



SKILLSETS

Contaminated land & remediation



Groundwater



Environmental Impact Assessment



Environmental risk management



Environmental construction management



MARKET SECTORS



Property



Waste Management



Construction



Government



Defence



Industrial

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DAVID HARRIS

Associate Hydrogeologist

David is an Associate Hydrogeologist, Water Quality Specialist, and Contaminated Land Practitioner with over ten years of consulting experience in engineering and environmental planning across Australia and the UK.

David has held senior technical and leadership roles throughout his career, acting as Water Resources Team Leader, Australian Hydrogeology Lead, and as Senior Technical Advisor for major consulting firms.

In his time as a consultant David has both led and supported a wide range of projects at varying scales requiring the assessment of groundwater, contaminated land, water quality, and water resource.

David has significant experience in undertaking works as part of environmental planning, including the preparation of Environmental impact studies (EIS), and Strategic Environmental Assessments (SEA). David also has significant experience in undertaking land quality assessments, land capability assessments, environmental monitoring, groundwater exploration and resource feasibility studies, and catchment scale groundwater management plans.

Recently, David has been involved in the assessment of discharge impacts from tunnel dewatering, PFAS contaminant fate and migration from fire training facilities, drawdown impacts from mine expansion, and informing progressive rehabilitation and closure planning for operational mines.

David has an established background in coordinating and supporting multi-disciplinary studies and integrating specialist teams to deliver practical and innovative solutions. David has worked closely with clients across multiple sectors and industries, providing support for both private companies and government agencies through the design, construction, and operation of major projects.

QUALIFICATIONS

2010 University of Newcastle-upon-Tyne / Master of Science (Hydrogeology)

2009 University of Plymouth / Master of Geology (Geology)

MAJOR PROJECTS

- M8 Discharge Impact Assessment, Water Quality Monitoring and Pollution Studies and Reduction Program
- New M5 Tunnel Discharge Impact Assessment, CPB, Samsung
- Williamstown Special Activation Precinct Groundwater Assessment
- Lake Lindsay Mine Expansion EIS Groundwater Technical Paper

AFFILIATIONS

- Committee Member, International Association of Hydrogeologists
- Member, American Geophysical Union

EXPERIENCE

ENVIRONMENTAL IMPACT ASSESSMENT

- **Technical Advisor / Independent Reviewer, Department for Infrastructure and Transport, North-South Corridor Hydrogeological Interpretive Report.** Independent reviewer (hydrogeology) for North-South Corridor road-tunnelling project on behalf of the AMMJV. Key duties involved a review of the hydrogeological interpretive report and geotechnical interpretive report to identify potential gaps and deficiencies in the presented / available information and provide recommendations for works / additional information to mitigate risks to the project including environmental impacts and control of groundwater inflows during tunnelling.
- **Technical Advisor / Independent Reviewer, Transport for New South Wales, M6 Stage 1 Tunnel Hydrogeological Interpretive Report.** Independent reviewer (hydrogeology) for the M6 Stage 1 contractor design and construct hydrogeological interpretive report. Key duties involved a detailed review of the hydrogeological interpretive report to identify potential gaps and deficiencies in the presented / available information and provide recommendations for works / additional information to mitigate risks to the project including environmental impacts and control of groundwater inflows during tunnelling
- **Lead Consultant, Transurban, M8 Discharge Impact Assessment, Water Quality Monitoring and Pollution Studies and Reduction Program.** Project involved liaising with NSW EPA and Transurban to undertake Water quality monitoring and pollutions studies / pollution reduction studies with relation to the M8 Motorway Operational Water Treatment Plant. Monitoring was carried out to establish baseline water quality and impacts to water quality resulting from discharge. A series of dye tracer studies using food dye and Rhodamine-WT were also conducted to assess dispersion and dilution of effluent from the M8 Tunnel into a receiving waterway.
- **Lead Technical Advisor – Surface Water Quality, New M5 Tunnel Discharge Impact Assessment, CPB, Samsung.** Project involved the assessment of tunnel inflows, groundwater quality and potential impacts from tunnel discharge on receiving surface waters. David was responsible for coordinating and delivering technical advice, conceptual modelling, numerical modelling, and interpretive reports on groundwater / surface water quality, including statutory frameworks, baseline conditions and impact assessment David undertook CORMIX modelling to delineate mixing zones and quantify impacts from discharge, along with undertaking a full review of ANZG (2018) criteria to identify appropriate discharge criteria and ecotoxicological risks. David was directly involved in meetings and discussions with the NSW EPA to secure a discharge license, and developed a receiving environment monitoring plan (REMP) as part of the scope of works and to satisfy requirements for pollution reduction studies and programs required under the EPL.
- **Technical Specialist, Sydney Metro, MetroWest Speedway EIS and Precast Facility EIS.** Project involved an environmental impact assessment for construction and operation of a new speedway in Western Sydney, NSW. David was responsible for coordinating and delivering technical studies on surface water, hydrology, contamination and groundwater for development of a new speedway track and concrete precast facility; outlining baseline environmental conditions, potential construction and operational impacts to local water resources, and appropriate management measures.
- **Technical Lead, Anglo-American, Lake Lindsay Extension EIS.** The project involved the planning and installation of groundwater monitoring networks for Anglo-Americans coal mining operations in central QLD. David was responsible for leading the planning and co-ordination of hydrogeological investigations for extension of the Lake Lindsay Mine and ongoing environmental monitoring requirements for the lease. Key activities included the design of a network of boreholes and vibrating wire piezometers across the mining lease, development of a groundwater numerical model, and delivery of a groundwater impact assessment report.
- **Senior Hydrologist, ARTC, Narromine to Narrabri EIS, Inland Rail Programme.** Project involved an environmental impact assessment for construction and operation of the Narromine to Narrabri inland rail, NSW. David was responsible for coordinating and delivering technical studies on surface water, and hydrology for the 300km rail alignment; outlining statutory frameworks, baseline environmental conditions, potential construction and operational impacts to surface water environments, flood impacts to buildings and properties and, identification of appropriate management measures.

GROUNDWATER AND HYDROGEOLOGY

- **Lead Hydrogeologist, Anglo-American, German Creek and Oak Park Groundwater Monitoring Plan.** Project involved the development of a groundwater monitoring plan as part of requirements under an environmental authority (EA) and progressive rehabilitation and closure plan (PRCP). This included development of a

conceptual site model, identification of groundwater receiving environments, planning and installation of groundwater monitoring wells and vibrating wire piezometers for multiple aquifer units, and a summary report identifying the rationale and desired outcomes of the monitoring program.

- **Technical Lead – Mass Flux, Department of Defence, HMAS Cairns PFAS Flux Assessment.** Project involved the evaluation of contaminant fate and transport for PFAS in groundwater at the site. This included the development of a conceptual site model, input to planning and decision making on fieldworks program, liaison with third party numerical groundwater modelling firm to develop 3D unstructured grid contaminant fate and transport model using MT3DMS and SEAWAT packages.
- **Lead Hydrogeologist, Department of Planning Industry and Environment, Williamstown Special Activation Precinct.** Project involved the baseline assessment and strategic planning for a Special Activation Precinct (SAP) in Williamstown, NSW. David was responsible for co-ordinated delivery of a baseline assessment and constraints analysis with respect to hydrogeology within the SAP. This included an evaluation of hydrogeological conditions, statutory frameworks, water governance, water sharing plans, groundwater chemistry, groundwater flood risk, aquifer vulnerability, and climate change effects. David co-ordinated with specialist geotechnical, contamination and hydrology teams to develop a baseline conceptual model of the SAP groundwater conditions.
- **Technical Specialist - Hydrogeology, Icon Water, Drought Management Options Assessment.** Project involved an options assessment for drought management in Canberra. David was responsible for undertaking the baseline assessment of hydrogeological conditions across Canberra and providing a review of suitable groundwater supply options for drought management response. Key works included hydrogeological assessment of aquifers and potential yield, evaluation of borefield potential, evaluation of water sharing plan limits, assessment of managed aquifer recharge (MAR) opportunities and assessment of potential impacts for the purpose of feasibility testing.
- **Senior Hydrogeologist, Orora, Petrie Paper Mill Closure and Rehabilitation.** Project involved the closure and rehabilitation of a former paper mill in Petrie, QLD. David was responsible for coordinating and delivering hydrogeological investigations and assessments for closure and rehabilitation of the Petrie Paper Mill, Petrie, QLD. Key works included installation of monitoring wells, permeability testing, monitoring and evaluation of groundwater conditions, identification of potential contaminant sources, pathways and receptors, and client engagement and communication.
- **Lead Technical Advisor, Roads and Maritime Services, Proposed F6 Tunnel Extension Stage 1 Reference Design.** Project involved the development of reference design for the F6 Stage 1 tunnel extension. David was responsible for coordinating and delivering real-time technical advice on hydrogeological investigations, development of a numerical groundwater model, and delivery of a comprehensive technical report outlining potential construction and operational impacts to local water resource, and appropriate management measures. David also provided direct advice on surface water quality conditions and relative groundwater quality, and considerations for treatment of tunnel effluent discharge during both construction and operation of the tunnel.
- **Technical Advisor, Sydney Water, South Creek Irrigation Capability Assessment.** Responsible for coordinating land capability assessment to inform potential for wastewater irrigation programme throughout South Creek NSW. Works included integrated geospatial and water balance modelling to identify and quantify opportunities and risks from catchment scale irrigation.
- **Senior Consultant, Energy Australia, Kerosene Vale Ash Repository – Closure and Rehabilitation.** Project involved the closure and rehabilitation of an ash repository and ash dam in Lithgow, NSW. David was responsible for the delivery of technical factual and interpretive reports conceptualizing groundwater and surface water conditions across the project area and the catchment and identifying options for site closure and rehabilitation. Works included assessment of surface water and groundwater chemistry, flow paths, surface water-groundwater interactions, development of a conceptual site water balance, options analysis, and impact assessment.
- **Technical Advisor and Program Coordinator, Queensland Department of Environment and Heritage Protection, Lower Burdekin Groundwater Strategy Project: 2017 Dry Season Groundwater Monitoring Report.** Project involved a catchment scale assessment undertaking catchment scale assessment of surface water and groundwater conditions across the Lower Burdekin Basin to identify potential risks and management options for rising groundwater levels. David was responsible for undertaking a full appraisal of both surface water and groundwater conditions across the catchment, including groundwater / surface water sampling, hydrogeochemical assessment, water quality screening, assessment of groundwater levels and long term trends, assessment of impacts from dewatering-discharge on water quality within surface waters and the Great

Barrier Reef. The results from the assessment were used to inform causes, effects, and suitable management strategies for rising groundwater within the catchment.

- **Senior Consultant, Energy Brix Australia, Morwell Power Station and Briquette Factor Detailed Site Investigation.** Senior consultant responsible for undertaking detailed contamination investigations at Morwell Power Station (Victoria). Key duties included: preparation of a Sampling Analysis and Quality Plan (SAQP); co-ordination of intrusive ground investigations, including boreholes and test pitting; environmental sampling of soils, surface water and groundwater; preparation of a technical detailed site investigation (DSI) report; preparation of a site water balance assessment methodology.
- **Senior Consultant, Roads and Maritime Services, Batemans Bay Bridge Replacement Review of Environmental Factors.** Environmental consultant responsible for environmental reviews and impact assessments of soil, geology, groundwater, and contamination aspects associated with development of a proposed Bridge Replacement in coastal NSW.
- **Field Hydrogeologist, New Hope Coal Pty Ltd, New Acland Stage 3 Feasibility Project, and Fault Investigation program.** Responsible for field coordination, planning, and delivery of groundwater exploration and aquifer characterization programme for the New Acland Stage 3 mine extension. Works included exploration drilling, borehole audit, hydrogeological logging, aquifer delineation, aquifer yield assessment, and water quality monitoring.

CONTAMINATED LAND MANAGEMENT

- **Senior Consultant, Confidential Client, Lease Closure Contamination Assessment, Northern Territory Recycling Solutions.** Senior consultant responsible for carrying out Stage 1 contamination assessment, site walkover and development of SAQP for contamination characterization of grossly contaminated waste oil recycling facility, Darwin, NT. Key tasks included: Stage 1 contamination assessment; site walkover; development of an SAQP to co-ordinate Stage 2 assessment.
- **Senior Consultant, Confidential Client, Marsden Park Commercial Development Contamination Assessment** Senior consultant responsible for Stage 1 and Stage 2 contamination assessments of former agricultural / greyhound racing site, grossly contaminated with asbestos. Key duties included: Project management; health and safety planning; contractor engagement and management; development of SAQP; Stage 1 and Stage 2 investigations and environmental sampling; Waste classification sampling; development of Remediation Action Plan (RAP).
- **Army Basing Program Contamination Assessment, Aspire Defence.** Senior consultant responsible for contamination and geotechnical investigation for proposed development of residential housing for defence personnel. Key duties included: client liaison; contractor engagement and management; stage 2 investigation and environmental sampling; geological and hydrogeological logging; borehole design and installation; geotechnical field testing; permeability testing; soil gas monitoring and sampling; groundwater monitoring and sampling; factual reporting.
- **Senior Consultant, Help for Heroes, Tedworth House Remediation.** Senior consultant responsible for groundwater contamination assessment of DNAPL impacted groundwater in fracture flow system. Key duties included: Staff management; project management; client liaison; quarterly groundwater monitoring and sampling; surface water monitoring and sampling; groundwater contaminant modelling; contaminant trend analysis; factual and interpretative reporting.
- **Senior Consultant, AES, Kilroot Power Station Contamination Assessment.** Project consultant responsible for supervision of ground investigation works and environmental sampling (soil and groundwater) to facilitate contamination assessment for environmental upgrades to AES Kilroot Power Station, County Antrim. Key tasks included: health and safety planning; contractor engagement and management; logistics management and planning; stage 2 investigation and environmental sampling; conceptual Site Model (CSM) development; aquifer testing and groundwater assessment.
- **Senior Consultant, Jaguar-Land Rover, Jaguar-Land Rover Test Track Contamination Assessment** Senior consultant responsible for Stage 2 environmental and geotechnical investigation in Jaguar-Land Rover vehicle testing track and factory. Key duties included: Environmental and geotechnical testing; soil gas monitoring; contractor management; factual reporting.
- **Senior Consultant, Pynesfield Aggregate Quarry Landfill Characterisation and Contamination Risk Assessment.** Project consultant responsible for management and implementation of Stage 1 to Stage 3 of contamination assessment of legacy landfill site located within proposed gravel quarry site. Key tasks included: Stage 1 Desktop Study; health and safety planning; contractor engagement and management; stage 2 Intrusive

ground investigation and environmental sampling; stage 3 contaminant fate and transport modelling and human health / ecological risk assessment; remediation design.

- **Senior Consultant, Indigo-Scott, Surbiton Service Station Closure and Remediation.** Senior consultant responsible for supervision of remediation excavation works and in-situ chemical treatment of LNAPL contaminated soils / groundwater to facilitate demolition and site closure of a former petrol filling station. Key duties included: Supervision of remediation works including excavation and in-situ chemical treatment (direct push and direct application); borehole installation and permeability testing; ground gas (soil vapour) monitoring; groundwater monitoring and sampling; contaminant fate and transport modelling; Human Health Risk Assessment (HHRA).
- **Havant Road Service Station Contamination Assessment, Murco Petroleum.** Project / Senior consultant responsible for supervision of Stage 1 to Stage 3 contamination investigation following reported leak of underground petroleum storage tank within active petrol filling station. Key duties included: Health and safety planning; contractor engagement and management; Stage 2 investigation (including Vac-Ex) and environmental sampling; emergency response environmental sampling; contaminant fate and transport modelling; soil gas vapour sampling; vapour intrusion assessment and modelling; Human Health Risk Assessment (HHRA); controlled waters risk assessment.
- **Senior Consultant, Brett Aggregates, Hatfield Gravel Quarry Groundwater Contamination Assessment.** Senior consultant responsible for carrying out Stage 2 contamination assessment and hydrogeological investigation of proposed aggregate quarry within area affected by significantly contaminated groundwater. Key duties included health and safety planning; contractor engagement and management; borehole design, installation and development; geological and hydrogeological logging; permeability testing; 2D contaminant transport modelling.
- **Consultant, Council of the Isles of Scilly, Landfill Closure.** Project consultant responsible for supervision of ground investigation works and environmental sampling (soil, water, groundwater) to facilitate contamination assessment, site closure and redevelopment of an active landfill site adjacent to a sensitive wetland. Key tasks included: health and safety planning; preparation of a Sampling Analysis and Quality Plan (SAQP); contractor engagement and management; intrusive ground investigation and environment sampling; data evaluation and environmental / contamination assessment reporting.
- **Consultant, Sevalco, Former Carbon Black Storage Site Remediation.** Senior consultant responsible for supervision of ground investigation, environmental sampling and remediation works to facilitate the demolition and closure of the former Sevalco plant, Avonmouth. Key Tasks included: health and safety planning; contractor engagement and management; stage 2 investigation and environmental sampling; ex-situ bio-remediation monitoring and sampling; validation sampling; factual reporting.
- **Project Hydrogeologist, BHP Regional Monitoring Network.** Responsible for comprehensive review and management of a regional scale groundwater monitoring network, including condition assessments, aquifer delineation, targeted monitoring, and groundwater mapping.
- **Field Hydrogeologist, New Hope Coal Pty Ltd, Eyre Iron Environmental Baseline Assessment.** Responsible for field investigations including borehole audits, stakeholder engagement, environmental sampling, habitat assessments, resource evaluation, and technical reporting.
- **Hydrogeologist, Pilbara Independent Rail, Rail Project Development Plan – Groundwater Resource Assessment.** Hydrogeologist responsible for assisting in groundwater supply assessment for a large-scale regional rail construction program through the Western Pilbara. Key duties included: Groundwater resource assessment; borehole survey; GIS data development; GIS data modelling (kriging); factual reporting.

POSITION SUMMARY

● 2021 - Present	Associate Hydrogeologist	Epic Environmental Pty Ltd
● 2020 - 2021	Australian Hydrology Lead	Aurecon Australia
● 2019 – 2020	Team Leader, Water Resources	Jacobs
● 2019 - 2019	Senior Hydrogeologist	JBS&G Australia
● 2017 - 2019	Senior Hydrogeologist, Contamination Specialist	Aurecon Australia
● 2013 - 2019	Senior Contamination Specialist	SLR Consulting UK, Australia
● 2011 – 2013	Hydrogeologist	RPS Aquaterra, Australia
● 2010 - 2011	Graduate Geologist	Barrick Gold, Australia

David Harris – Associate Hydrogeologist

