Australasian Groundwater & Environmental Consultants

Field Services

Data-driven decisions in groundwater

Robust and reliable data is key to effective investigations and the success of any project that interacts with groundwater.

Comprehensive fieldwork is fundamental to helping identify any groundwater issues and build strong understanding of groundwater systems. Data collection, sampling, and monitoring can define aquifer properties and behaviour, provide frequent, real-time monitoring of your groundwater assets, and help predict potential impacts through modelling.

Accurate and dependable data collection, sampling and monitoring of your groundwater systems build solid foundations for your project and enable informed groundwater decisions.

About us

We're Australia's groundwater specialists, providing water and environmental advisory across Australasia for more than 25 years. We have a depth of experience and technical excellence borne out of more than 2,500 projects across major industries, agriculture, government and communities in Australasia and beyond. Our ISO accreditations reflect our commitment to consistent standards in quality, safety and environmental management.

We specialise in end-to-end groundwater services, from fieldwork and modelling to analysis and reporting, and expert advisory and peer review. That means we understand how crucial fieldwork is to ensure the integrity of data that informs every stage of your project and beyond. Through our wide range of assessments and services, we lay the important foundations to solving your groundwater challenge.

Our expertise

Our highly skilled and experienced team of field personnel are qualified scientists who specialise in collecting data and monitoring groundwater systems for water level behaviour, quality, yield and potential impact.

We pride ourselves on being safety focused. Our field staff are appropriately trained and certified to work across a range of environments. We maintain high standards for health and safety, diligently following the requirements of your site and completing all necessary inductions. With the same expectations for our staff as your site has for yours, you can rest assured our approach to safety is aligned.

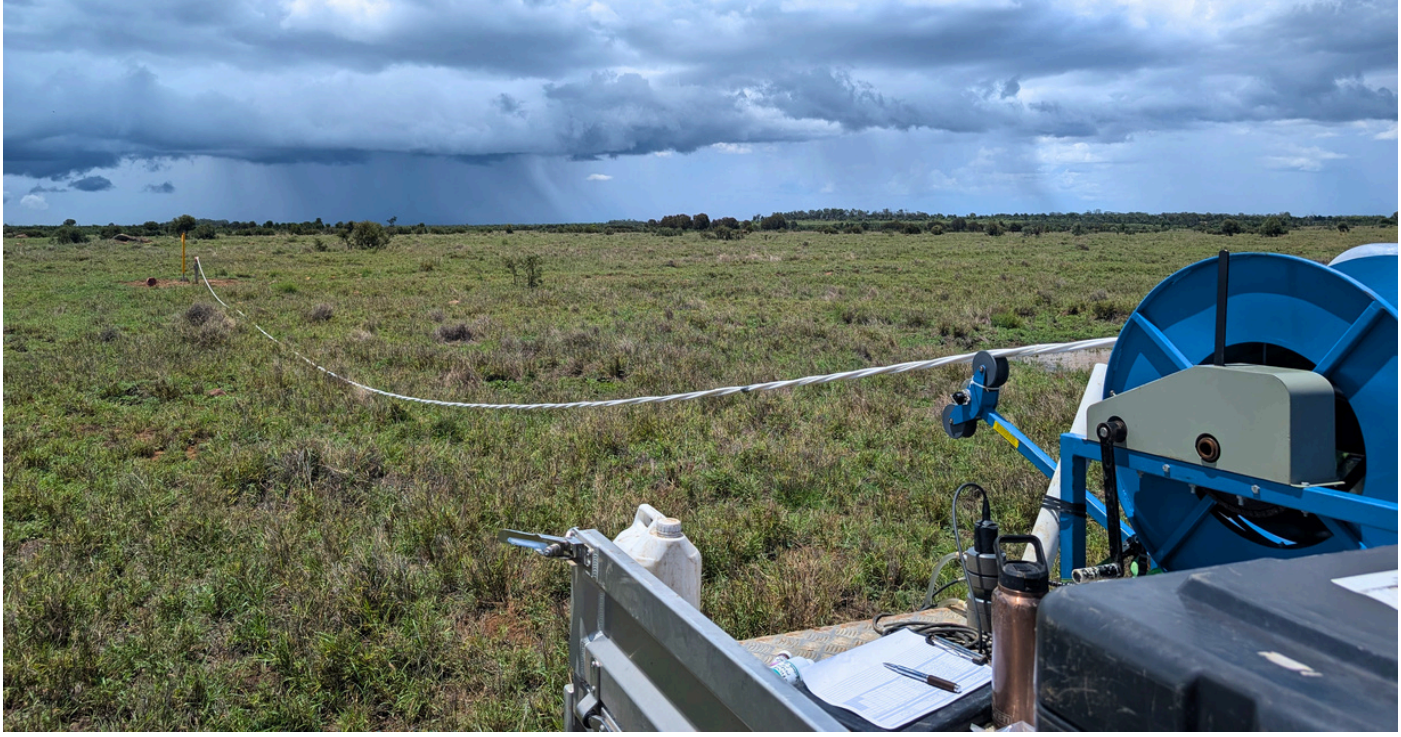
Equipped with a deep understanding of your objectives, our field services' team particularly excels at:

- Supervising bore design and installation: water supply, dewatering, solute interception and monitoring bores.
- Installing pore pressure and geotechnical equipment: vibrating wire piezometers (VWPs) and time-domain reflectometer (TDRs).
- Groundwater monitoring: routine water levels and quality, isotopes, tracers and stygofauna.
- Permeability testing: pumping tests, packer tests, slug tests.
- Bore assessments: yield, baseline and condition.
- Surveys: landholder bore census, spring and other groundwater-dependent ecosystem assessments.

We keep your end goals in mind, delivering well designed data collection. We take a 'plug and play' approach, which means our field data can be fed seamlessly into 3D conceptual and numerical models. This saves you money in the long-run as we plan for unforeseen circumstances, preventing changes and variations later on.

We use data acquisition, monitoring and sampling techniques that meet legislative requirements while addressing your site-specific needs, delivering the highest standard in reporting and outcomes.

Producing answers at the end of a hydrogeological investigation is one thing; communicating them well to a diverse set of stakeholders is another. We produce technically accurate reports with clear, easy-to-understand interpretations.



Our services

Groundwater investigations for:

- Characterising hydrogeological environment (conceptualisation).
- Assessing impact for project development, operations and closure.
- Developing groundwater resources for supply.
- Dewatering and inflow into pits, quarries and underground mines.
- Assessing contaminants in groundwater systems.
- Developing monitoring networks.
- Rock mass depressurisation.
- Dam seepage assessments.
- Environmental baseline studies.
- Hydrochemistry characterisation and isotope studies for source water, understanding and contamination.
- Conducting bore inspections for screen conditions and yield assessments.
- Spring health assessments.
- Landholder bore yield assessments.

Additional services

- Provide bore design and specification documents for drilling programs to meet australian standards.
- Planning and costing field programs.
- Conduct desktop studies for water supply and impact assessments.
- Provide management capability of field sub-contractors for groundwater investigations.
- Resolve permitting requirements for field groundwater investigations.
- Manage data compilation.
- Data analysis and interpretation.
- Install surface water flow and quality monitoring systems.
- Install monitoring equipment and associated telemetry instrumentation.
- Integrate geophysical services for groundwater resource interpretation.
- Training of site staff in groundwater monitoring techniques.

Resources and field equipment

With our own dedicated resources and equipment, our team can rapidly deploy in the field. We've invested in industry-leading equipment that we keep well maintained and ready for when we need it. This offers you cost efficiency, a reassuring level of rigour and additional capabilities within our highly trained team who can supply and install what you need. Including:

- Mine-spec 4WD light vehicles set up for general fieldwork activities, sampling and installation of monitoring bores and VWP equipment.
- Permeability testing equipment including packer testing kit, slug testing kit and connections with pumping test contractors.
- Transportable submersible groundwater sampling pumps and associated equipment.
- Downhole cameras to inspect bore and screen integrity.
- Calibrated and maintained water quality field testing kits with various field water quality meters.
- Water level meters for a range of depths, from 30 metres to 300 metres.
- Automated groundwater level loggers for long-term monitoring.
- Telemetry systems to set up VWPs, monitoring bores and pumping bores.

Our priority is delivering high-quality, comprehensive field services and advice to an uncompromising standard of health and safety that helps inform and guide your decisions and stakeholders.

Our experience

Our highly skilled field and technical teams bring extensive experience throughout the full lifecycle of groundwater investigations and field programs across diverse and challenging groundwater settings, including sub-artesian and artesian conditions. This experience spans a range of market sectors including mining, oil and gas, quarries, renewables, infrastructure and tunnelling, agriculture, industrial, landfill, land development and government in Australia and internationally, including Africa, South East Asia, Papua New Guinea and South America.

Our projects





Land development / Landfill Studies / Contaminated Land

- Mount Elliot Springs, QLD
- Lansdown Eco-Industrial Precinct, QLD
- Tomago, NSW
- Various refineries, QLD
- Various industrial areas, QLD

Oil and Gas

- Coal seam gas (CSG) operations, Surat Basin, QLD
- Stuart oil shale project, QLD

Energy Transition

- Borumba pumped hydro project, QLD
- Copperstring flinders substation, QLD

Infrastructure

- Airport Link Tunnels, Brisbane QLD
- M4 East Tunnel, Sydney NSW
- Cross City Road Tunnel, Sydney NSW
- Rail Link, Chatswood-Parramatta NSW

Mining - Coal

- Capcoal mine complex, QLD
- Isaac Downs coal project, QLD
- Blackwater Mine, QLD
- Narrabri Mine, NSW
- Boggabri Coal Mine, NSW
- Dartbrook Mine, NSW
- Bengalla Mine, NSW
- Mt Aurthur Coal Mine, NSW
- Maules Creek Mine, NSW
- Hunter Valley Operations, NSW
- Ulan Mine, NSW

Mining - metalliferous

- Cannington silver and lead mine, QLD
- Maronan lead and silver project, QLD
- Lady Loretta lead, zinc, silver mine, QLD
- Cadia gold and copper mine, NSW
- McPhillamy's gold project, NSW
- Hercules gold mine, WA
- Kanowna Belle gold mine, WA
- Finniss lithium project, NT
- Frieda River gold mine, Papua New Guinea
- Ngualla rare earth project, Tanzania



Our team

Dr Tim Ezzy
Senior Principal Hydrogeologist
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Tim has over 24 years of experience delivering and leading hydrogeological investigations across mining, energy, pumped hydro and water resource projects in Australia and internationally. His field expertise includes planning and delivering baseline investigations towards development of trigger levels, shallow and deep groundwater sampling techniques, a range of drilling techniques (e.g. down hole hammer, air and mud rotary, core), monitoring and production bore design/installation, and single bore and multiple bore aquifer testing. Tim combines practical field experience with advanced data analysis and interpretation to inform groundwater assessments and water management. All field programs are designed and executed with a clear technical goal, safety objectives, and project endpoint in mind.

Craig Noble
North QLD Region Manager | Principal Hydrogeologist
craig@ageconsultants.com.au

Craig has over 25 years of experience across Australia and New Zealand, with extensive technical expertise in groundwater investigations and management. He has a strong foundation in fieldwork, with experience including groundwater bore drilling, water sampling and analysis, and site assessments across the mining, oil and gas, and infrastructure sectors. He has provided in-house hydrogeological advice and direction for mine dewatering, groundwater monitoring and groundwater management, including the development and delivery of technical studies and groundwater management plans to support state and federal requirements. His in-depth applied hydrogeological knowledge and Tier 1 industry experience enable him to clearly understand client needs and provide practical guidance throughout the project lifecycle.

Dr Angela Bush
Team Lead | Principal Hydrogeologist
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Angela specialises in integrated groundwater assessments, contaminant investigations and geochemical analyses, with more than 15 years' experience in consulting, research and education. One of her strengths is underpinning groundwater quality and contamination assessments with an understanding of groundwater evolution mechanisms. With detailed knowledge of groundwater systems in various settings, specifically focussing on fractured rock groundwater flow systems of North Queensland, she has supported clients across metalliferous and coal mines, industrial operations, unconventional gas projects, state and federal governments, and agriculture bodies.

Bryce McKay
NSW Region Manager | Principal Hydrogeologist
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Bryce's broad range of expertise spans over 18 years and includes undertaking and managing field programs, groundwater modelling studies and impact assessments to support environmental approvals for a number of coal and hard rock mines, as well as sand and hard rock quarries in the Hunter Valley, Newcastle and Port Stephens areas. He specialises in writing and reviewing groundwater monitoring and modelling plans, water management plans, trigger assessments, designing and managing field work programs, geological modelling and conceptualisation, inflow estimation, and data interpretation and analysis (including pumping, packer and slug tests).

James Barratt
WA Region Manager | Principal Hydrogeologist
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James has been involved with numerous groundwater resource and mine feasibility studies throughout Africa and Australia. He has conducted and managed field data collection services ranging from groundwater and geophysical surveys, drilling supervision and data collection, and packer and aquifer testing. James has also developed conceptual, analytical, and numerical groundwater models to assess groundwater inflows into mining areas and simulated dewatering scenarios to optimise and inform mine dewatering and management planning and decision-making. He is well-versed at managing groundwater studies for small- or large-scale planned and operational mines and the compilation of technical reports to comply with international standards

Peter Kretschmer
Principal Hydrogeologist
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Peter has over 19 years of experience delivering groundwater investigations and resource assessments across Australia and internationally. His field expertise spans groundwater exploration, geophysical surveys, investigative drilling, monitoring network design, well and spring surveys, and groundwater sampling programs. Peter has led large-scale exploration programs incorporating field surveys, drilling, contractor management and site supervision, including work in remote and water-scarce environments. He combines practical field experience with expertise in hydrogeological characterisation, hydrochemistry and groundwater age-dating to inform sustainable water resource management.

We empower informed water decisions that help our clients, communities and environment thrive.

If you're looking for an expert fieldwork partner to deliver the robust results you're looking for, get in touch with us.

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