OPERATOR

November 2002 Edition

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Wastewater Reuse South West Water. See report P. 6

Charity Golf Day at Trafalgar. See report P. 7

Newsletter of the WATER INDUSTRY OPERATORS ASSOCIATION OF AUSTRALIA Inc. A12314

President's Prattle

Here we are at the end of another event-full year. The Association continues to grow with new members from all over the country.

You will notice that this edition is back to the high standard that you have come to expect, thanks again to Richard for his ongoing commitment to the newsletter.

The Water Industry Charity Golf Day held at the Trafalgar Golf Course was again a great success with those participating having a very enjoyable time. In the process we have raised a considerable sum of money for charity.

During the festive period take the opportunity to enjoy the company of family and friends.

For those of you that are travelling, please do it safely and "take the time to smell the roses"!!

I wish you all a very Merry Christmas and a Happy New Year.

Happy Operating!

Russell Mack
WIOA President

Charity Golf Day Participants

The Chemistry of Water

This third edition of "The Chemistry of Water" continues with water chemistry tests commonly performed by WSL Consultants' analytical laboratories. WSL has been conducting water and wastewater analysis for 35 years. This article may assist treatment plant operators to gain a better understanding of the chemistry of water.

Which Oxygen Demand is that?

Oxygen demand testing is used to assess the consumption of oxygen in wastewaters, effluents, and polluted waters to avoid depleting receiving water dissolved oxygen and/or overloading treatment plants. The two most commonly used tests are:

> Biochemical Oxygen Demand, and
> Chemical Oxygen Demand

Biochemical Oxygen Demand (BOD) is an indirect indicator of the amount of the organic matter present in waste. When bacteria are placed in contact with organic matter, the bacteria will utilise it as a food source. The organic matter will eventually be oxidised to stable end products such as carbon dioxide and water. The actual test involves placing a sample of waste in a test bottle with bacteria (seed), nutrients and dissolved oxygen. The test bottle is incubated for 5 days at a constant temperature of 20°C. The amount of dissolved oxygen used under these conditions is known as the 5 day biochemical oxygen demand.

Chemical Oxygen Demand (COD) is the digestion of waste constituents using an oxidant and sulphuric acid under controlled conditions. Because of its unique chemical properties, dichromate is usually used as the oxidant. Both organic and inorganic components of a sample are subject to oxidation, but in most cases the organic component predominates and is of the greater interest. The quantity of oxidant consumed is expressed in terms of its oxygen equivalence.

BOD vs. COD

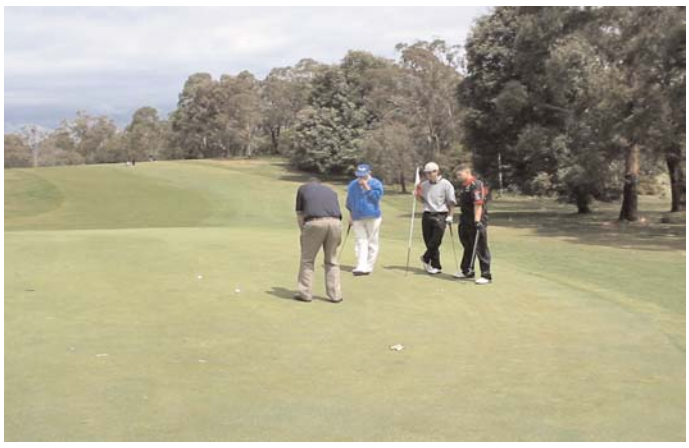
The BOD test, whilst being the best available representation of what will occur in a natural water system, requires a minimum of 5 days to perform, whereas the COD test can be conducted within hours. The best value analysis for a treatment plant would be BOD and COD for raw waste and BOD for the final effluent.

No clear correlation exists between BOD and COD in general, but for waste of consistent quality, it may be possible to establish a relationship between the two values. As a rule, COD values are always higher than BOD values, since chemical oxidation includes waste compounds that are difficult to breakdown with bacteria or are compounds that are completely non-biodegradable.

Results are reported for both as mg/L O2, with the understanding that the oxygen subsequently consumed by a waste will be supplied within a treatment plant or depleted from a receiving water.

If anyone has any questions regarding water or wastewater testing, please contact Nick Bray, Manager of Chemistry (nbray@wsl.com.au) or Mike Clahsen, Supervisor of Chemistry Services (mclahsen@wsl.com.au).

More 'golfers' at the Charity Golf Day Report P. 7



Editorial

My apologies for the non-appearance in this format of the August edition. A few major problems occured and hopefully these are resolved. Most articles from that edition now appear in this edition so if some seem dated this is the reason. As these articles were submitted and of interest to all in the industry, their inclusion is warrented.

Keep those articles coming in. Don't forget if your authority puts out a press release please forward a copy email to 'The Editor'. Please note in the contact list that my details have changed (P.4)

Don't forget the contact in your area for 'Operator' articles (refer P.4).

THE EDITOR

Secretary's Scrawl

2003 Conference

The venue details are yet to be finalised for the 2003 Conference. We hope to get this all sorted out soon and will let everyone know in the next newsletter in the new year.

Submissions on Behalf of WIOA

The Association has been requested to participate in a number of inquiries and industry based workshops of late including the Federal Environment Committee Inquiry Into Employment in the Environment Sector and the EPA Top 30 Project. We are now receiving a number of invitations to participate based on direct referrals. These referrals are coming from various sources including people who have some experience or knowledge of what we are all about, or who we represent. Although it is often difficult to juggle the resources and time to complete submissions or to attend these events, our input is important. Apart from getting our voice and opinion on various issues heard, our positive actions will enable us to be recognised more widely as a key industry body.

Memberships

The 2002 year is fast coming to a close meaning that membership fees for next year are almost due. I will be sending out a reminder and a Tax Invoice to everyone, including those who owe fees for past years. If you don't wish to remain a Member, please let us know and we'll take you off the mailing list.

New Members

Welcome to the following people who have recently joined our Association.

Noel Barton, Robert Filcock, Graham Boughton, Ross Smith, Kevin Hunt, Tom Lawson.

And the following new Corporate Supporters : Conhur

George Wall
WIOA Secretary

Around the Traps South East

East Gippsland Water, Gippsland Water, South Gippsland Water & Western Port Water

SOUTH GIPPSLAND WATER

Operational Restructure

South Gippsland Water's Operational Restructure is now commenced

There are now three Area Supervisors responsible for Field operations

Tony Mcleod Western Area
Peter Outrim Central Area
The Eastern Area Supervisor will start early in August

Bill Dilg has taken up a new position looking after System Efficiency, Risk and Training

Some existing staff have moved position and recruitment of new operators is well underway.

Manual Handling

Following a review of manual handling procedures the majority of our plants are being converted to liquid soda ash to reduce the risk of back injuries. By the end of the year only one plant will still use powder. This plant however does have mechanical handling equipment. This will continue to use powder so that a stock of powder is available to any plant in the event of delivary problems.

WTP for Yarram

2003 should see all SGW systems receiving filtered water. This years captil programme includes the construction of a new WTP for Yarram, the last unfiltered supply.

Brian Ashworth - South Gippsland Water

GIPPSLAND WATER

New Holland Mouse Identified at Dutson Downs

A survey conducted by the Fauna Survey Group of the Field Naturalists Club of Victoria and Gippsland Water over the Queen's Birthday weekend captured several New Holland Mice at the Dutson Downs Resource Recovery Facility.

The New Holland Mouse (Pseudomys novaehollandiae) is Victoria's most threatened native rodent. Only a small number of isolated populations are thought to exist in Victoria after the species was lost from a number of other localities during the past 20 years. The New Holland Mouse is listed as critically endangered in Victoria.

Mr John Mitchell, Chief Executive Officer, Gippsland Water said, "Dutson Downs is recognised as a site of outstanding natural value. This recent survey highlights Gippsland Water's long term commitment to conservation programs at the Dutson Downs Resource Recovery Facility. The Dutson Downs Integrated Land Use Development Plan outlines Gippsland Water's vision to create an environmental park at Dutson Downs. Careful management and well planned extension of existing New Holland Mouse habitat is a key component of this vision," said Mr Mitchell.

Large areas of suitable habitat exist in the south and western most portions of the Dutson Downs Resource Recovery Facility. Research provides some evidence that fire plays a critical role in the creation of suitable New Holland Mouse

habitat. This is because the mouse seems to prefer areas that are regenerating following disturbance. New Holland Mouse survival can also be enhanced by controlling introduced animals such as feral dogs, cats and foxes which predate on the mouse.

"More than 50% of the land area that makes up Dutson Downs is dedicated to biodiversity conservation" added Mr Mitchell. "Gippsland Water's unique vision for Dutson Downs includes provision for waste management and resource recovery, creation of an environmental park and engagement of the community in all aspects of site management."

Media Release - Gippsland Water

NEXT EDITION

Article Contribution Deadline
For the January Edition
January14, 2003

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South East *- East Gippsland Water, Gippsland Water, South Gippsland Water and Western Port Water*
Russell Mack - Ph 5177 4659, fax 5177 4690, mobile 0427 331 586, email: MackR@gippswater.com.au

South West *- Glenelg Water, South West Water and Portland Coast Water*
John Harris - Ph 5562 9275, fax 5562 9262, mobile 0417 338 688, email: Jhar@swwa.com.au

North West *- Central Highlands Water, Grampians Water and Lower Murray Water*
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Articles can be forwarded to area contacts or directly to The Editor email: rgreenhough@useoz.com

Around the Traps
Private Industry

PROFILE OF AN OPERATOR

This is the fourth article in a series of interviews titled 'Profile of an Operator' specifically dedicated to water and wastewater operators in the private industry.

Profile: Chris Keith

> Works for Purac (West Wodonga Waste Water Purification Plant, WWPP)
> Job title - Plant Operator (Biosolids)
> Main role - Waste Water Biosolids
> Lives in - Albury NSW
> Hobbies - time with family, riding my motorbike

How did you become an operator?

I was initially trained as a storeman and worked in that role for just over a year with the local council. That job lead to a role in the sewer maintenance department laying mains between 1986 and 1987. An opportunity then arose at the wastewater treatment plant with council. I spent 11 years with council as a wastewater plant operator. In November 1999 an opportunity came up to work with North East Regional Water Authority as a wastewater/biosolids operator. I was in this role for 2.5 years, there was a steep learning curve during this time. This then lead to my current position at Purac, which is a great chance for me to be involved in the upgrade of the waste water purification plant.

PURAC

Describe Puracs' main business activities?

Purac is the international business operation of Anglian Water Plc. Anglian has identified Australia as a key place of business and remains committed to the development of the local water industry. Purac has been working in Australia for more than 16 years. In all, more than 60 Water and Wastewater plants have been designed and built by us. As a member of the wider Purac company, Purac in Australia, can source the expertise of over 800 specialist employees within the Purac group as well as the operational expertise and financial security of our parent company, Anglian Water Plc.

Purac Australia has a strong record in its core business of the Design, Construction and Operation of Water and Wastewater Treatment Systems. Recent projects include:

+ Redcliffe WWTP Upgrade
+ Luggage Point Water Reclamation Project
+ South Caboolture Environment Protection Plant

Can you tell me a little about the West Wodonga WasteWater Treatment Plant?

Currently Wodonga has two wastewater plants: Howard st. trickling plant and West Wodonga BNR. Howard st. has a domestic wastewater flow of 5 to 6 ML/d DWF. West Wodonga's daily flow is currently 6ML/d with four different industrial wastewater types, namely; meat works, pet food factory, rendering and minor tradewaste and domestic. It was decided to close the Howard st. plant. Therefore the treatment plant at West Wodonga needed upgrading to deal with the added nutrient load coming in.

The West Wodonga upgrade is the first project by the Partnerships Victoria Agreement under the state government.

The upgraded plant should be commissioned by March 2003 with a total inflow of 11-12ML/d DWF. When the plant is commissioned the flow will be delivered into two bioreactors (Biodenipho BNR process) designed to cope with the increased flow to the plant. Discharge from the plant will be directed to the Murray river and to reuse at the golf course, university, primary school and tafe.

What are the major challenges you face in your role?

My new role with Purac provides me with increased responsibilities and more input into decision making for the overall plant. There is also the chance to travel, meeting operators and training with the team. I hope to reach my full potential given this opportunity from Purac. The main challenge at the plant is to meet the guidelines set by the EPA to provide high quality reuse water and excellent quality discharge to the Murray river.

Cynthia Lim and WIOA would like to thank Chris Keith and Purac.

Around the Traps North West

Central Highlands Water, Grampians Water, and Lower Murray Water

GRAMPIANS WATER

Water Treatment Plant Upgrade on Track

Grampians Water remains on track to deliver a fully treated water supply to Warracknabeal customers by August this year. The Board of Grampians Water formally accepted a tender for the upgrading of the Warracknabeal Treatment Plant in June 2001. Since this time a major modernisation of the existing Warracknabeal Water Treatment Plant has been undertaken.

The new plant will have the capacity to treat 8 million litres of water per day and uses dissolved air flotation and filtration (DAFF) technology to purify and remove the particles which discolour the raw water. "The decision to upgrade to a DAFF system also allowed utilisation of the existing control building and concrete tanks" said Chief Executive Officer Peter McManamon.

"Upon completion of the $3.1 million upgrade, Warracknabeal can look forward to a consistent quality of water which meets all of the Australian Drinking Water Guidelines" he said. "The existing water treatment plant has been in operation for approximately 20 years. The current plant provides partial water treatment and is not designed to fully remove colour or turbidity. This has resulted in problems associated with discolouration" Mr McManamon said.

Warracknabeal's raw water supply is sourced from the channel system via Lake Whitton. Water is pumped from the storage into the water treatment plant for treatment, then held in a clear water storage prior to being pumped into the elevated tank for distribution into Warracknabeal.

The Warracknabeal Water Treatment Plant upgrade is a part of Grampians Water's $80 million Water Quality Improvement Program. Water treatment plants have also been constructed at Dimboola, St Arnaud, Birchip, Ouyen, Hopetoun, Rainbow, Murtoa and Charlton during the past two years.

Media Release - Grampians Water

New Technology Systems for Grampians Water

Grampians Water is embarking on the most extensive new technology project to be undertaken by the Authority since its formation in 1995. The project, which will use new technology known as a telemetry or Supervisory Control and Data Acquisition (SCADA) system, will improve the reliability of the Authority's services across the entire region.

This will be achieved through the installation of a computer-based remote monitoring and control system operating 24 hours a day, 7 days a week. "SCADA systems are used extensively in the water industry for remote monitoring and control of treatment plants, pump stations and other key water and wastewater facilities. The system provides an early warning system for faults and will enable varying degrees of remote control" said chief executive
officer Peter McManamon.

The Authority is in the process of implementing the first stage of a SCADA system that will include all current water treatment plants and a number of other facilities across the region. "It is expected that this first phase installation will begin early in the New Year at an estimated cost of $750,000"

Mr McManamon said. "The installation of a SCADA system will not only enable a greater understanding of the operation of complex water and wastewater networks, but also provide improved efficiency, security and customer service levels" he said.

Media Release - Grampians Water

'OPERATOR' is printed by Barwon Region Water Authority. The WIOA gratefully acknowledges the support provided by Barwon Water in producing 'Operator'

Barwon Water

Around the Traps Central

Barwon Water, Western Water & Metropolitan Water Companies

BARWON WATER

Securing Colac's Water Supply

Colac Otway Shire Mayor Peter Mercer has welcomed the announcement that Barwon Water has awarded the construction contract to complete the next two stages of the upgrade to Colac's main water supply pipeline.

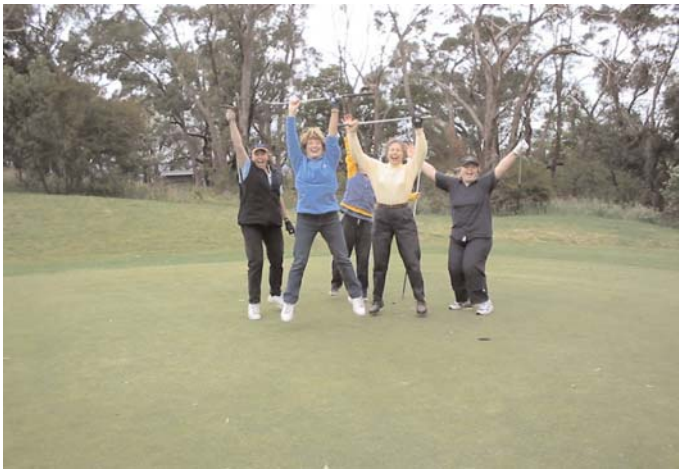
National Australian Pipelines Pty Ltd will replace two sections of the pipeline from West Gellibrand and Olangolah reservoirs to the water treatment plant at a cost of $1.4 million, under stages two and three of a seven-stage project to ensure a secure supply to the city.
During his inspection of the new pipeline site, Cr Mercer said Barwon Water's recent announcement demonstrated the authority's commitment to improving the pipeline. "The recent debate about future water resources has been necessary, however, we must address the more immediate issues facing the Colac community," Cr Mercer said. "Securing Colac's water supply and upgrading our sewage treatment plant are vital to the continuing growth and prosperity of the city."

Barwon Water Chairman Stephen Vaughan said several sections of the pipeline had deteriorated causing an unprecedented number of bursts. "The original pipeline was constructed in the early 1900s and has been replaced and augmented with a variety of different pipe types and sizes over the years," Mr Vaughan said. "These ad hoc works have lead to an unprecedented number of failures.Since February 1999 the pipeline has experienced 277 bursts and leaks." "As well as costing more than $200,000 in repairs, the pipeline's failure has created a potential risk to the security of supply to Colac, particularly at times of peak demand during hot weather."

Mr Vaughan said that to rectify the problem Barwon Water had allocated $4 million as part of its 10-year capital works program to upgrade 8.7km of the pipeline. "To minimise disruption to customers, sections of the pipeline will be replaced in stages with the most vulnerable and unreliable sections replaced first," Mr Vaughan said.

Stage 1 of the project was completed in May at a cost of $464,000. Stages two and three are scheduled to commence by August, subject to weather conditions. Barwon Water has recently announced it has proceeded with tendering for construction of the new Colac sewage treatment plant at a revised cost of $9.3 million to taken into account new technologies and meet enhanced regulatory requirements.

Barwon Water Media Release



See the Charity Golf Day Report on P.7

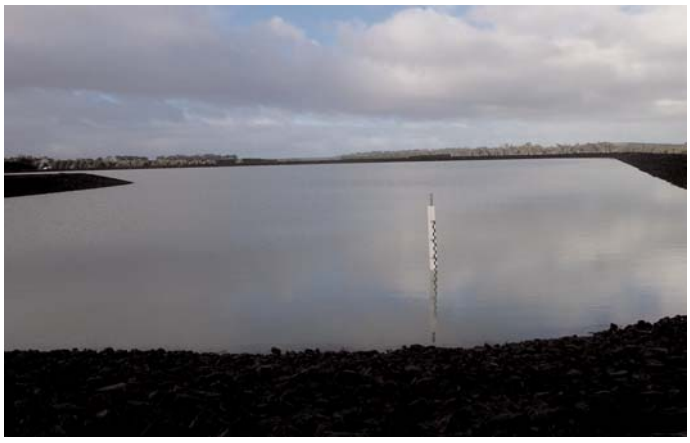
Around the Traps South West

Glenelg Water, South West Water & Portland Coast Water

SOUTH WEST WATER

Township Wastewater Reuse Surges

Wastewater reuse systems established by South West Water across the region have lifted reuse capacity by 2300% over the past five years.



Terang Winter Storage

South West Water Chairman Graeme Rodger said; "In 1996 only 50 megalitres a year of wastewater was reused and this was at a single site at Port Campbell. For six other towns the wastewater was discharged after sometimes inadequate

treatment to inland streams, lakes or wetlands."

"Full reuse of wastewater is now in place across the five towns of Terang, Camperdown, Cobden, Timboon and Port Campbell while the Mortlake system will move to reuse as the current treatment system storages build up."

Terang Irrigator

"Reuse capacity has increased from 50 megalitres a year to the current 1200 megalitres. Within three years as Mortlake and Timboon properties move to full sewer connection reuse will level out at 1300 megalitres which will mean that every drop of water used by the townships is used twice --- once for household purposes and then for agriculture across seven farming enterprises.

"The previously under appreciated resource has been turned into an environmental, social and economic plus thanks to reuse."

Media Release - South West Water

National Water Industry Training Package.

The National Water Industry Training Package is now complete and available through the Australian Local Government Training at our ASU office, most RTO's (Registered Training Providers) will by now have purchased a copy of this package.

The purpose of this Training Package is for people working in the Water Industry to gain the opportunity to further their Technical skills and Education in the work place and to be recognized with a National Qualification and to also enhance their opportunities to gain employment promotion and also now any training identified on your skills passport is transferable from State to State.

So if you have already completed some form of training like Confined Space Entry or Chlorination, Pipe laying, Manual Handling, or any form of Training carried out by a registered Organisation similar to Water Industry Training Centre or TAFE all you need to do is get one of the Training Providers to map your RPL (recognition of prior learning) or current competency against the new Training Package and providing it meets the criteria you can build that against your Certificate in Water Operations.

To complete Certificate 2:
You will need to do 6 compulsory core units plus 7 elective units.

To complete Certificate 3:
You will need to have completed Certificate 2 and then do 2 compulsory core units along with 7 elective units of which a minimum of 4 units from a bank of 47 electives and you can do 3 units from a Certificate 2 or 4 FROM Water Industry Training Package or you can Import 3 from a Relevant Industry Training Package at Certificate 2-3 or 4 level.

To complete Certificate 4:
You will need to have completed Certificate 3 and you will need to complete 2 compulsory core units and 6 elective units of which a minimum of 4 units from a bank of 19 electives. And a further 2 units can be taken from either Certificate 3 or Import them from a Relevant Industry Training Package at Certificate 3 or 4 level.

If anyone has any queries about this I can be contacted through the WIOA

This has been a very frustrating task to get to this stage but to see it finished is a great reward. I thank the Operators Association for the support and the opportunity to serve them and their members on this steering group and I hope everyone gets some value from the package.

John Harris.

WIOA 2003 WEEKEND SEMINAR

Venue
Rawson Village
Rawson - Gippsland

Date
Saturday, March 29 and
Sunday, March 30, 2003

Exhibitors
Iwaki Pumps Australia Pty Ltd
MSA (Aust) Pty Limited
Plastic Plumbing & Irrigation Supplies
Aluminates
Water Industry Training Centre

Registration forms will be forwarded out with the January edition of 'Operator'

2002 Charity Golf Day

The fourth annual Water Industry Charity Golf Day was held at Trafalgar Golf Club on Sunday 3rd November 2002. Proceeds raised from the day will be presented to charity at the 2003 conference.

This year we looked like breaking the attendance record again but the dark clouds in the sky turned some budding Greg Normans into scaredy cats and they didn't front. The good news was that it didn't rain at all and the rest of us - around 40 players - teed off and enjoyed the day.

There were numerous companies who generously sponsored the day and we wish to recognise the support and generosity of the following organisations:

Major Sponsors
Gippsland Water Biolab ITT Flygt

Gold Sponsors

WSL Consultants
C-Tech Services
Australian Pollution Engineering
Aluminates
By-Jas Engineering
ProMinent
Mono Pumps
Merck
Action Controls
Acromet
Complete Tapping Service
Lisa Rawlinson & Associates

Silver Sponsors

Metaval David Mitchell Bell Environmental

Special thanks to Gippsland Water for donating the prizes, to ITT Flygt for the supplying the meat and goodies at the after play BBQ and to Biolab for supplying the contents for the "booze buggy" and keeping the players well lubricated.

The Biolab Booze bus

The course was in great condition and the tricky greens plus strong winds really sorted the players out.

The results

Handicap Winner
Wayne Sutton from Gippsland Water 92 - 22 - 70 net
Runner/ up
Ray James from David Mitchell Ltd 79 - 9 - 70 net

Tradies Cup
Rod Norman from Acromet 148 - 69 net

Best Callaway
Trevor Mack from Gipplsand 129 - 66 net
Runner/ up
John Robinson from South East Water 86 - 71 net
Nearest the pins
Wayne Shaw, Neil Healey, and George Wall (twice)
Longest Drives
Wayne Sutton, Simon Acquilina and Vicki Verheyan

Tradies Cup Winner Rod Norman from Acromet being presented with the cup by President Russell Mack

Next year we will again stage the event in Trafalgar and look forward to continued support for the event. Contributed by G.Wall

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