



Groundwater and Water Management Consultants



COMPANY OVERVIEW



Red Creek Water Solutions Pty Ltd is a specialist groundwater and water management consulting company based in Perth, Australia. We offer groundwater and water management services to the mining industry and for civil projects.



We understand of the “big picture” water issues facing the mining industry and civil projects. Our capabilities include transforming groundwater data into a realistic presentation, so that you and others can understand the groundwater conditions on the site. We develop groundwater models to represent how groundwater will respond to your projects’ activities.

Our experience and abilities enable us to provide you with cost effective and practical solutions. We also make sure you understand the uncertainties and risks, so that you can make informed decisions.



Working together with our team of sub-contractors, suppliers and other independent professionals (hydrologists, geochemists, environmental scientists, geotechnical engineers and tailings practitioners), we can provide you with complete work packages for your project.

Red Creek was established in 2013 responding to our clients’ desire to have qualified staff with *relevant* experience assisting them with their projects. We are a small company, and our staff is passionate and motivated about their work.



We have carried out many groundwater and water management projects before and we know the regulatory requirements. Therefore you can be assured that our projects will be carried out efficiently, to a high technical standard, on time and within budget.

Our staff also have a creative streak, and are able to think outside the box and come up with innovative solutions.

Our staff is experienced – We know our stuff

We provide cost effective practical solutions

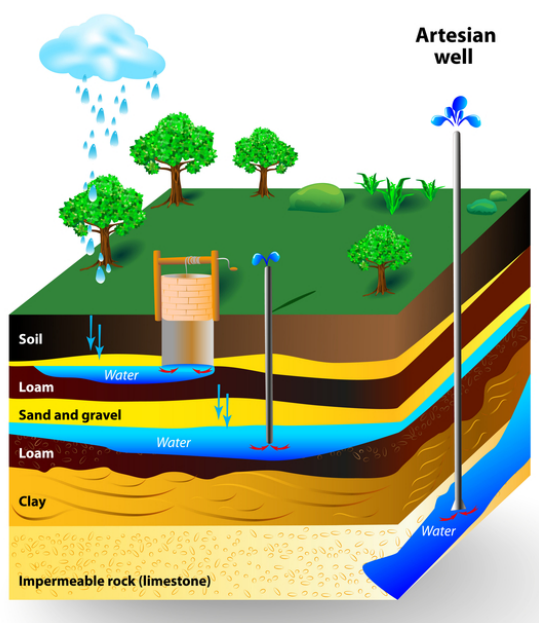
We are efficient, and our work is at a high technical standard

We are able to think outside the box to come up with innovative solutions

Know who works on your project

Are you sure that the best people are working on your project? The consultant proposal may be filled with a "project team" which includes very experienced people, but are these people working exclusively on your project? Unlikely.

Unlike the bigger consultancies, we do not have large amounts of junior staff to farm out the many projects that come through the door of bigger consultancies. We answer the phone when you call and we do the work for you.



Relevant experience

Yes, there are many hydrogeologists that say they have a lot of experience, but do they have relevant experience? Many of the hydrogeologists working in Western Australia today had never worked on mining or civil projects before they jumped ship when groundwater work became plentiful and profitable during the mining boom.

With Red Creek, you are sure that the people that work on your project understand your business. Our people have worked throughout Western Australia and the world, assisting both big and small mining and civil design and construction companies.

Practical Solutions

While at Golder, Dr Jan Vermaak assisted a large gold mine with their feasibility studies. There was no space for the impacted water storage facility (IWSF), due to the valley being filled up with waste rock.

Jan proposed that the impacted water could be stored within the pore space of the waste rock dump.

An embankment was constructed at the edge of the proposed waste rock dump and the valley floor was filled with coarse non-acid forming waste rock.

A raw water storage facility was constructed downstream of the IWSF. Water levels in the raw water storage facility are always kept higher than the IWSF, creating a hydraulic barrier that prevents raw water from becoming contaminated.

Our approach to numerical modelling

"The complexity of a numerical model is inversely proportional to the experience of the modeller."

Having developed many models and reviewed many more, there is no doubt that models seldom hit the mark where it counts. We have seen many complicated "calibrated" models being dead wrong – there are many ways to calibrate a model.

Our approach is to keep models simple and to use our experience to focus on the aspects of the model that matter. Our emphasis is to make sure the model represents the important groundwater processes correctly. We make sure you understand how reliable the model is, the uncertainties of the model input parameters, the impact of these uncertainties on model predictions and the implications if the predictions are different than expected.



Dr Jan Vermaak

Over the past 17 years, Jan has developed skills working as a groundwater and water management consultant, mainly for the mining industry and civil projects. He has worked on diverse projects, including groundwater investigations for a large copper mining development in tropical South East Asia to a mine water supply assessment in the Sahara Desert. He was the main author of a ten-year research project on the use of soil covers for the rehabilitation of mine waste facilities in South Africa and worked on pit lakes in Mongolia.

Education:

PhD University of Pretoria, South Africa, 2000
BSc (Hons) University of Pretoria, 1994
BSc University of Pretoria, 1993
Geology, Engineering Geology, Hydrogeology

Affiliations:

Australian Institute of Geoscientists (AIG)
International Association of Hydrogeologists (IAH)
International Mine Water Association (IMWA)

After graduating in 1994, Jan worked for a short period as an exploration geologist, before returning to university to carry out post graduate studies researching the relationship between geotechnical and hydrogeological properties. He was awarded a PhD degree in 2000 for his research.

In 1998, Jan joined a small company, Yates Consulting, Johannesburg, learning first-hand the basics of groundwater investigations.

In 2000, he joined Wates, Meiring and Barnard where he developed skills as a groundwater modeller. He also developed skills in the use of soil cover systems for the rehabilitation of mine wastes.

In 2002, Jan moved to Brisbane and joined Golder Associates. He developed skills in water management, and became proficient in using GoldSim software.

In 2004, Jan moved to Perth, staying with Golder. During this period he focussed on leading large scale groundwater investigations and crafting his skills in conceptual model development.

Since 2008, Jan focussed more on providing technical direction of projects, fostering close relationships with clients and business development. He was actively involved with training and mentoring of junior staff.

In October 2013 Jan founded Red Creek Water Solutions to follow his desire to return to the “coalface” of consulting.

Jan is offering the unique combination of a thorough general “big picture” understanding of how water systems fit together, and the ability to analyse groundwater and water processes using modelling software.