



## **CAPABILITY STATEMENT**

### **Mining Industry**

GAUGE Industrial & Environmental Pty Ltd provides an integrated assessment, installation, monitoring, testing and consulting service for industrial and environmental applications.

We understand that not all industrial and environmental problems can be solved with "off the shelf" methods and analyses. GAUGE scientists will work closely with customers to develop ways of providing solutions using the latest technologies and techniques. These solutions will be tailored to the customer need in every way.

Through our broad scientific expertise and our ability to develop specific tests & services, our customers are provided with practical solutions for continuous improvement in productivity, quality and environmental standards.

Our services include:

- Chemical evaluations of washeries & mineral separation using coagulants & flocculants for settling dams, settling tanks, sludge thickening, etc.
- Cooling water evaluation and treatment including scale and corrosion control testing and treatment
- Surface and ground water analyses and management
- Complete Water Cycle Management

### **Water Cycle Management**

GAUGE has particular skills and experience in all forms of water management including:

- Water sampling
- Water analyses
- Interpretation of analyses

- Water quality improvement plans
- Potable water system assessment, modification and monitoring
- Recycle plans
- Water use reduction plans
- Water use audits
- Efficiency testing of water treatment chemicals - coagulants, flocculants, sanitisers, scale and corrosion inhibitors
- Polymer selection and testing for DAFs, Sand Filters, Settling Tanks, Belt and Centrifuge Dewatering.
- Cooling & Boiler water assessments, servicing and improvements

## **Chemical Analyses**

GAUGE routinely provides all forms of chemical analyses, which include:

- All forms of wet chemistry techniques
- Elemental analysis via AA and ICP
- Organic analysis via IR, TLC and HPLC
- Extractions via soxhlet, soxtec and sonication techniques
- Unique analytical techniques for specific customer needs employing all latest analytical techniques

## **Microbiological Analyses**

The diverse nature of the skills in the GAUGE organization includes experienced microbiologists who can provide routines testing as well as develop customer specific tests. The type of microbiological services we can provide include:

- Aerobic and anaerobic plate counts
- Selective enumeration for specific microbiological species
- Microscopic analysis of complex samples with a microbiological assessment.
- Identification of bacterial types, fungal species and algal species.
- DNA based microbiological typing
- Complete microbiological challenge testing against bactericides, fungicides and algaecides.

## **Environmental and Workplace Monitoring**

We work with our customers to establish or update monitoring systems that assist you in meeting your required standards for environmental and workplace health and safety.

Services:

- Monitoring equipment installation
- Dust Measurement
- Surface Water Sampling and Quality Assessment
- Ground Water Sampling and Quality Assessment
- Noise Monitoring
- Vibration Monitoring
- Data analysis

- Installation, Servicing of Data Loggers and the subsequent Data Collection Use of Telemetry Systems to Monitor Key Quality Criteria

## Chemical Support

We have extensive experience in the following areas of the chemical industry:

- Laboratory trialing- Our state of the art laboratory facilities enable us to perform a range of tests to ensure that the chemical performs to prescribed KPIs.
- Manufacture – Assistance and advice on the manufacture of all types of chemicals.
- Handling- GAUGE has extensive experience and knowledge in all safe chemical handling practices and legislation.
- Quality testing – Quality control test development and operation for post production analyses
- Polymer selection and testing for DAFs, Sand Filters, Settling Tanks, Belt and Centrifuge Dewatering.
- Chemical Sourcing
  - Raw materials & formulated products

## Chemical Formulation Invention

The highly specialised science of chemical formulation development is another of the unique services that GAUGE can provide for our customers. We have over 16 years of chemical formulating experience within our staff. GAUGE can develop formulation types including:

- Solutions
- Emulsifiable Concentrates
- Suspension Concentrates
- Emulsions
- Microemulsions
- Suspoemulsions

These again are a result of an integrated approach with customers to solve particular problems. Once a chemical is developed, Gauge has the ability to extensively test its efficacy both in a laboratory environment and also in the field.

## Chemical Dosing Systems

With our extensive industrial experience and desire to provide integrated solutions, we can provide the analysis followed by the interpretation, recommendation and then the supply of the equipment that is needed.

This service includes:

- Sourcing and installation of all forms of dosing pumps for all types of liquids or solids
- Automatic control of dosing systems using feedback systems
- Remote access to, and control of dosing systems via web based software

## Chemical Trial Development and Operation

GAUGE has extensive experience in the planning and conducting of on-site chemical trials. Customers work with GAUGE to assess which is the best performing chemical through laboratory testing. GAUGE then take the lab findings and run a plant trial where our equipment and scientific monitoring abilities are used to optimise the application and measure the benefit to the system.

GAUGE trial teams are mobile and ready to provide our customers with the best opportunity for their product to succeed. This is achieved with excellent preparation, planning and attention to the product and the target system.

## Scientific Problem Solving and Quality Improvement

With GAUGE's broad and varied scientific skills and knowledge, we are a resource to call on any time for problem solving assistance. This can be via electronic communications or onsite assessments. Customers find this service invaluable in their bid to overcome their day-to-day challenges. We have become valued members of customer problem solving teams where that extra scientific expertise or experience is needed.

- Day to day advice
- Micro scale to larger scale projects
- Data interpretation
- Quick research jobs

Examples of other industries for which we provide services:

## Pulp and Paper Industry

GAUGE has expertise in a variety of aspects of pulp and paper processing and manufacture. Our services include the following:

- Biocide Evaluation Studies including on-site Bacterial Enumeration Testing
- Polymer and Starch Preservation Studies
- Fungal Challenge Testing
- Defoamer Evaluation Studies
- Polymer Evaluation Studies-including polyamine and polyacrylamides
- Chemical Trial Development
- All water analyses and management

## Leather Industry

- Fungal Challenge against fungicides
- Bacterial Challenge against bactericides
- Determination of halophilic bacteria populations in brine
- Bacterial enumeration through Standard Plate Count techniques
- Grease quantification in solids and liquids
- Ash/Moisture ratio in salted and brine cured hides.
- Chrome analyses
- Consulting in all aspects of hide and skin processing including preservation, degreasing and tanning
- All water analyses and management

## Process & Water Industries

- Water Cycle Management
- Chemical Trial Development & Operation
- Chemical Dosing Systems

## Chemical Industry

- Chemical support services – laboratory trialing, screening, quality control, selection & sourcing
- Formulation & Invention
- Chemical dosing systems
- Chemical trial development and operational support



Mining Industry Capability Statement 2008

i.Lab Brisbane Technology Park  
35 Miles Platting Rd.  
PO Box 4578  
Eight Mile Plains, QLD. 4119  
Also,  
10 Victory Ave Camden NSW, 2570