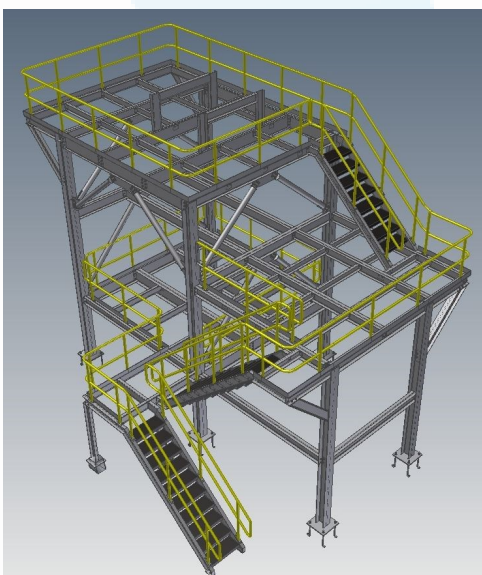
### Project Management

MineLock specializes in the management of Multi-disciplinary Engineering projects in accordance with PMBOK guidelines. MineLock also provide shut management services which includes critical path management.

### Specialized Mechanical Engineering Services

MineLock provides a number of Mechanical engineering design services which includes the following:

- ▶ General mechanical design services throughout numerous industries
- ▶ Pump and Piping Installations
  - Pipe Stress Analysis
  - Friction Loss Calculations
  - Water Hammer and Slug Flow Solutions
- ▶ Finite Element Stress Analysis
- ▶ Material Handling Equipment
  - Rock and Timber Grabs
  - Belt Conveyors
  - Screw Conveyors
  - Designs for unique applications
- ▶ Hospital Mechanical Services
- ▶ Heating, Ventilation and Air Conditioning (HVAC)

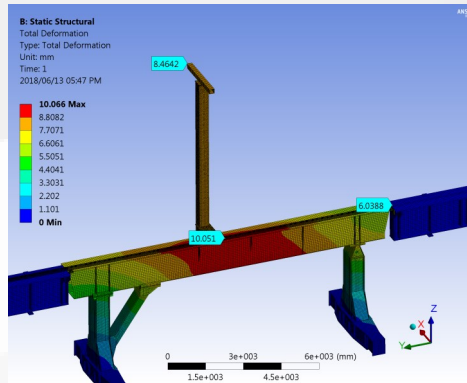




## Mechanical Design Software capabilities

Software packages used:

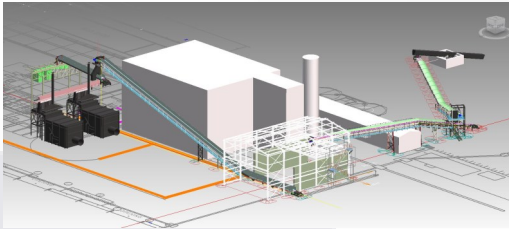
- ▶ CAESAR II - pipe stress analysis
- ▶ AFT Fathom - incompressible fluid pipe flow analysis
- ▶ AFT Arrow - compressible gas pipe flow analysis
- ▶ ANSYS - finite element analysis
- ▶ PROKON - structural steel analysis
- ▶ COADE Tank - tank design
- ▶ MECA Stack - stack design



## Typical Industries

The industries we serve include:

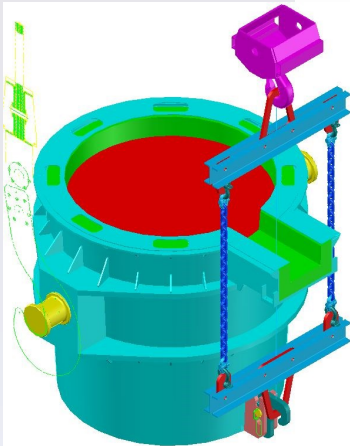
- ▶ Mining & Mineral Processing/Extraction
- ▶ Pulp & Paper
- ▶ Smelter
- ▶ Sugar
- ▶ Timber
- ▶ Department of Public Works (Hospitals, Police Stations, Military Bases, Prisons, etc.)



## Clients we work for

The clients we serve include:

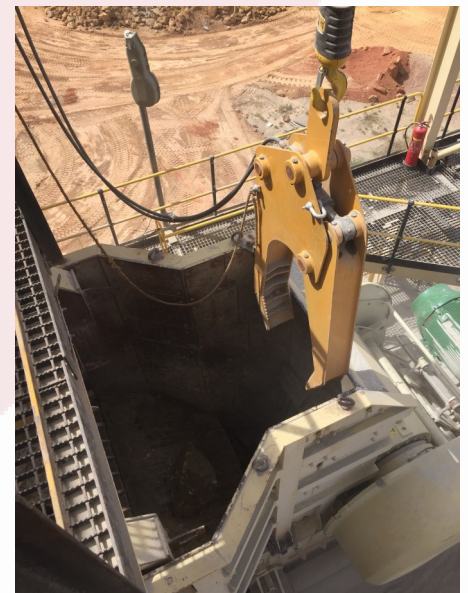
- ▶ Nkomati Mine
- ▶ Kenmare Moma Sands
- ▶ Bushveld Vametco
- ▶ Sappi
- ▶ Mozal
- ▶ York Timbers
- ▶ Global Forest Products
- ▶ Mondi Timbers
- ▶ Glencore
- ▶ Samancor
- ▶ Manganese Metal Company (MMC)
- ▶ Sonae Arauco (previously Sappi Novaboard)
- ▶ TSB



## Products we supply

Safe Grab Series for removal or manipulating of oversize ore at Primary Crushers:

- ▶ Open area rock grab for use with gyratory crushers - SafeGrab OA - 2500
- ▶ Confined space rock grab for use with jaw crushers - SafeGrab CS - 700
- ▶ SafeGrab CS - 1100
- ▶ SafeGrab CS - 1500



**MineLock**  
Group of Companies