

Groundwater & Geoscience Consultancy

*Groundwater Investigation ·
Hydrogeological Assessment
· Geophysical Survey*

About Groundsearch

Groundsearch is a geoscience and geophysical consultancy specialising in the investigation, assessment, and development of groundwater resources, alongside geotechnical, mineral exploration, and subsurface imaging services. Operating for over 30 years as a team, with more than 150 years of aggregate staff experience, Groundsearch combines international technical standards with direct, on-the-ground field experience across Southeast Asia and the Pacific.

The firm holds offices in Cambodia, Singapore, and New Zealand, and has more than ten years of continuous, direct operational experience in Cambodia — delivering groundwater and geophysical investigations for government, development-sector, and private clients across the country's diverse hydrogeological settings.

Groundsearch's Cambodia practice is led by a Principal holding a postgraduate qualification in hydrogeology and groundwater engineering, supported by a multidisciplinary team of field geologists, geophysicists, and logistics specialists based across the region.

Regional Presence

Cambodia	Phnom Penh — groundwater, geotechnical, and geophysical field operations across the country
Singapore	Geotechnical and geophysical survey support, urban infrastructure investigations
New Zealand	Geophysics, exploration management, and technical/data services

Groundwater Services

Groundsearch delivers the full groundwater lifecycle — from resource identification through to development, testing, and long-term management — using integrated geophysical, drilling, and analytical methods.

Groundwater Assessment

- Estimating available groundwater quantity — water levels, flow rates, recharge rates
- Mapping and characterising aquifers — type, permeability, porosity
- Analysing groundwater quality — chemical and physical parameters
- Identifying risks such as contamination or over-extraction
- Integrated methods: Electrical Resistivity Tomography (ERT), Ground Penetrating Radar (GPR), remote sensing, GIS, and hydrogeological data analysis
- Establishing monitoring frameworks for ongoing evaluation

Groundwater Development & Management

- Setting sustainable extraction strategies within safe yield limits
- Recharge enhancement, contamination control, and ecosystem protection measures
- Wellfield planning, borehole drilling supervision, and well testing (step and constant-rate tests)
- Real-time and periodic monitoring frameworks
- Stakeholder engagement and institutional/legal framework support for resource governance

Methods & Equipment

Technique	Outputs
Exploration for groundwater	Targeting using satellite imagery, mapping and aquifer mapping
Multichannel Analysis of Surface Waves (MASW)	Soil stiffness, subsurface stratigraphy, rock depth
Electrical Resistivity Tomography	Image of structures favorable for groundwater
Seismic Refraction	Bedrock profiling and subsurface layering
Ground Penetrating Radar (GPR)	Shallow subsurface imaging, void and utility location
Borehole drilling & geophysical well logging	Well construction, aquifer testing, water quality sampling
Groundwater Investigation and Modelling	DEWfine aquifer performance -Analytic methods and Numerical models (e.g. MODFLOW-based) for resource management planning

Case Study — Kampong Thom Test Well Program - Teuk Saat

Groundsearch designed and delivered a test well investigation programme (wells KTB1 and KTB2) in Kampong Thom Province, Cambodia, to assess a palaeochannel aquifer for community water supply.

Parameter	Result
Well construction	KTB2 drilled to 32 m depth, screened 17–28 m within a palaeochannel aquifer
Sustained yield	4.5 m ³ /hr — exceeding the community supply target of 18 m ³ /day
Transmissivity	5–20 m ² /day (pumping test); mid-time trend 25 m ² /day; recovery data indicate higher values
Storativity	≈5×10 ⁻² (from KTB1 observation) — consistent with semi-confined storage
Static water level	2.5 m below ground level
Well development	Working drawdown reduced from 15 m to 3.5 m following development and surging
Water quality	Iron ≈1 ppm (treatable); arsenic and manganese not detected; TDS within Cambodia drinking water standard

Yield performance was attributed in large part to well design — gravel pack and screen positioning targeted against the higher-yield coarser sand horizons identified during logging



Figure 1 Geophysics



Figure 2 Production well

Why Groundsearch

- Direct, long-standing Cambodia field experience across varied hydrogeological terrain
- Postgraduate-qualified hydrogeology leadership able to translate technical findings for non-specialist clients and stakeholders
- Integrated geophysical + drilling + testing approach, reducing reliance on drilling alone
- Regional footprint spanning Cambodia, Singapore, and New Zealand
- Track record with government, development-sector, and private clients

Contact

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