

# OPERATOR

August 2012 Edition



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Geta Ramunno from Nambucca Shire Council wearing the Ugly Fish sunglasses.  
Story on page 3.

Operators at the Swansea WTP tour in Tasmania.  
More on page 4.



Special guest award presenter at the QLD Workshop. All the workshop info on page 6.

Newsletter of the WATER INDUSTRY OPERATORS ASSOCIATION OF AUSTRALIA

## FROM THE EO'S DESK

The 2012 Victorian Conference will be the 75th Anniversary of the event since it started way back in 1938. To help celebrate this, over the past couple of months we have been busily researching and compiling the conference history into a book which will be distributed to all conference delegates and WIOA Members. Having been involved with WIOA for over 20 years, trawling through old Committee meeting minutes, Operator newsletters, boxes of photos and other documents turned out to be a massive trip down memory lane. It really is amazing how much change there has been over the years, and how much we forget as time goes by.

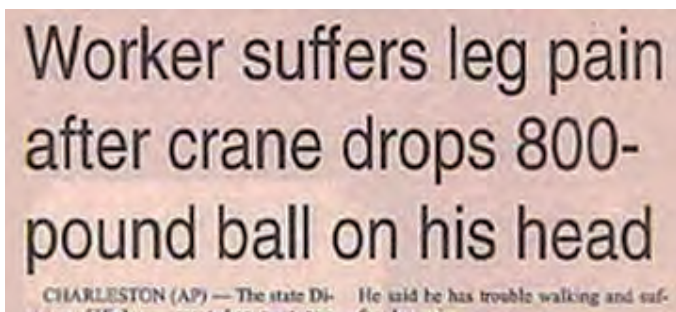
One of the most notable changes was that throughout the 1970's & 1980's WIOA actually had a strong industrial relations role. There was a connection to the classification of operators, their roles, responsibility and importantly their wage rates. There are numerous reports to the Committee on the progress of the operator classification process as well as reports from wage hearings. There was also input of key WIOA Committee people into the MMBW wage case at the Arbitration Commission in the 1980's. After this, the discussions moved to whether the operator should be classified for their duties or whether the plant should be classified. WIOA opted out of direct involvement in these industrial issues through the 1990's although we have a strong interest in ensuring operators receive an appropriate amount of remuneration commensurate with their very important public health role and responsibilities.

The Committee back then was actively involved in training related issues, something that has never changed. In 1988, there was great excitement that the Training Needs Expert Panel had settled on the format of the compulsory and elective units for the proposed operator TAFE course. Interestingly, it took another 10 years, a huge amount of work and multiple meetings for a national training course (UTW 98) to be developed and implemented.

The conference book project has also highlighted how important it is to document the history and important occasions as they occur, rather than trying to back track which ultimately leads to frustration and often gaps in information. We intend to repeat the book production process in 2013, in order to celebrate the 40th Anniversary of the formation of AWWOA/WIOA in 1973. We hope that Members will enjoy reading the conference history, and we issue an open invitation for any member to contribute some ideas for inclusion in next year's book.

**George Wall**, WIOA Executive Officer

## THE LIGHTER SIDE



## PROFILE OF A MEMBER

### Name:

Adrian Rijnbeek

### Position:

EGL Management Services  
(West Wodonga WWTP)

### How long have you worked in the water industry and what attracted you to it?

7 Years; Work place training/experience through Latrobe University and Tolsh!

### What do you enjoy most about your job?

Every day is different; I enjoy the relaxed environment and flexibility within our workplace. As well as being able to work independently when required and part of a very well oiled team at West Wodonga.

### What are the major challenges in your current role?

Making sure I am update to date with everything.

### How long have you been a WIOA member?

Since 2005, Weekend Seminar at Trawool.

### How do you relax?

Go to work!! Otherwise, I really enjoy fishing.

### Where do you live and what's the best thing about it?

Wodonga; 12min 35sec drive to work. The relaxed lifestyle, it is certainly a lifestyle thing Fishing, camping, football etc.

### Quick questions

**Age:** 28

**Nickname:** EMU

**Family Status:** Married to Amanda

**Pets:** Chocolate Lab (Ernie)

**Favourite food:** Pizza (Supreme with olives and anchovies)

**Least favourite food:** Sushi

**Favourite TV show:** Seinfeld and The Footy Show

**Worst TV show:** Reality TV shows (Master chef especially)

**Favourite Movie:** The Usual Suspects

**Favourite Musical artist/s:** Triple J and not the River 105.7FM (Tolsh and Chris).

**Favourite book:** Freshwater fishing Mag.

**Ambition in life:** Enjoy it!

**Hobbies:** Football (watching and playing) fishing, camping spending time with Family.

**Best Trait:** Try to be modest; Self praise is no praise!

**Worst Trait:** A click in my ankle that drive my wife nuts.

**Four people to invite to dinner:** Sam Newman, Gary Lyon, Brian Taylor & Danny 'Spud' Frawley.





## Turbidity Meter Workshop

On 14th June 2012, WIOA hosted an operational focused workshop, "Calibration and Operation of On-Line Turbidity meters for Reliable Process Monitoring of Drinking Water Quality" in Melbourne. It was specifically targeted at staff responsible for the operation and maintenance of turbidity meters within water treatment plants.

The workshop produced some very productive conversation about the verification and calibration of in-line turbidity meters and their importance in operational monitoring. The accuracy and sensitivity of the analysers needs to be specific to the treatment process to be sure that the drinking water is pathogen free. From the information presented it became clear that the water industry needs to review the way we maintain, validate and calibrate inline turbidity meters.

Representatives from Hach Pacific, Thermofisher, Merck and ProMinent presented the general principles of turbidity measurement, including information on the US EPA 180.1 and European ISO7027 Standards, and techniques for installation, validation and calibration. I've come away with the knowledge that US EPA 180.1 and ISO7027 Standards require the use of primary standards only for calibration and secondary standards for validation of in-line turbidity meters.

Peter Spencer from Water Corporation (WA) and Lee Franke from North East Water presented their experiences with turbidity meters and their current methods of validation and calibration. Lee highlighted the importance of selecting the correct in-line analyser for water conditions and the challenge of developing upper and lower accuracy limits for different meters, whilst Peter made available an excellent reference guide – Guideline for Online Turbidity Instrumentation.

A presentation followed by Peter Mosse informing the group on lessons learned from servicing and calibrating turbidity meters and the requirements of the US EPA 180.1 Standards.

A highlight of the seminar was the presentation given by Jeremy McKibbin from Greater Wellington Council in New Zealand. He spoke about NZ standards, regulations and his experience with turbidity meters. Some interesting points from his presentation include:

- Turbidity monitoring is compulsory by law in NZ
- In-line and manual analysers that are used for compliance monitoring must comply with the requirements of ISO 7027, US EPA Method 180.1 or US EPA Method 10133 or GLI Method 2 (US EPA 1999), or been approved by US EPA for drinking water monitoring
- Calibration must be done in accordance with the manufacturer's specified procedures and frequency, or 3 monthly (whichever is more frequent)
- The unique 'attributes' of the NZ law enforcement and QA personnel - from what I heard a number of Aussie boys will be moving east to NZ!

Rodney Dedman from the Victorian Department of Health (DH) presented and emphasised the importance of operational (or in-line) monitoring to ensure the production of high quality safe drinking water, as opposed to verification monitoring (compliance) which can typically provide information on the quality of drinking water that has already been supplied. In addition, DH communicated the direction of the new Vic Drinking Water Regulations due to be released in 2015.

The updated ADWG's were also discussed in relation to the turbidity target, and value of long term monitoring of individual filters.

I think I can speak for all of us who attended the workshop that we left knowing more about turbidity meters and how important their installation and maintenance is to reduce risk and supply safe drinking water. This workshop was very worthwhile. On a more personal note, I also learned not to sit next to your boss or you may get volunteered for extra duties!!

Thanks to Peter Mosse and the WIOA team for putting the seminar together.

**Contributed by Pat Rokahr**, Water Quality Officer, North East Water



*Delegates at the Turbidity Seminar*



### PROTECTION WITH ATTITUDE.

At the New South Wales conference in March, the employer drawn out of the barrel to win the Ugly Fish prize of \$2000 worth of safety eyewear was Nambucca Shire Council.

Lisa and Mick from Ugly Fish recently visited the Nambucca team and presented them with their prize.

Ken Welsh, Water Operator at Nambucca said "Our water & sewerage guys are very impressed about the Ugly Fish polarised sun glasses. We feel so much safer with Ugly Fish safety glasses and have the added benefit of looking good!!"



*Nambucca Shire Council team in their Ugly Fish sunnies*

## TASMANIAN WTP TOUR

On the 11th July 2012, the WIOA Tasmanian group organised its second site open day. The open day involved a tour of Southern Water's East Coast Water Treatment Plants at Bicheno, Coles Bay and Swansea.

Although the plants were very similar in their process operations, they were chosen for the open day to highlight the significant amount of capital works spent to provide a consistent water supply which is safe for consumption as well as the need for the drought proofing of the East Coast townships.

The tour commenced at the recently constructed Swansea WTP. There were 15 participants from Ben Lomond, Cradle Mountain and Southern Water in attendance. They were provided a tour of the plant and discussed the reasons for the new plant and dam construction. The dam and new WTP has enabled Swansea, one of Tasmania's popular tourist destinations, to have a permanent boil water notice removed and guarantees water reliability during the summer periods where the town is consistently on water restrictions.

After the information sharing session at Swansea the tour proceeded to the Coles Bay WTP where historically water was tankered to the plant from Nov – March. The participants were informed about the supply issues the township experienced with the increased consumption due to the population explosion during the peak season as well as the difficulty in treating the water due to tannins and aluminium when levels were low in the existing storage dam. With the development of the new Saffire resort, three storage dams have been constructed now providing a total of 200ML of water and eliminating the need for continual carting of water and effectively drought proofing this area.

To finish the day the group visited the Bicheno WTP where we were treated to a lovely BBQ lunch and a tour of the newly constructed dam, once again ensuring a reliable supply for the tourist town of Bicheno.

These sessions have been well received in the Tasmanian Water Corporations with operators expressing their gratitude to WIOA for arranging such events. It is great to be able to utilise the opportunity to build professional relationships that allow for knowledge sharing and the utilisation of the collective intelligence of all parties to analyse similar process problems.

**Contributed by Mark McConnon** from Southern Water



*Tour group at Bicheno WTP*



*Inspecting sludge beds at Swansea WTP*

## 2011 KWATYE UPDATE

After much excitement and celebrating on the night of winning the Kwatye Prize at last year's Victorian WIOA conference, the next phase was to do it.

I had a draft of what I wanted to see and do prior to submitting the application (visit Germany and London) but after winning the prize offers came out of the woodwork to visit various manufacturing and testing facilities in Europe. This is a testament to our industry and that people are genuinely proud of their products or treatment plants and are keen for people to visit them.

After careful planning and a short delay (avoiding winter in Europe) I headed off to Hamburg, Germany on the 17th of May - around a 30 hour trip with stopovers. I was grateful that I had allowed a day up my sleeve to recover from jetlag, and I used this as a casual day to take in the beautiful sights of Hamburg.

The following day I met with Dr Klaus Nickel and his team at Ultrawaves, situated in the Hamburg-Harburg Technical University. We debriefed the three month Ultrawave trial that I conducted at the Melton RWP with Royce Water Technologies. This was followed by an inspection of their testing facility at the University. It was fantastic to have access to Dr Nickel, who is a world leader in ultrawave cell lysis destruction.

In the afternoon we visited a plant at Ahrensburg where a full scale ultrasonic installation has been running since May 2009. The lead operator on site was very welcoming and provided a full tour of the plant.

The following few days were spent travelling south by car (very fast I might add) to another two plants at Bamberg and Kleinstenbach. They were both very interesting plants that have full scale Ultrawave installation.

Dr Klaus had also arranged for a site visit to Sontronic, their manufacturing partner, where manufacturing, assembly and R&D takes place.

The plant that most impressed me was Bamberg. The plant leader was very house proud and had spent a lot of time optimising all aspects of his plant.



We had a lot in common and spent quite some time discussing our trials and tribulations, even with a language barrier. The Ultrawave installation at this site had resulted in a 30% increase in biogas to the point that they now export power from the site.

The Ultrawaves team that hosted me was fantastic. They ensured that my time in Germany was interesting and enjoyable with some sight-seeing and great company of an evening.

My last day in Germany was spent in Frankfurt enroute to London.

After an enjoyable weekend in London I caught the train to Reading to meet with Professor Stephen Smith from the Imperial College of London. Professor Smith had arranged a visit to the Reading Treatment Works where two of his students are doing a research project at the Reading R&D facility.

I met Professor Smith several years ago when he visited the Melton RWP site. He passed my background onto Thames Water (operator of the Reading Treatment Works).

Thames Water showed great interest in the Class A recycled water plant that Western Water operates at the Melton RWP. They asked if I could do a presentation to their operating and engineering departments. They have an interest in recycled water as many parts of their catchments are experiencing drought.

The presentation was to approximately 15 Thames Water staff, including the Wastewater Innovation Manager. It was well received with many questions and numerous contacts made that I have had subsequent emails from.

The plant visit through the Reading Treatment Works was interesting as it is a brand new facility, built on a greenfield site which was commissioned six years ago. At this site they operate four very impressive egg-shaped digesters.

On the Reading site they operate their R&D workshop. This was one of the best R&D sites that I have seen. There are several scale plants with influent feeds from the main plant, all connected on their SCADA system. A live model was being set up by the students. They were doing a feed/gas production calibration curve for the main digesters.

The following day I was met by an Engineer from Mono, and we drove to Maple Lodge Treatment Works. This is a large, well established plant out of London. The plant has been treating effluent since the early part of last century. The historical aspect of the plant was quite interesting. The day finished up with a visit to Hyde East Treatment Works.

On the last day of my official trip I caught the train to the historic town of Bath to visit the manufacturing facilities of Rotork Controls. I was given a grand tour by the Managing Director. The testing facilities were the highlight of the tour. I now have a greater appreciation of the quality of their products. I also got a preview of a new actuator that will hit our shores soon (very impressive).

The Kwatyte Prize has been an amazing experience. It has given me the opportunity to travel overseas to see products, plants and increase my knowledge and network of remarkable people in the Water Industry.

I would like to thank WIOA and Thermo Fisher Scientific for making this generous prize available and I would also like to acknowledge the support and encouragement of Western Water.

For any WIOA member who has a plan, project or idea, I strongly encourage them to apply for the Kwatyte Prize.

**Contributed by Rod Curtis – Western Water**

*Egg shaped digester -  
Reading 45 min from London*



*Reading  
R&D facility*

*Ahrensburg  
RWP in  
Germany  
about 1 hr  
NW of  
Hamburg*



*Bamberg RWP  
treatment  
plant in central  
Germany*

*Maple Cross  
RWP - large  
Treatment  
plant on  
outskirts of  
London*



## QLD CONFERENCE 2012

Over 750 people attended the **37th Annual Queensland Water Industry Operations Workshop and Exhibition** that was held at Parklands on the Gold Coast on 6 & 7 June 2012.



*Kevin Wormald - opening address*

The conference was opened by Mr Kevin Wormald from the Wujal Wujal Council who shared some of the issues of managing water and wastewater in rural and remote councils. The Keynote address was delivered by representatives from the James Cook University who provided a thought provoking demonstration of their real-time, 3D, scenario-based training platform that can be utilised for the water industry, which was well received.



*Ecolab Prize - Alex Madarasi (L) with Col Kirkegaard and Alistair Cumming*

The event culminated in the official awards ceremony that saw **Robert Harman from Allconnex Water** win the major award the **AWA Leon Henry Memorial - Queensland Operator of the Year**. Col Kirkegaard and Alistair Cumming from Banana Shire Council won both the Best Paper Overall and the Best Paper by an Operator for their report on the Theodore Floods in 2011.



*Iwaki Prize - Best Paper overall presented to Col & Alistair by Shane Wohlsen*

A highlight of the event was the Grand Final of the Best of the Best Queensland Water Taste Test that saw the Burdekin Shire Council win the **Best Tasting Tap Water in Queensland for 2012**.

A charity donation of \$2,500 on behalf of WIOA and its members and supporters was made to the Juvenile Diabetes Research Foundation.

## AWARD WINNERS

### Ecolab Prize for Best Paper by an Operator

**1st** Col Kirkegaard & Alistair Cumming Banana Shire Council

**2nd** Joel Warnes Allconnex Water

**3rd** Kym Kneebone Bundaberg Regional Council

### Iwaki Pumps Australia Prize for Best Paper Overall

Col Kirkegaard & Alistair Cumming from Banana Shire Council

### WME Best Trade Display

AIM Water

### Ugly Fish Bonus Prize

Charters Towers Regional Council

### Exhibitor Quotes

"great venue, atmosphere, a professionally run conference, a big thanks to the WIOA team"

"the industry display was first class; the quality of the papers was excellent; the overall organisation was excellent; the conference was run on time; there was plenty of room; and there was a sufficient 'critical mass' of delegates."



*Tugan Desal Plant Tour*



*Wednesday entertainer Nick Penn sponsored by DMI*



*Awards night dinner crowd being entertained*



*Wednesday at the exhibition*



*Wednesday at the exhibition*



## QLD OPERATOR OF THE YEAR

The AWA Qld Branch sponsored "Leon Henry Memorial, Queensland Operator of the Year" for 2012 was presented to Robert Harmon from Allconnex Water at the recent WIOA Qld Workshop Awards Dinner.

There were three very worthy finalists in contention for the award – Heath Boxer from Veolia Water, Michael McAuley from Mackay Regional Council and Robert Harmon from Allconnex Water.

John Betts representing AWA Qld Branch presented the award to Robert and provided some insight into Robert's achievements which brought about his nomination.

Rob Harman has worked consistently at a high standard in his roles as Assistant Operator, Senior Operator and also Acting Supervising Operator at the Capalaba Wastewater Treatment Plant.

Rob was nominated for his contributions to the centrifuge upgrade project and his continual attention to keeping the nutrient numbers low while operating the Capalaba plant.

He has also managed to perform over a wide range of facets of the Operator role. He has played a key role on the Workplace Health and Safety committee and has also been able to adopt new risk and safety procedures set out by Allconnex Water. Rob has also been able to think for himself in regard to finding innovative solutions for problems at his plant. He has been very capable in project managing his initiatives and commissioning. An example of one of his initiatives is the new odour cover for the sludge concentrator.

The Capalaba WWTP has a reputation as being a tough plant to operate well. Five years of excellent results proves that Rob is a good operator and knows how to optimise his plant to provide excellent biological and chemical nutrient removal. Rob has a friendly and open demeanour which helps him communicate with a wide variety of staff and contractors that visit or work at the plant. Many junior operators have benefited from Rob's ability to pass on his knowledge and skills in wastewater treatment. Rob has also been able to find work-arounds for a number of major breakdowns at the plant which may have otherwise given rise to environmental harm in the receiving environment.

Rob Harman is a worthy recipient of the 2012 Queensland Operator of the Year Award as his experience, skills and working philosophy set a good example for other operators to aspire to achieving.



Operator of the Year - Robert Harmon (R) with John Betts (AWA)

## QLD YOUNG & CIVIL OPERATOR OF THE YEAR

Congratulations to Tammy Beddow from Central Highlands Regional Council who was named Young Operator of the Year and Ashley Reidy from Isaac Regional Council (Middlemount) who was named Operator of the Year (Civil) at the annual WIOA Awards Dinner on the Gold Coast.

Sponsored by **qldwater**, the awards aim to encourage outstanding operational performance of Queensland water industry employees and this year we were fortunate to again acknowledge operators who showed excellent performance, initiative and all round attention to detail.

Tammy and Ashley will receive an all expenses paid trip (value \$2,000 each) to join the WIOA delegation on a tour of water and wastewater facilities in New Zealand as well as attending the Water Industry Operations Group NZ conference in May 2013.

### Tammy Beddow

CHRC described Tammy as "the epitome of quality operation and public service", saying that "she may draw a wage but she genuinely works for her community".

Tammy started her career in the water industry in 2001 as a water operations trainee with Daringa Shire Council and enrolled and completed her Cert III in water operations off her own bat. Currently Senior Operator at Blackwater Water Treatment Plant, Tammy has pure pride in her role and claims that she is doing it because of its importance to the Blackwater community. Tammy said the award was an enormous personal achievement in her career.

"I know what sacrifices I have made to become a better operator, and this award helped to boost my confidence, earn respect from my co workers and further my career," Tammy added.

### Ashley Reidy

Ashley started with Isaac Regional Council nine years ago as an 18 year old trainee and has since completed a Cert II and Cert III in water operations. He is currently studying a Diploma of Project Management. Ashley's extensive treatment plant experience led to his promotion to the role of W&S operations supervisor 18 months ago, giving him responsibility for the Middlemount and Dysart W&S treatment schemes.

Ashley was nominated due to his commitment to safety as WHS representative, his strong community involvement through a number of clubs, his support to community organisations and his active involvement in training other operators in lab testing procedures and backhoe operations.

Ashley said he felt honoured to receive the award as it acknowledged his achievement in the industry. "I started as a trainee and worked my way up the ladder to assistant operator, operator and now supervisor, and this award not only recognises my personal achievement but also sets a great example to trainees and other operators that this is achievable".



Operator of the Year (Civil Works) Ashley Reidy (L) with Rob Fearon



Young Operator of the Year Tammy Beddow (L) with Rob Fearon from qldwater



## BIRDS EYE VIEW

### Facilities Members Operate - Wetalla Waste Water Treatment Facility, Toowoomba

#### EFFLUENT REUSE

From March 2009, a large percentage of the final effluent from the site will receive further tertiary treatment for reuse off site with minimum discharge to Gowrie Creek.

#### CLARIFICATION

The four clarifiers receive mixed liquor from the reactor tanks and allow separation of the effluent from activated sludge and return it to the reactor tanks.

#### REACTOR TANKS

The reactor tanks are designed to biologically remove carbon, nutrients, nitrogen and phosphorus from the raw sewage influent through a series of controlled environments. This occurs in the anaerobic, anoxic and aeration zones.

#### PRELIMINARY TREATMENT

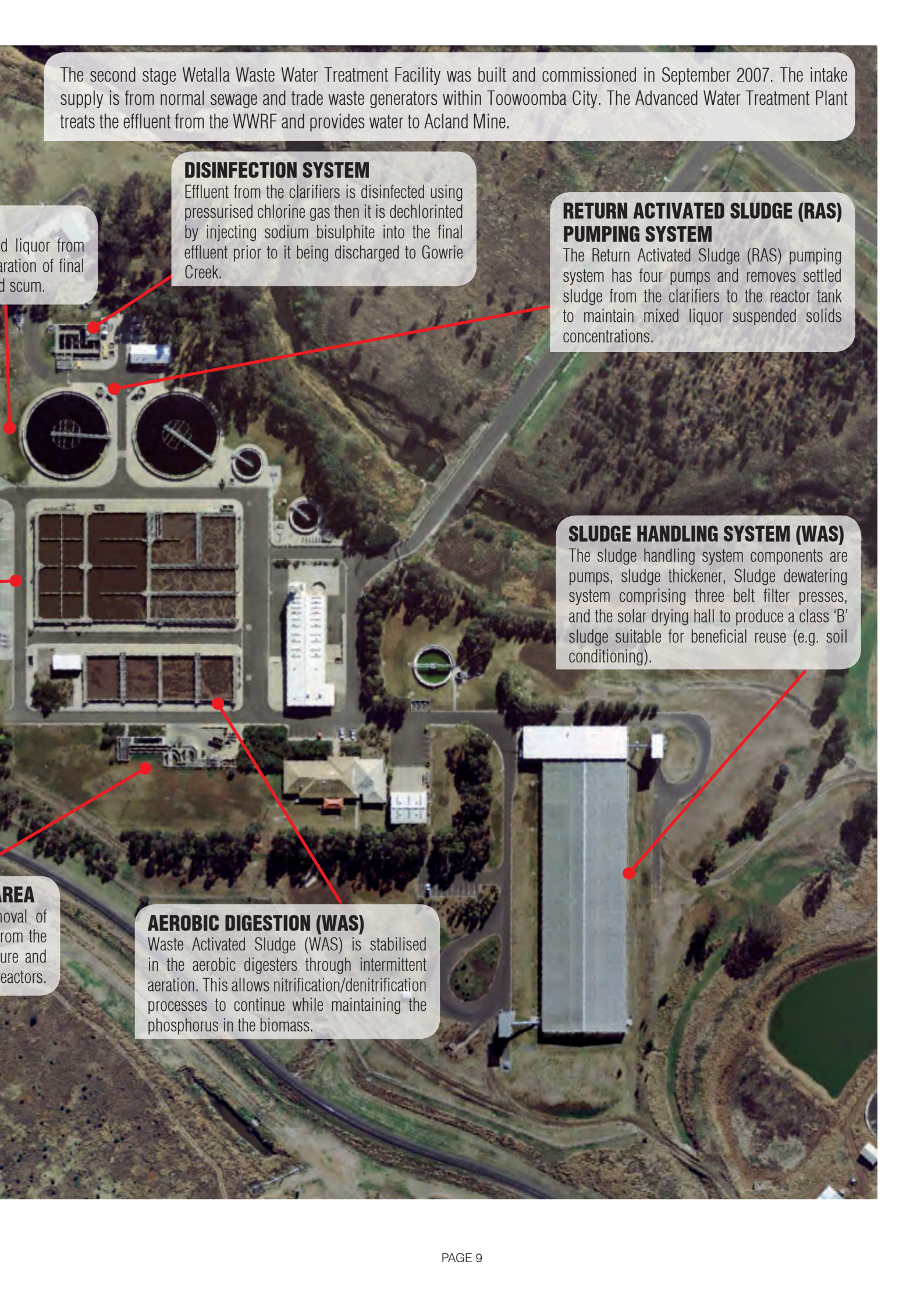
Two channels for screening and removal of grit, coarse and heavy solid material from incoming raw sewage. Also to measure and divide the flow equally between the two main channels.

### WIOA WATER INDUSTRY INTEREST DAY

The WIOA Queensland Advisory Committee invite you to join other water industry operators in a **Water Industry Interest Day** to be held at the Wetalla Reclamation Facility in Toowoomba on the 27th September 2012, more information and registration is available on the WIOA website.

To have your facility featured in Operator contact Craig on 03 5821 6744.





The second stage Wetalla Waste Water Treatment Facility was built and commissioned in September 2007. The intake supply is from normal sewage and trade waste generators within Toowoomba City. The Advanced Water Treatment Plant treats the effluent from the WWRF and provides water to Acland Mine.

### DISINFECTION SYSTEM

Effluent from the clarifiers is disinfected using pressurised chlorine gas then it is dechlorinated by injecting sodium bisulphite into the final effluent prior to it being discharged to Gowrie Creek.

### RETURN ACTIVATED SLUDGE (RAS) PUMPING SYSTEM

The Return Activated Sludge (RAS) pumping system has four pumps and removes settled sludge from the clarifiers to the reactor tank to maintain mixed liquor suspended solids concentrations.

### SLUDGE HANDLING SYSTEM (WAS)

The sludge handling system components are pumps, sludge thickener, Sludge dewatering system comprising three belt filter presses, and the solar drying hall to produce a class 'B' sludge suitable for beneficial reuse (e.g. soil conditioning).

### AEROBIC DIGESTION (WAS)

Waste Activated Sludge (WAS) is stabilised in the aerobic digesters through intermittent aeration. This allows nitrification/denitrification processes to continue while maintaining the phosphorus in the biomass.

### REA

Removal of  
from the  
ure and  
reactors.



## QLD WATER TASTE TEST

Congratulations to Burdekin Shire Council who earned bragging rights for the best tasting tap water in Queensland for their Ayr water treatment scheme as the winner of the Queensland Water Directorate's Orica Australia Best of the Best Queensland Water Taste Test. The final judging took place at the WIOA Qld Operations Workshop on the Gold Coast in June.

Burdekin Shire Council Operations Manager Wayne Saldumbide said even though Burdekin promoted itself as being built on liquid gold (water), the win was a pleasant surprise and a big event for such a small shire.

"We are extremely fortunate to have an underground aquifer that contains over 20 million megalitres of water which equates to about 40 times the amount of water in the Sydney Harbour," Mr Saldumbide said.

"Water is pumped from the aquifer to treatment facilities where the water is both aerated and chlorinated before being supplied under pressure to the distribution network for consumption," he said.

Burdekin was one of 31 state-wide entrants which had been narrowed down to six finalists at **qldwater's** regional conferences and a regional water tour that aimed to link Queensland water service providers with technical and management expertise to help plan and safeguard their community's future water supply and sewerage infrastructure needs.

Competition was tight and the four independent judges – all experts in the water industry – had their olfactory senses tested in the quest to find the best tasting tap water in Queensland. The winning sample was judged to have no odour and a variety of flavours including "a slightly earthy taste", "fresh", "sweet, but salty", "flat" and "quaffable like grange".

**qldwater** CEO Dave Cameron said the taste test wasn't a technical test – it's what makes local communities proud, typically measured by what makes a good cup of tea.

"While the taste test is about how good tap water tastes, it is also meant to help inform the community over time about how much effort goes into providing clean drinking water; with far greater controls and lower cost than other retail sources like bottled water. This is an essential service provided 24/7 by your local water utility."



Gary Tickner accepting the prize on behalf of Burdekin Shire Council

The six regional winners who battled it out at the state-wide grand final were:

### South East Queensland

North Burnett Regional Council's Eidsvold scheme gets its water from the Burnett River through an alluvial bore and has a fairly simple treatment process with only sand filtering and chlorination before it is distributed to the 297 residential connections in Eidsvold.

### South West Queensland

Toowoomba Regional Council's Mt Kynoch facility takes water from Toowoomba's three dams and uses conventional treatment - flocculation, settling, filtration, chlorination and fluoridation - before distribution.

### Central Queensland

Rockhampton gets its water from the Fitzroy River and treats it at the Glenmore water treatment plant using conventional treatment processes like flocculation, sedimentation, filtration, chlorination and fluoridation before distribution.

### Western Queensland

Barcaldine gets its water straight from the Great Artesian Basin and it needs no further treatment. It has two bores; one of which is artesian and flows continuously. Both are pumped into ground storage reservoirs and then distributed through town by variable speed pumps. There is a single reticulation system into which is fed from both sources depending on where in town the demand is. The water comes out at around 45°C.

### North Queensland

Burdekin Shire accesses its water supply in the Ayr, Home Hill and Brandon townships from the extensive underground aquifer which is recharged by water pumped by the local water boards from the Burdekin River. Water is pumped from the aquifer to treatment facilities where the water is both aerated and chlorinated before being supplied under pressure to the distribution network for consumption.

### Far North Queensland

Torres Strait Island Regional Council's Saibai treatment plant gets its water from a rainwater lagoon supplemented by naturally purified swamp water. The water is then filtered and chlorinated before being pumped to the 300 residents across the island.



QLD Taste test judging







### ***The quest to find the best tasting tap water in Victoria***

WIOA was proud to host the Grand Final of the **gldwater** - Best of the Best Queensland Water Taste Test at our Queensland conference on the Gold Coast on Thursday, 7 June 2012. Following on from this successful event, WIOA will be conducting the inaugural Orica Victorian Water Taste Test at our September conference in Bendigo.

The taste test aims to celebrate the achievements of water service providers, as well as showing our community what a great job many WIOA members do in providing some of the best quality water in the world.

The 2012 Orica Victorian Water Taste Test seeks to promote a healthy rivalry among Victorian water businesses and is a fun way to raise awareness of the quality of Victoria's drinking water and recognise the efforts of local water service providers in delivering valuable water services to their communities.

Water businesses have been left to their own devices in finding a representative to be entered in the 2012 Orica Victorian Water Taste Test, here is just a sample of how they are going about it.

Goulburn Valley Water started their search by asking all staff to vote for which town has the best tasting water through an electronic voting system.

Gippsland Water will be holding 4 regional taste tests within the organisation followed by their own "Grand Final" to find a winning sample to be their representative.

Wannon Water is taking their test to the Board incorporating it with an annual review of water quality.

The Grand Final will take place at lunchtime at the conference on Thursday 6 September with the winner announced at the WIOA Awards Dinner on Thursday evening.

We thank Orica for supporting this initiative and look forward to tasting some of the world's best water at the 2012 Victorian Conference. **May the best tasting water win!**



## **THE EVER CHANGING WATER INDUSTRY**

How things change! When we join the wonderful world of water/waste treatment we can never really know what journey this will take us on. Through my career within the industry I never thought I would be running a water treatment facility within the Coal Seam Gas (CSG) industry.



Let's take a journey in my shoes. When I first became full time employed within the industry I was employed as a maintenance person who was quickly lead into the water treatment side of things. I ended up operating a number of different water treatment plants. Plants varied from conventional plants to slow sand filtration plants, microfiltration and direct filtration water plants. I believed that things would not really change much with the variety of plants we had at our disposal. Then another change, with the introduction of Dissolved Air Filtration (DAF). Not long after the introduction of the DAF plant I moved on to greener pastures.

I found myself in the middle of a major project located in Bendigo region. On project completion, I had the opportunity of operating one of the largest submerged microfiltration membrane plants in the southern hemisphere at the time. I was then asked to operate a BNR wastewater plant which was also under construction and located in the Kyneton region. This took a little time to become familiar with as I had minimal knowledge and experience within the wastewater processes. Being involved with the commissioning of the BNR plant helped fast track my knowledge and understanding of wastewater and soon had the process running like a dream. During this period I was undertaking ongoing training and completed my Certificate II & III in Water.

Having spent many years within the private industry and volunteering myself on a number of pilot projects. I had placed myself in a position of hopefully becoming a future Supervisor. The opportunity of becoming a supervisor presented it self with a position becoming available located in Queensland on the Western Corridor Recycled Water Project located at the Bundamba plant. My application for this position was successful.

This role presented itself with a steep learning curve and the plant was still heavily under construction. Close liaising with certain alliance employees was crucial to a successful transition. My role presented itself with establishment of internal working systems, operator training, introduction of HACCP, and contractor management. The position was made a little harder not really understanding the workings of a RO (Reverse Osmosis) process and treating secondary wastewater. After approximately 5 years in this position I had gained plenty of experience and I was then to make another change.

My next position with a state government company as an Operations Coordinator took me back to my grass roots. Old school water treatment with ageing assets and the introduction of HACCP. In this position I found myself re-engaged with WIOA. Within 6 months of my appointment I was elected as the WIOA Queensland Advisory Committee Chairperson, my term as chairperson will end in September. After spending only 18 months as an Operations Coordinator, I found it was time to venture into something more left field.

My new employment is with a Power company extracting gas from gas wells, Coal Seam Gas (CSG). You might ask what that has got to do with water. To extract gas from a coal seem you need water. My new role as a Water Treatment Facility Supervisor is to treat all associated water that comes to the surface from the wells after gas has been removed. A major part of the process is controlling the waste product called Brine.

So to finish up, the water industry is changing. We not only have the opportunity to operate conventional plants within townships, we have opportunities to operate the most technologically advanced plants. With the introduction into industrial water plants treating water from the CSG processes.

**Contributed by Jason Krzciuk**, Chairman of the WIOA Qld Advisory Committee

## Jason's Shave for Charity

*Ben Lomond Water staff member Jason Dalzell and a bunch of helpers recently raised \$13,047.70 for Ronald McDonald House Charities. In May 2012, Jason's dreadlocks were clipped to raise money for a wonderful organisation, which helped his family and many others through one of the hardest times of their lives.*

*Jason, his family, and the Ronald McDonald House are not only blown away by the generosity but very thankful to everyone for donating to such a wonderful organisation who helps thousands of families around Australia every year.*

**The Dalzell Family story:** (Story by Jason's wife Leann)



*Kai Dalzell in hospital*

Our journey with Ronald McDonald House was quite a long one. When our son Kai was 7, he was diagnosed with Burkett's Lymphoma. We were told that he could not be treated in Tassie as his cancer was so aggressive. Diagnosed on Friday evening, sent to Melbourne the next morning, our lives were turned upside down. Family were asked to look after our 5 year old daughter as she was too young to be with us in the isolation rooms. Our family was separated which put quite a strain on us all. It was heartbreaking watching the kids say goodbye to one another, not knowing if they would see each other again. We only packed for a couple of days hoping we would be back in Tassie by the end of the weekend.

Arriving in Melbourne, we were bombarded with new information and medical jargon that made our heads spin. The last thing we thought about was where Jason and I were going to sleep. It wasn't high on our agenda. Saving our son's life was. That afternoon as Kai was admitted to the Children's Oncology Ward we were asked if we had anywhere to sleep tonight. We didn't care really, we would sleep on the floor if we had to. We were told to not worry as the nurses made some calls. By that evening we were given an envelope with the keys for a room at Ronald McDonald House. Honestly, we really didn't have much of an idea about Ronald McDonald House. We saw it advertised but didn't have any comprehension as to how much this place was going to make us feel safe and supported.

By the end of the weekend, we found out that we would be living in Melbourne for the next 6 months as that was how long Kai's treatment was going to be. His treatment was so intense and debilitating that we would not get home once as a family and he would be spending the vast majority of his time in Melbourne on the ward. The only times we were a whole family unit was when family would bring our daughter over to Melbourne. That was only when Kai was well enough to see people. Even a cold could have killed him so we had to be really stringent with Kai's contact with other people.

Ronald McDonald House became our home away from home. Our room was neat and clean. We shared a bathroom and massive kitchen with other families. This was invaluable as we made some wonderful friendships. There were other families living at Ronald McDonald House long term like us and became like family. We would share good days and bad days. Some really bad when a child lost their battle and great days when families were able to leave the house after beating their illness.

We had some very memorable moments because of Ronald McDonald House and the wider community that support the house. Various business and community groups would hold dinners for the families in the house. This was a fabulous time as families got together and had a hearty meal. So often when your child is sick, you forfeited meals so this was always a welcomed and thankful treat. There was also sports teams who visited and gave sick kids and their families an exciting moment to get up and personal with a big name star. Mother's Days, Easter, anytime to celebrate, Ronald Mc House celebrated. It broke the routine of hospital and sickness and gave us something to smile and laugh about.

If it wasn't for Ronald McDonald House, we would not have had a roof over our heads. As we were living in Melbourne for 6 months, we could never have afforded accommodation as Jas had to leave his job to be with his son. We have made lifelong friends because of the times shared in a truly remarkable house. We would like to thank the wonderful volunteers and support staff of Ronald McDonald House. Please give generously for this worthy charity who helps thousands of people around Australia every day keep their families together during some of the hardest times of their lives. As a family we are eternally grateful for such a wonderful place.

*"This is an organisation and charity which did so much for me and my family, this seems like the least I can do to say thank you," Jason said.*

*Jason says he has plenty to be grateful for. "At an average cost of \$100 per night to accommodate a family, donations and community support are vital to enable us to offer a welcoming home-away-from-home for families in need," a spokesperson from Ronald McDonald House said.*



*Jason & Kai with Nikki Boyd at RMH*

*Jason and his family flew over to Melbourne to personally hand over the cheque to the Ronald McDonald Foundation. Thank you again to everyone who donated and came along to watch the shave. Every Donation makes a difference.*





*Jason Dalzell before*



*Jason during the shave done by Damien Lavelle*



*Jason Dalzell after*

## Charity Golf Day 2012 - Garfield Golf Club

The **14th WIOA Victorian Charity Golf Day** will be held at the Garfield Golf Club on Sunday 21 October 2012.



**Sunday 21st October 2012**  
Garfield Golf Club, Victoria

## Shortcuts

### Members Survey - How are we going?

Is there something that you think we should be doing to further assist you as a member of WIOA?

If so, let us know by completing the WIOA membership survey which is aimed to improve the services we provide to our members across Australia.

Complete the survey and win! All members completing the survey will enter a draw to win one of a number of prizes that has been provided by For Earth.

The survey consists of approximately 25 questions and should only take 5 minutes to complete – it can be accessed at [www.wioa.org.au/survey/memberssurvey2012.htm](http://www.wioa.org.au/survey/memberssurvey2012.htm).

### Charity Auction Qld – Entertainers Shirt

Nick Penn, the entertainer at the Meet the Trade Dinner on the Wednesday night at the Qld Workshop wore a very brightly coloured shirt. The shirt took the fancy of Rod Wellings from Royce and he proposed to Nick that we could auction it with the proceeds going to charity. Nick agreed and Rod was given the auctioneers gavel and after a couple of bids, Rod ended up buying the shirt for \$275. After sending it for a spin inside the whirlpool, Rod fronted up to the conference on Thursday proudly wearing the shirt.



*Auction winner Rod Wellings with signed shirt from Nick Penn*

### LGSA Conference

As we have done for a number of years, WIOA attended the NSW Local Government and Shires Association annual Water Conference as an exhibitor. Attending these sorts of events is an important way to promote WIOA and what we do to the senior managers and Councillors from across the State. There was a great deal of interest in what we are doing and Craig was able to meet a number of new people as well.



*Craig and the WIOA booth at the NSW LGSA Water Conference*

## 2012 WIOA OPERATORS TOUR & WIOG NZ OPERATIONS CONFERENCE

I recently had the pleasure of attending the annual Operators Tour and WIOG NZ Operations Conference. This was held in Wellington, New Zealand from 4-12 May.

We visited 4 WTP's and also 2 WWTP's during the study tour around the southern region of the North Island. There was also spare time made for other activities including Go Kart Racing, snooker against the locals at Taihape and bungee jumping at Gravity Canyon where some of the braver guys could get their fix of adrenalin. If you see Russell Mack (AKA Evel Knievel) around the traps, ask him about his feet first pin drop / bungee jump which he miraculously pulled off very stylishly. Or should I say very very awkwardly. Glad you made it Russ!!

The WTP's we visited during the tour included Te Marua WTP (Greater Wellington Regional Council), Turitea WTP and Dams (Palmerston North City Council), Waikanae WTP (Kapiti Coast District Council) and also Wainuimata WTP. All of these plants were Sedimentation / Clarification plant's apart from Wainuimata which was a DAFF plant.

What struck me the most once we started touring the WTP's was just how strict NZ laws are when it comes to treated water quality. Whilst in Australia we have the ADWG to follow, NZ authorities have taken the step to apply very tight laws which must be adhered to at all times. To give you an idea, if a WTP filtered water went above 1 NTU for greater than 2 mins, this was a breach which of course was something all water authorities and WTP staff worked hard to avoid. To achieve such high water quality the New Zealand authorities took various steps. Some of these included –

- Backup raw water sources if the regular source became unsuitable or even too costly to treat. The use of bores and backup dams was available until the regular source became suitable again.
- Some WTP's also had the ability to change over to an alternative coagulant. This was done to ensure treatment of differing raw water qualities was successful or to save on cost of treatment.
- The use of new technology was also common. One WTP had upgraded from a SCD unit to an S:CAN unit. In doing this, operational costs had reduced by 15-20% and also filter runtimes were able to be increased by 15 hours due to more efficient treatment.
- To reduce filter ripening periods after a backwash, chlorinated water was used only every 3rd or 4th backwash. If a filter was then above 1 NTU at any stage the filter was closed and water was either returned to the head of the plant or sent to waste.
- The use of hydro power and the emphasis on energy efficiency was also very prominent.

Whilst everyday challenges faced by our NZ counterparts were very similar to what we face as WTP staff here in Australia, to actually get out there and see how other water authorities go about tackling these issues was very beneficial.

Talking to the NZ operators, I really got a feel for the importance they put on their job in providing safe drinking water to their community.

The pride and passion they have for their jobs and WTP's really made an impression on me. This really exemplified the important role we play in providing such a service.

As one of the Kiwi's said "In this industry we are all health workers and we should see ourselves as that". I think this is a very good way of looking at how important the job we do every day is.

Both WIOA and WIOG NZ need to be congratulated on running such a professional and educational event. The knowledge and friendships I have gained has been great, and I can recommend the tour to anybody thinking about attending next year and beyond.

**Contributed by Glen Sheekey - Gippsland Water.**

*Paraparaumu STP*



*Backwash filters  
Te Marua WTP*

*Russell Mack  
vertical bungee!*



*NZ Tour group*

## THE LIGHTER SIDE

City unsure why  
the sewer smells



## CORPORATE MEMBER NEWS

# Tecpro

AUSTRALIA

**Technical Solutions You Can Rely On**

### NOZZLE REFURBISHMENT

A major challenge faced by those responsible for maintaining or refurbishing older water treatment facilities is sourcing parts that fit perfectly and will also perform to required standards.

When the Western Australia Water Corporation needed to refurbish a thirty year old water treatment facility in 2011, getting an exact match to the existing nozzles was the preferred option.

"The Scheme Manager had tried using slightly different replacement nozzles from another supplier, because that was all that was now available. However his preference was to use like-for-like to be certain to not change filtration characteristics," said Tecpro Australia's Managing Director Graeme Cooper. "It's understandable that after having nozzles that had worked perfectly for 30 years, they would ideally be replaced with the same type."

The problem was that the old design was no longer manufactured. "After speaking with us, we were able to arrange to have filter nozzles manufactured to precisely match those they were replacing to ensure they would perform exactly as the existing nozzles had done."

As a specialist in filter nozzles, Tecpro also recommended incorporating several small improvements in the replacement filter nozzles to increase their strength and durability.

"While the nozzles we had manufactured for WA Water Corporation were an exact replica of the nozzles being replaced, we made some suggestions to strengthen them which will make them better in service," said Mr Cooper. "Our client was delighted we could come up with exactly what was needed and had also found ways to improve upon it."

More information about **Tecpro Australia's** expertise in filter nozzles can be found at [www.tecpro.com.au](http://www.tecpro.com.au) or call **02 9634 3370**



*The newly built nozzles to match the old ones*



*Installation of the Tecpro nozzles in WA*

### CAT GOT YOUR TONGUE?

Hopefully your tongue is well and truly intact and no mischievous feline has disappeared with it to parts unknown! In the spirit of the recent water taste test performed at the Queensland conference and the upcoming event at the Victorian conference, it's worth looking briefly at the science and technology of taste – hence the tongue reference at the beginning.

In the water treatment process there are a number of analytical instruments used to determine the quality of the water produced, such as pH, chlorine and turbidity. While there is a range of contributing factors to the taste of water, the main instrument used to provide analysis is our tongue! This has both positive and negative ramifications. On the plus side the human tongue is an amazing piece of instrumentation, possessing over 100,000 taste buds that determine the different categories of taste as salty, sour, bitter or sweet. On the down side humans are all different and some taste buds may be more sensitive than others. This leads to differences in opinion about what may taste good or bad. In the water industry many taste issues can be addressed in the treatment process, however, monitoring of taste is currently either left up plant operators, or in the worst case scenario, customer complaints!

So is there anything on the technology front that may help? I'm glad you asked! The manufacturing industry (in particular food and beverage) are using an analytical instrument referred to as an 'electronic tongue'. The device determines a 'taste fingerprint' (based on organic and inorganic compounds) and can analyse all the components responsible for taste in liquids. While price maybe an issue at the moment, it's worth keeping an eye out for future use within the water industry. Imagine the potential benefits of using this type of instrumentation online and being able to react or control taste issues immediately before consumer alert.

WIOA would be interested to know if anyone in the industry has looked at these devices and is able to share more information to its members.

Thanks to Bio-Strategy for information on the electronic tongue. For more details contact Rick on 1800 008 453.

Contributed by **Ryan McGowan**, Goulburn Valley Water



*Electronic Tongue*

## NEW MEMBERS

Welcome to the following people and companies who have recently joined our Association as a Member or Corporate Supporter.

New **Individual Members** include:

Anthony Black, Gary Anderson, George Bellizia, Hua Wang, Phillip Thornton, Catherine O'Brien, Brett Eliasson, Sandra Fox, Mark Banting, Cameron Ansell, Peter Stewart, Josephine Gualtieri, Ryan Ching, Fiona Robertson, Stephen Wilson, Phillip Smith, Alexander Volobuev, Vladislav Gromov, Peter Jenkins, Paul Henderson, Chris Madsen, Chris Jones, Andrew Northover, Wayne Ward, Alex Irvine, Rohan Beaton, Wayne Smith, Aiden Staley, Scott Laidlaw, Wayne Mumford, Steve Duffus, David Peake, Matt Conn, Gavin Milne, Sejeev Dep, Daniel Asmussen, Carl Vesty, Richard Vesty, James Alesi, Howard Birt, Peter Munis, Katrina Shields, Shane Doss, Adam Ford, Michelle Joy, Jordan Hubber, Andrew Barnett, Michael Bowkett & Darren Phylard.

New **Corporate Members** include:

Trojan Technologies, 4RF Limited, VWR International, Sugar Australia & Rehau.

		
<b>Canberra</b> April <b>10+11</b>	<b>Gold Coast</b> June <b>5+6</b>	<b>Bendigo</b> September <b>4+5</b>

Water Industry Operations  
Conference and Exhibitions



# 2013

www.wioa.org.au

## COMING EVENTS

5 & 6 September	75th Annual Victorian Water Industry Engineers & Operators Conference, Bendigo
11 & 12 September	Innovation in Water Management Conference, Chisholm Institute, Cranbourne
27 September	Water Industry Interest Day (Qld) – Toowoomba
17 October	Water Quality Awareness & Distribution System Management Seminar, Melbourne (Vic)
21 October	Charity Golf Day (Vic) – Garfield Golf Club
24 October	Tasmanian Tour - Burnie WTP & WWTP

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## NEXT EDITION

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