



WJ GROUNDWATER  
Expert in Groundwater



WJ UK  
Expert in Water Management

# GSHP Drilling & Testing Capability



WJ UK are GSHP drilling and testing experts combining a global reach with local expertise and an impressive track record



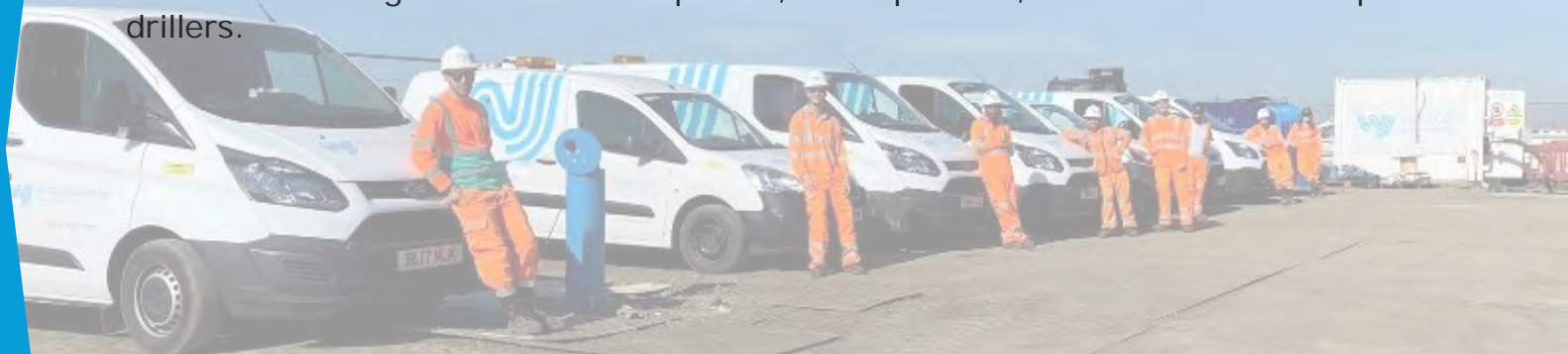
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# Our Team

WJ UK employ over 70 staff so you can rest assured we have the numbers, knowledge and experience required to deliver your project.

Our GSHP drilling staff are all competent, NVQ qualified, BDA audited and experienced drillers.



WJ UK and its staff are active members of the British Drilling Association, Ground Source Heat Pump Association and Heat Pump Federation





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# Open Loop Well Drilling Services

WJ UK operate 5 no. specialist drilling rigs capable of drilling open loop and observation wells from 100mm (4") up to 600mm (24") diameter and ranging up to 300m in depth.

At WJ we continually invest in our drilling crews, rigs and ancillary equipment to ensure we remain at the forefront of our industry.





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# Open Loop Experience

WJ has worked on the following notable open loop GSHP projects in the last 5 years

Year	Contract	Description
2022-23	Birmingham Children's & Women's Hospital	14 No. Sandstone wells up to 250 m deep, flows up to 30 l/s
2021-22	British Library, Boston Spa	4 No. Limestone wells to 70 m depth producing 30 l/s each
2021-22	Harrogate Hospital	1 No. Limestone well to 180 m depth
2021-22	Museum of Science and Industry, Manchester	3 No. Sandstone wells to 90 m depth flows up to 15 l/s
2020-21	University of Portsmouth	1 No. Chalk well up to 200 m deep
2019-20	Colchester Northern Gateway	4 No. Chalk wells up to 200 m deep, flows up to 30 l/s
2018	North Wharf Road, London	2 No. Chalk wells up to 160 m deep, flows up to 15 l/s





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# Closed Loop Drilling

Working with our specialist closed loop drilling subcontractor GSP Drilling Ltd, WJ/GSP can offer a bespoke solution for your closed loop drilling requirements with the capability of drilling and installing loops up to 300m depth including loop pressure testing





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# Closed Loop Experience

WJ/GSP have worked on the following notable closed loop GSHP projects in the last 3 years

Year	Contract Location	Description
2023	Northumberland	17 no. closed single loop wells to 102m depth
2022	Yorkshire	15 no. closed single loop wells to 132m depth
2022	Newcastle	8 no. closed single loop wells to 120m depth
2021	Middlesborough	16 no. closed single loop wells to 141m depth





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# Pumping Test Services

WJ has an unrivalled capability to perform a wide range of pumping tests on GSHP schemes including:

- Step testing
- Constant rate testing (CRT)
- Multiple well abstraction to recharge testing
- Hydraulic balance testing



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# Equipment Capability



WJ UK have the following test pumping plant & equipment available to meet the needs of any size and complexity of project anywhere in the UK:

- 450+ submersible electric borehole pumps ranging from 0.37kw through to 37kw
- 40+ no. electrical pump control cabins (12 channel through to 42 channel) complete with Auto Mains Failure functionality
- 4 no. dedicated electrical pumping test cabins
- 50+ monitoring data loggers control units
- 1000+ VWT and diver dataloggers
- 100+ electrical pump starter panels (DOL, SS and VSD options available)
- Over 25km of 4" and 6" poly discharge pipe
- Bespoke pumping plant test bay & test tank,



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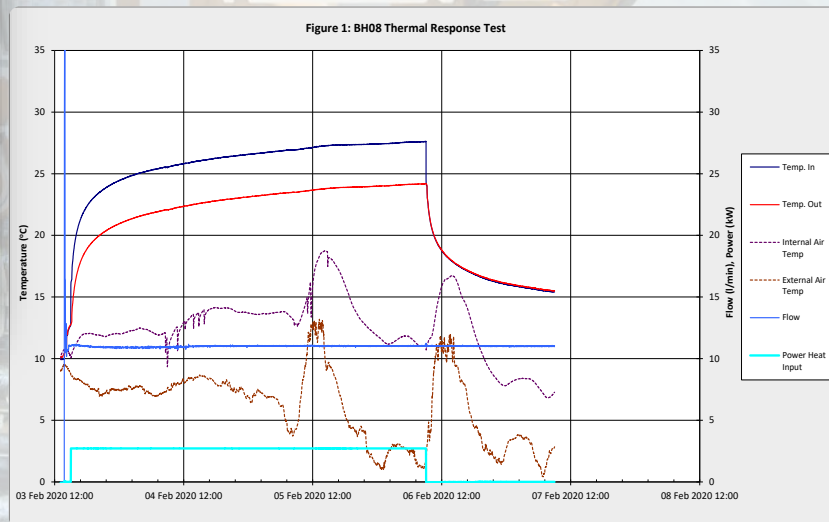
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# Thermal Response Test Services



WJ has been providing thermal response testing on closed loop arrays in the UK and Ireland since 2007 and have worked on major projects such as Stanstead Airport, Siemens Sustainability Centre, University of Southampton and Hinkley Point B Power Station

WJ can produce high quality data using our dedicated TRT unit which incorporates telemetric datalogging of flows, loop pressures, air and loop temperatures





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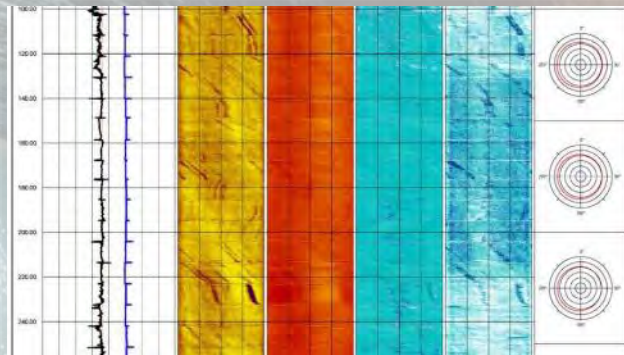
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# Geophysical Borehole Logging

Working with our specialist geophysical subcontractor European Geophysical Ltd, WJ/EGS can offer a best-in-class borehole logging solution for your borehole testing requirements with the capability of undertaking the following testing services:

- Natural Gamma. Gamma-Gamma and Spectral Gamma
- Cement Bond Log
- Impeller (Static & Pumped) and Heat Pulse Flowmeters
- Acoustic Imager (Televiewer)
- Optical Imager
- Dual Video Camera (CCTV)
- Temperature And Electrical Conductivity
- Dual Spaced Focused Resistivity
- Borehole Magnetic Resonance (BMR)
- Calliper
- Verticality
- Interpretation and reporting





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# Instrumentation & Monitoring

WJ can collect high quality data electronically via direct or remote streaming data links from various geotechnical and/or water monitoring instrumentation deployed across the project, allowing 'real-time' data to be distributed to WJ engineers and customers.

Real time monitoring trigger alerts can be used to warn operators and project teams of problems such as pump failures, power supply issues and pre-set (project specific) trigger alert thresholds to ensure early action is taken to minimise disruption to the project and reduce risk

Data can be easily accessed or transferred via API interface into other systems as required. Data can be viewed online using our data visualisation platform with preconfigured SCADA, Web GIS and trending screens.



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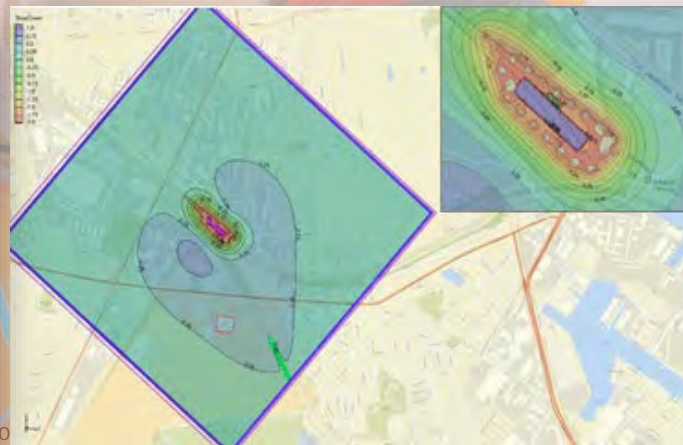
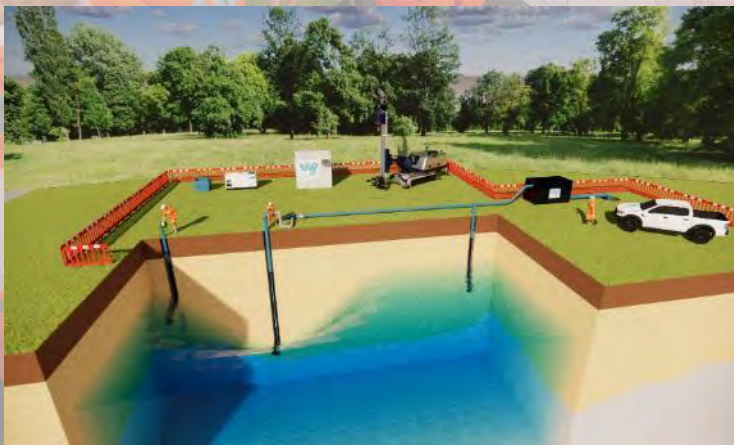
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# Design & Consultancy Services

WJ have a dedicated design team and can offer a range of in-house technical and design services including:

- Statutory Permitting & Licencing Applications
- Initial assessments of information to produce conceptual groundwater models
- Design Statements and calculations
- Design of pumping tests
- Pumping test interpretation, analysis and reporting
- 2D & 3D groundwater modelling and CAD drawings





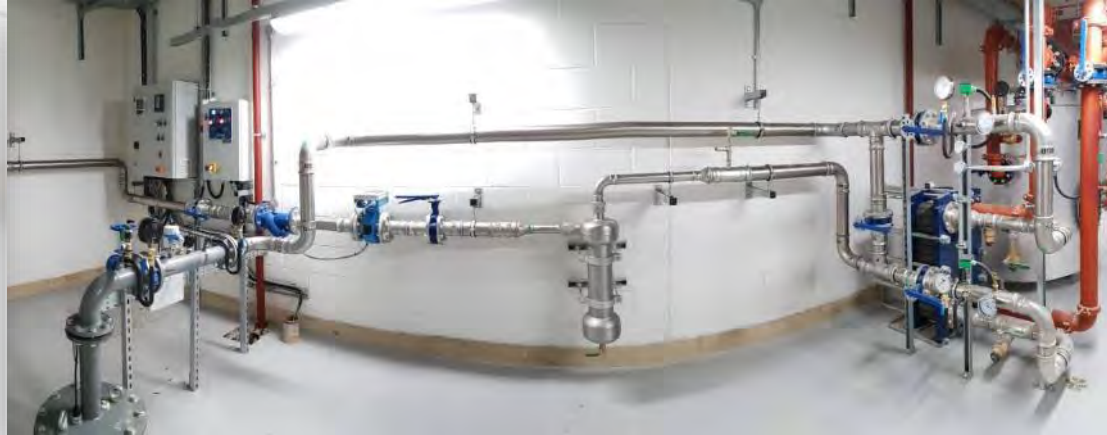
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# Permanent Pumping Equipment

WJ through its trusted and experienced supply chain offers a solution to install, commission and test permanent pumping and control equipment including:

- Pumping equipment (borehole pumps, headworks, riser and re-injection pipework)
- Pump controls (DOL and VSD panels)
- Flowmeters (Electromagnetic and Acoustic Doppler)
- Instrumentation (water level, temperature, conductivity, pressure and more)
- Data loggers (including linking to the buildings BMS)
- Pipework, cabling, valves and fittings
- Manhole Chambers & Enclosures



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