



# Stuart Gray PHD, BE (HONS 1)

## Technical Director - Hydrogeology



### Location

Newcastle, NSW Australia

### Experience

20 years

### Qualifications/Accreditations

- PhD in Environmental Engineering, 2005
- BE (Env) (Hons1), 1998

### Key technical skills

- Groundwater resource assessment
- Geochemical and water quality modelling
- Groundwater flow modelling

### Relevant experience summary

Based in GHD's Newcastle office, Stuart is the Team Leader of the Water Resources group. He has 20 years' experience in groundwater modelling and impact assessment, groundwater licensing and auditing, geochemical modelling, water quality modelling, landfill environmental monitoring, water quality assessments and acid sulfate soil assessments, particularly in the mining, transport, waste management and Defence sectors. As a Project Director, Stuart has oversight and a technical leadership role over various water resource projects.

### ***Mackas Sand Groundwater Assessments***

**Role:** Technical Lead / Hydrogeologist

**Client:** Umwelt

**Location:** Salt Ash, NSW Australia

**Date(s):** 2018 – 2020

Conducted various groundwater level and quality assessments for the Mackas Sand quarry site in Salt Ash NSW to satisfy Conditions of Consent, including the update of a MODFLOW groundwater flow model for the site to define groundwater level triggers and maximum working depths.

### ***Hawks Nest STP Effluent Disposal Study***

**Role:** Geochemist

**Client:** Midcoast Council

**Location:** Hawks Nest, NSW Australia

**Date(s):** 2021

Groundwater assessment, including analytical flow modelling and geochemical modelling, to predict the groundwater flow direction and rate from the proposed effluent disposal area. Preliminary fate and transport modelling was also undertaken.

### ***Dubbo Town Bore Sustainability Assessment***

**Role:** Technical Lead / Hydrogeologist

**Client:** Dubbo Regional Council

**Location:** Dubbo, NSW Australia

**Date(s):** 2019 - 2020

Assessment of the sustainable yield of existing town bores operated by Dubbo Regional Council by performing pump testing in accordance with the latest DPIE guideline. Analytical modelling was undertaken to calculate the maximum yield that can be extracted from the borefield while minimising impacts to other users.

### ***Federation Project Groundwater Supply Review and Impact Assessment***

**Role:** Technical Lead / Hydrogeologist

**Client:** Aurelia Metals

**Location:** via Nymagee, NSW Australia

**Date(s):** 2020 - 2021

Groundwater supply investigation to support current and proposed operations at the site, including desktop review and pump testing analysis. Preparation of groundwater impact assessments to support an REF and EIS for the project, including the development of analytical and numerical groundwater flow models.

### ***Stuarts Point STP Effluent Disposal Study***

**Role:** Geochemist

**Client:** Kempsey Shire Council

**Location:** Stuarts Point, NSW Australia

**Date(s):** 2019

Groundwater assessment, including analytical flow modelling and geochemical modelling, to predict the groundwater flow direction and rate from the proposed effluent disposal area. Preliminary fate and transport modelling was also undertaken.

### ***West Wallsend Colliery Groundwater Model – Independent Peer Review***

**Role:** Independent Peer Reviewer

**Client:** Oceanic Coal

**Location:** West Wallsend, NSW Australia

**Date(s):** 2016

Independent peer review and report, in accordance with the relevant guidelines, of the groundwater flow model development for West Wallsend Colliery.

### ***Summerhill Waste Management Centre Leachate Discharge Water Quality Impact Assessment***

**Role:** Technical Lead

**Client:** Newcastle City Council

**Location:** Newcastle, NSW Australia

**Date(s):** June 2020 – September 2020

Coordinated an investigation into the water quality impacts associated with a leachate pipeline break at the SWMC and preparation of a water quality impact assessment.

### ***Awaba Waste Management Facility Leachate Migration Investigation***

**Role:** Technical Lead

**Client:** Lake Macquarie City Council

**Location:** Awaba, NSW Australia

**Date(s):** 2018 - 2020

Ongoing investigation including a review of surface water and groundwater monitoring data to identify the leachate migration pathway, identification of potential mitigation options and water quality impact assessment of the downstream watercourse.

### ***Muswellbrook Waste & Recycling Facility Groundwater Monitoring Plan***

**Role:** Hydrogeologist

**Client:** Muswellbrook Shire Council

**Location:** Muswellbrook, NSW Australia

Technical review of the groundwater assessment and groundwater monitoring plan prepared for Council's waste and recycling facility located on Coal Road, Muswellbrook.

### ***Clarence Colliery Environmental Incident Investigation***

**Role:** Technical Lead

**Client:** Centennial Coal

**Location:** Lithgow, NSW Australia

**Date(s):** 2016 - 2017

Preparation of an expert report and provision of technical opinion and input to the Agreed Statement of Facts and Contentions regarding the material harm on the Wollangambe River resulting from a discharge from Clarence Colliery

### ***Warriewood Subdivision – Expert Report***

**Role:** Groundwater Specialist

**Client:** Confidential

**Location:** Warriewood, NSW Australia

**Date(s):** 2017

Preparation of the groundwater aspects of a joint expert report to inform Land and Environment Court proceedings into a proposed residential subdivision at Warriewood, NSW.

### ***Awaba Colliery Site Investigation and Clean-Up Options Report***

**Role:** Technical Lead

**Client:** Centennial Newstan

**Location:** Awaba, NSW Australia

**Date(s):** 2013 - 2018

Preparation of a site investigation and clean-up options report to assess and manage impacts associated with seepage from abandoned mine workings. Assessment of water quality impacts based on review of background data, default guidelines and ecotoxicity testing.

### ***Cadia Valley Operations Tailings Dam Seepage Management Options***

**Role:** Technical Lead

**Client:** Newcrest

**Location:** Cadia Valley, NSW Australia

**Date(s):** 2017 - 2018

Review of surface water and groundwater quality data to identify the source of elevated salinity in receiving waters and potential impacts of seepage from the Southern Tailings Storage Facility. Identification and evaluation of options to manage seepages from the Tailings Storage Facility.

### ***Parkes WTP and WWTP Upgrade REF – Groundwater Study***

**Role:** Hydrogeologist

**Client:** Parkes Shire Council

**Location:** Parkes, NSW Australia

Preparation of a groundwater impact assessment to support a Review of Environmental Factors for a new Water Treatment Plant and Wastewater Treatment Plant at Parkes.

### ***Chichester Trunk Gravity Main Upgrade***

**Role:** Hydrogeologist

**Client:** Hunter Water Corporation

**Location:** Newcastle, NSW Australia

Groundwater impact assessment and development of Acid Sulfate Soil and Dewatering Management Plans to support the environmental assessment and construction of a new water supply pipeline.

### ***Belmont Temporary Desalination Plant***

**Role:** Hydrogeologist

**Client:** Hunter Water Corporation

**Location:** Belmont, NSW Australia

**Date(s):** 2019 - 2020

Technical review of groundwater flow modelling undertaken to assess the performance and impacts of the groundwater extraction system for the temporary desalination plant. Preparation of a groundwater impact assessment to support the EIS and amended Project.

### ***RAAF Base Williamtown Groundwater Monitoring Program***

**Role:** Hydrogeologist

**Client:** Spotless

**Location:** Williamtown, NSW Australia

**Date(s):** 2006 - 2012

Project management, client liaison and technical reporting for the groundwater monitoring program at RAAF Williamtown and Salt Ash Air Weapons Range between 2006 and 2012.

### ***Sandgate Rail Corridor Soil Stockpile Treatment***

**Role:** Hydrogeologist

**Client:** ARTC

**Location:** Sydney, NSW Australia

Development of an Acid Sulfate Soil Management Plan for the management and treatment of a large soil stockpile located within the rail corridor.

### ***Groundwater Practice Note***

**Role:** Hydrogeologist

**Client:** Roads and Maritime

**Location:** Sydney, NSW Australia

**Date:** 2017

Development of a practice note to support and guide groundwater assessments for Roads and Maritime projects.

### ***Career history***

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2005 - present	GHD, Environmental Engineer / Hydrogeologist
2004 - 2005	Port Stephens Council, Environment Officer
1998 - 2003	University of Wollongong, Lecturer / Post Graduate Researcher

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