

ALGA Excellence Awards Submission

Award 9: Dan Goltz

Applicant must have less than 2yrs experience in the industry

Dan began his foray into the contaminated land industry when he joined ECT2 in February 2018 to assist with field operations for the *RAAF Base Williamtown Per- and Poly-alkyl Substances (PFAS) Water Treatment* program of works. Prior to joining ECT2, Dan had spent time working as a production scientist for a biological insect control start-up, and as an operator for Queensland Urban Utilities in their sewage treatment plant network in south east Queensland.

Demonstrated effort to increase personal knowledge in land & groundwater remediation

Since joining ECT2, Dan has actively sought to achieve excellence in all his work while operating, maintaining, and overseeing upgrades to several remediation water treatment systems at RAAF Base Williamtown.

One of Dan's first tasks when he joined ECT2 was to assist in working through challenges with a surface water treatment system and the pre-treatment process. Dan's proactive and systematic approach to working through each issue to determine whether it was contributing to the overall issue ensured even minor contributors were resolved. This approach as well as Dan's desire to understand the science behind each of the processes and issues quickly expanded his knowledge of the impacts of various contaminants on the water treatment process.

From the time Dan joined ECT2, he has been a diligent and proactive member of the team engaging in numerous fields of practice beyond those of his previous career including:

- Monitoring trends in groundwater quality, extraction yields and drawdown to optimise source zone mass flux reductions;
- Operations, monitoring and maintenance of a surface water remediation system requiring a complex set of routine and non-routine interventions to maintain optimal performance;
- Taking on a lead operator role relating to a complex, first-of-its-kind ion exchange resin regeneration facility;
- Product development activities through systematic trialling of novel approaches to plant operation, including trial design, data collection, data analysis, reporting and implementation of lessons learned;
- Construction support and commissioning of new water treatment systems; and
- Construction technical support, supervision, and commissioning of the resin regeneration plant capacity upgrades. The regeneration system is a hazardous area rated facility requiring the highest standards in risk and personnel management.

Through all these endeavours, Dan has developed a deep understanding of the multitude of considerations in successfully constructing, operating and maintaining 'pump and treat' surface-water and groundwater remediation systems. In demonstrating his versatility and understanding of process operations and maintenance, ECT2 were confident in promoting him into the role of lead

regeneration plant operator, which due to its complexities and the nature of working with hazardous solvents, requires a meticulous approach like that of Dan's.

Demonstrated involvement in advancing the knowledge of peers in the industry

Dan was instrumental in overseeing and providing technical support to a capacity upgrade at the resin regeneration system. In successfully commissioning a second solvent recovery unit for the regeneration system, Dan learnt many important operational lessons that were previously either unknown or untested due to the recently patented process and uniqueness of the system. Dan has been diligent in his feedback to the process design team to ensure these lessons learned are documented and incorporated in future design and operations plans.

The second solvent recovery system had to run in parallel to, but out of phase with, the first unit, since they share common feed and discharge systems that by necessity can only operate on one recovery unit at a time. Dan successfully developed the operating procedures for these systems on his own initiative and with limited input from other operators or engineers. To achieve this, Dan was required to develop a detailed and nuanced understanding of numerous complex and interdependent control and process parameters to ensure the various parts worked in a coordinated and controlled manner. Dan successfully shared his learnings, observations and recommendations to the entire team including Defence and other project stakeholders.

Demonstrated success in their role on a project involving remediation

Dan has consistently demonstrated his success through:

- Successfully operating, maintaining and improving the capacity of a surface water treatment plant, via diligent review, documenting and completion of repetitive and unexpected maintenance events;
- Taking the lead in developing operational procedures that have directly contributed to the exemplary uptime (>95%) and faultless achievement of the project treatment goals across all three of ECT2's RAAF Base Williamtown water treatment systems; and
- Taking charge of the central resin regeneration plant, which services the three existing ECT2 water treatment systems at the Base. Dan requires little to no supervision, and coordinates with the respective operators to ensure their resin vessels are being monitored appropriately for PFAS breakthrough, and then leads them through the regeneration process as and when required.

To conclude, Dan has consistently met or exceeded ECT2's expectations. As such, he has swiftly moved through the ranks to take on roles of ever-increasing importance. Dan's dedication, systematic approach and genuine desire to deliver the most sustainable and practical outcomes each and every time demonstrates his success since moving into the remediation industry.