



TERRAMIN AUSTRALIA LIMITED

ANGAS ZINC MINE

# Community Newsletter

MAY 2012

## Water for all – free offer to rural and garden water users



*Woodchester farmer Phillip Brown was first 'tank off the rank'... as he filled up with purified treated water at the new Standpipe outlet. Controlling the water flow is Venicia Giannasi, Environmental Support Officer at the mine.*

**Water is flowing in the right community direction at Terramin Angas Zinc Mine at Strathalbyn as rural land holders receive treated purified water free of charge at the mine gate.**

Woodchester farmer, Phillip Brown, has waited months to get hold of the treated water to support his livestock and a veggie patch on their waterless rural property.

"I'd heard about the mine wanting to give away its treated water so I kept nagging them to get some for the horses and our veggie patch," he said.

**"Free water has to be the best ever offer to land owners and farmers in our area."**

The small township of Woodchester, about 10 km from Strathalbyn, has no reticulated water supply, and with summer heat reducing their rainwater tank supplies, hobby farmer Phillip was literally begging for water for the family's five horses and five large goats.

Phillip works part time at the Strathalbyn IGA supermarket, and regularly passed the Angas Mine gates during the height of summer, usually towing his trailer mounted tank to "scrounge water" from family or friends in the town.

Last month Phillip got the positive response he wanted from Environment & Community Superintendent Matt Daniel, advising that a dedicated water standpipe had been set up near the mine car park, providing quality reverse osmosis treated mine water that is approved by the Environmental Protection Agency (EPA) for agricultural uses.

"The water is brilliant, crystal clear and the animals love it," Phillip Brown said.

Among the farm stock now enjoying the water are two very lucky horses, Toby and Joe who were rescued by Phillip's daughter, Chelsea, from starvation at a derelict property north of Adelaide a few years ago. The family also has two show jumping horses that compete in equestrian events on the Strathalbyn Equine Park, that for several years has been kept lush and green by treated water from the mine, fed through the council STEDS system.

"We've always known it's excellent water when you see the grass surface at the club, so it was just a matter of time before we could go direct for the water," said Phillip.

Matt said Phillip's weekly phone call had been one of the driving reasons to get the approvals and a system set up for giving much needed water to people on the land. "While the amount of water is not commercial volumes in size, we think it is important because it is definitely helping local people who are facing water shortage problems, or simply the high cost for purchasing such water elsewhere.

**"We plan to have this standpipe available for small community users for as long as they need it".**

Agreement was reached with mine regulators and the EPA that enabled the Company to set up this public access water standpipe near the front office of the mine, off Callington Road.

Matt said as a condition of the EPA approval, any person taking the water must sign a basic standard legal agreement that requires them to use the water for agricultural purposes only. For this reason, the water is only available on weekdays when Terramin Angas Zinc administration staff are in the office.

## Meet our new General Manager, Joe Ranford

Joe commenced as General Manager, Angas Zinc Mine, in April.

Joe is a mining engineer with 18 years experience in mining operations and project management roles in Australia and South Africa.

He has strong experience in mine management, including environmental and safety compliance.

Most recently, he was the General Manager of Australian Operations for Crocodile Gold Corporation in the Northern Territory, so he is very pleased to be working much closer to his Adelaide Hills home at Aldgate.

The Ranford family has lived at Aldgate for five years - which is no surprise when you discover his wife Alicia grew up in Bridgewater and loves the Hills! They have two children, Abby, 8 and Sam, 7 who attend school at Verdun.

Joe grew up in a rural community near Cleve on the Eyre Peninsula and has family who continue to farm in that area.

After a few weeks with Angas Mine, Joe says he is impressed at the positive level of engagement with the local community.

"It's great to find people at both management and operations levels who are open to new ideas for mining and in the environment in which we work.

**"My aim is to maintain close links with the local community and local businesses to ensure we continue to have a positive impact in the region".**

Alicia Ranford is well known in national mining circles, having created an innovative community forum website that helps mining families connect as a self-help community, designed to support family life when either parent is required to work away at distant or isolated mine sites.

Named 'Mining Family Matters' it can be viewed online: <http://www.miningfm.com.au/>.



# Quarterly environmental report

Each quarter the Angas Zinc Mine must report back to the local SCCG representatives on compliance to the Company's PEPR (Program for Environment Protection & Rehabilitation) and general site activities.

## **AZM operations in a 'snapshot' this quarter:**

There are now 10,470 metres of underground development in the mine stretching 340 metres below the surface. Development is not planned to progress below the 340m level until 2013. Stopping (the method of mining the ore) is continuing in the Rankine, Hangingwall and Garwood ore bodies.

When sections of the ore bodies have been mined, the voids are "back filled" using a "paste" mixture of waste material and water from the ore treatment process, and cement. The Paste backfill process continued throughout January and February, but temporarily ceased in March whilst a rental paste plant was decommissioned and a new Terramin-owned paste plant was commissioned in its place. Backfill re-commenced in April. A total of 32,913m<sup>3</sup> of paste was placed underground during the quarter.

A total of 106,364 tonnes of ore were processed for the quarter yielding 14,031 dry metric tonnes of zinc concentrate and 4,601 dry metric tonnes of lead-copper concentrate.

## **Water Management:**

During the quarter, all groundwater quality results were within PEPR compliance criteria.

In February, a TSF Water Reduction Plan was submitted and accepted by our regulator, DMITRE (Resources & Energy Department) in response to the Environmental Direction issued to Terramin in October 2011. This water management plan describes how Terramin will manage water on site to lower the required level and surface area of the water in the TSF decant pond to within PEPR compliance limits by the end of the year.

A reduction in both ponded water surface area and required water level (RL) was recorded over the period as a result of the management plan. The surface area of the decant pond decreased by 5460m<sup>2</sup> and the RL by 750mm.

We continue to work with our regulators to ensure we achieve the targets in the environmental direction within the required time frame and a number of measures have been implemented or are planned for the coming quarter.

Water continues to be sent to the STEDS (Council sewage treatment ponds). Re-injection to bores ceased in the middle of January. Terramin is waiting for license approval for the two additional re-injection bores that were installed and tested in December. Supply of Reverse Osmosis (RO) treated water to a local primary producer commenced in January.

A standpipe was installed at the mine gate in February so members of the public can now receive irrigation standard RO water (see page 1 for more details).

## **Noise:**

Current compliance limits have been updated in the noise graphs. Noise monitoring was within compliance at both the mill and boxcut sites.

## **Air Quality:**

All lead particulate levels results received to date are below PEPR limits. Dust deposition was measured against proposed rates based on Tonkin's Dust Impact Modelling. All lead deposition results were well within criteria.

## **Blasting:**

In accordance with our licence requirements, 115 blasts were monitored during the quarter (100% of all blasts) and all were within PEPR compliance.

## **Flora & Fauna:**

Rabbit baiting commenced in January targeting the Boxcut, TSF, and the vacant properties on the mine lease. Weed management progressed over the quarter.

# Environmental TSF rehabilitation trial

When the Angas Zinc Mine ceases operations, the tailings storage facility (TSF) will be rehabilitated. A formal trial for the revegetation of the eventual TSF cover is being undertaken by our Environment & Community Superintendent and will continue over this year. The trial is set up to assess cover thickness, soil moisture and the establishment of vegetation. Two blocks (0.6m and 1m subsoil thicknesses) have been divided into eight 20m X 10m blocks and planted alternately with a native pasture and a traditional pasture commonly used in the Strathalbyn region.

Soil moisture data has been regularly collected and the oats were harvested in January to

calculate the biomass. The results and relevant report have been included in a technical report that is available from our office.

The results after 3 months of monitoring show that vegetation (Saia oats) established and reached maturity even when planted late in the season. Some weeds (Fat-hen, Wireweed, Cooch grass and Salvation Jane) emerged from the stored topsoil and collectively represent around 30% of the vegetation by volume. No statistically significant differences were found between the 600mm and 1m sub-soil treatments in vegetation biomass and vegetation cover. The trial and monitoring continue.

# Strong trends - improvements continue

The below statements are excerpts relating to Terramin's SA operations from an address that Managing Director Nic Cliff recently issued in Terramin's quarterly report to the Australian Stock Exchange:

*In September last year on becoming Managing Director I outlined two main priorities for Terramin:*

- *Progressing the (Algerian) Tala Hamza project; and*
- *Continuing the upwards trend of production at our Angas Zinc Mine*

*I am pleased to be able to announce another strong quarter for Angas, including the fourth consecutive quarter of increased zinc concentrate production, up 9% on the previous quarter. Our systematic approach to improving Angas operational performance is already delivering substantial results and further improvements are expected through the year.*

*By continuing this optimisation process, the Company hopes to improve its cash flow position, providing greater flexibility to access our significant exploration assets in South Australia, notably our Fleurieu Exploration project and Menninnie Zinc project in the Gawler Craton on the Eyre Peninsula.*

*Planned work on exploration prospects that were identified across the Company's tenements during 2011 was postponed as part of a Corporate Strategic Review process and in order to conserve our cash position in the short term. I anticipate the Company being in a position to allocate concerted resources to a number of prospective tenements on the Fleurieu and Eyre Peninsulas in South Australia, including copper-gold prospects, in the second half of 2012.*

*We continue to dedicate resources to water management to ensure we meet our commitments under the regulator's Environmental Direction to reduce water levels in the Tailings Storage Facility by the end of 2012.*

*Despite strong progress at Angas, there remains considerable pressure on the Company's share price. However, the strong trends from output at Angas, ongoing optimisation programmes and the possibility of a sale of the Tala Hamza (Algeria) asset point to a very positive second quarter and tangible progress for all the Company's projects and tenements. The second quarter will be pivotal in the Company's future and I look forward to being able to make further announcements to you in the near term.*

**Nic Cliff, Managing Director**

# The down under tour

## SES training at Angas Mine to develop special skills

By SES members Colin & Judy Schriever, and Christine Phipps; with AZM Safety Coordinator Simon Akari

In the event of an underground emergency, the Angas Mine Emergency Rescue teams may call upon the assistance of the local State Emergency Service (SES). Training and familiarisation opportunities are therefore essential.

When the opportunity arose to go underground to tour the Terramin Angas Zinc Mine, the crew members from the Strathalbyn SES Unit were quick to step forward.

Because of safety rules, two groups were selected to enter the mine separately.

The first group, led by the Unit Manager, Michael Fix, toured the mine on Sunday 19 February followed by the second group, on the following Saturday, led by the Unit's Deputy Manager, Rodney Gurney.

On arrival, both groups were briefed on mine safety and the "do's and don'ts" by the mine's Emergency Response and Safety Co-ordinator, Simon Akari, who with his wife, Hildajane, are also members of Strathalbyn SES Unit.



From left: Christine Phipps, Chris Frizell, Andrew Kerlake, Colin Gambling, Lisa Boswell, Jackie Abraham in front of the robot-like arms of the twin boom drilling machine known as 'the Jumbo'. For the safety of the touring groups, inspections of heavy machinery and photographs were conducted during a shift break.

All members were then requested to pull on Personal Protective Equipment including safety glasses, ear protection, safety-capped rubber boots, helmet with light and battery and an emergency air supply mask. Led by Simon and HildaJane, a surface walk was conducted of the plant and operations as we were shown where all the emergency equipment is stored and how the mine processes work.

Amelia-Jane Gallagher (Mine technician) escorted us on the climax of the tour when we entered the mine itself going to a depth of

320 metres below the surface with a 1 in 7 gradient. We travelled several kilometres through tunnels, being shown safety refuges, fresh air bases and emergency exit ladder-ways to the surface. The Safety Capsule for 10 people contains food, water and air supplies - and also has a toilet.

At the end of one of these tunnels we saw a twin-boom drilling machine in action. This machine drills into the rock face in a prescribed pattern to enable explosives to be charged and fired to continue development of the mine.

In all there are now 10 kilometres of underground development that have been mined so far, to a depth of 340 metres below ground, with the mine about a kilometre outside Strathalbyn.

All SES members now have a better understanding of the challenges they could be confronted with if a situation occurs at the mine.



From left, sitting: Lisa Boswell, Christine Phipps, Jackie Abraham, Michael Fix; standing: Chris Frizell, Colin Gambling, Simon Akari, Andrew Kerlake.



From left: Deputy SES Unit Manager Rodney Gurney, Diana Connors, Colin Schriever, Roger Emiliano, Judy Schriever, John True, Colin Goodrich; sitting: Hildajane Akari.

## From 5 years ago...

Mine's earlier gift still giving a breath of fresh air...

Five years ago, Terramin purchased a purpose built Drager Air Compressor system and donated it to the Strathalbyn CFS, to be located at the local fire station, which enabled local crews to fill their own breathing apparatus gear instead travelling to Mt Barker as they did previously.

Angas Mine crews share the use of the compressor for refilling its BA cylinders which maintains a great relationship with the volunteers. The Company gifted the unit to the SES and CFS, so even when the mining operation has finished, the community will have a living and breathing asset they will continue to use.

*Right: Simon Akari, Angas Emergency Response & Safety Coordinator, presents a donation to Strathalbyn SES unit manager, Michael Fix, for upkeep services on the the Drager air compressor, donated earlier by Terramin.*



## How it feels as a 'visitor' to be 320 metres below the surface...

Here are some insights from your local SES Team members:

**Colin Schriever** – “Brilliant, fascinating just how big the mine is, how much room there is underground, and the activity right under our feet. Looking forward to more training with the mine”

**Lisa Boswell** –“Fantastic! I didn't really know what to expect, but I now have a better appreciation of what happens in underground mining”

**John True** – “Really enjoyable, I have a better insight into what mining is all about and it's so much bigger underground than I thought it would be. It will be interesting training for the different scenarios that could happen”

**Judy Schriever** – “Thoroughly enjoyed the tour, and the machines underground - although you couldn't see them - you certainly could hear and feel them, amazing”

Footnote: It is important for SES and CFS crew members to be familiar with the mine site, for if there was a fire on the surface the CFS would be responding, followed by SES if required.

## Meet the managers at Angas Zinc Mine



The recent arrival of new General Manager, Joe Ranford was an opportunity to 'snap' a group photograph of some members of the Angas Zinc Mine management team.

From left – to right: Mill Metallurgical Superintendent, Rene van Oevelen; General Manager, Joe Ranford; Underground Mine Manager, Andrew Harris; Chief Engineer (and acting GM for the past 4 months), Ian Holman; and Environment & Community Superintendent, Matt Daniel.



Angas Underground Mine Manager, Andrew Harris, discusses mine development with General Manager, Joe Ranford.

# Strathalbyn Community Consultation Committee

The last SCCC meeting was held on February 16th in Strathalbyn. Matt Daniel, Angas Environment & Community Superintendent, and Ian Holman, acting Angas General Manager, provided an update on the management of water in the tailings storage facility (TSF) on site.

As part of their commitment to working with the community at the mine, all available members of the SCCC and government regulatory personnel met at the mine site several hours prior to the last SCCC meeting in February to view above ground operations and the activities being taken to manage environmental requirements on the lease.

Matt Daniel and Rene van Oevelen, Mill Metallurgy Superintendent, were on hand to answer any technical questions raised by the group. The group expressed appreciation for the open and frank discussions held during the informal walk-through visit of several sites in the above ground area.



## Race Day was more than a fun event...

Appreciating local knowledge is a key to better workforce and community understanding, says the Managing Director of Terramin Australia Limited, Nic Cliff.

Nic was talking at a South Australia resources industry forum organised by Terramin and held at Strathalbyn Racecourse prior to the Terramin sponsored Race Day in March.

The day was a chance for Terramin to acknowledge the support of key community partners, shareholders, commercial contractors and suppliers, many of whom are local to the Strathalbyn area. After the industry forum guests were also able to join a surface visit to view operations at Angas Zinc Mine before enjoying a day at the races.

The key theme of the forum was 'Community Engagement and the Social Licence to Operate' aimed at sharing best practice and experiences in community engagement.

For the community there was an opportunity to hear from other South Australia based resources companies about their commitment to maintaining their social licence to operate.

Nic Cliff told the forum that communication was "an everyday activity" at Strathalbyn, due to the close proximity of the mine to the town and the high level of local workforce employed.

"The fact that we employ many people locally means we get a lot more feedback than some companies that have a remote mine with people flying back and forth."

"As our people go to and fro – from work and home daily – people talk, they interact with the community."

Nic said it was important to explain what the Company was doing in the region and to show the mine's ongoing commitment to talking with the community and that the cost of doing it right is not all that high.

"We are not talking about spending millions to go out and communicate to your communities – but on the other hand the cost of getting it wrong can be very significant."

Nic said: "We faced a similar situation here in Angas, where we failed initially to communicate adequately with people about water (more underground natural water entering the mine than was predicted) to the extent that water became a problem which risked closing down a mine, regardless of the level of risk it actually put the local community under."



"I think that not having communicated adequately, not having taken adequate precautions earlier on, was false economy."

"It is essential to seek to understand how people feel about these things. If I was living in somewhere as beautiful as Strathalbyn and someone told me a mine was going to go in next door, my immediate worries would be about noise, dust, dirty work force, big trucks!"

"All the sort of impact on life that is an anathema to a quiet country community."

However, Nic said that time had proven that the Angas Mine was not what people might have expected at the outset, there was no plume of dust or large scale changes to the environment and the mine was not obvious to passers by.

"The things that we tend to associate with mining are not always the case."

# Terramin and Angas Zinc Mine – working with the Community

## Sponsorship and Donations

Donations were made to community and volunteer groups including ongoing assistance for CLASS and a new supported regional group known as Silent Ripples.

Silent Ripples was formed in January 2010 after a need was identified for a support group for people who were grieving from a bereavement of a family member or friend through suicide.

This is an extract from the Silent Ripples newsletter:

### Terramin Mine support

On Wednesday the 3rd of April Felicity, Andrew and Janet met with Yullinah Wylie and Matt Daniel from Terramin's Angas Zinc Mine to be presented with a donation for future projects. Matt commented that Terramin have been sponsoring various community groups and projects, primarily sporting clubs, but felt they also needed to support other regional community groups.

*Like many businesses they have felt the effects of the higher than average number of suicides in the region with some of their employees being friends of some of the victims.*

*This donation will go towards meeting room hire in Strathalbyn, so thank you Matt, Yullinah and Terramin and we hope we can work with you to develop something that will lead to increasing support for those bereaved through suicide, as well as preventing further tragedies.*

*Suicide causes grief which has a rippling effect unlike any other loss of life. Many people find it difficult to talk about their thoughts and feelings, with the result that these issues are often held in silence.*

The Strathalbyn group meets regularly on the last Monday of each month, in the Bremer Room in the new Strathalbyn library from 7pm to 9pm.



Silent Ripples representatives, Janet Kuts and Felicity Stanway, receive a donation from Terramin presented by Matt Daniel.



CLASS representative George Rowe presented Angas Acting General Manager, Ian Holman, with a certificate of appreciation.

## FOCUS ON ZINC



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Zinc extends the life and durability of steel, protecting against corrosion and reducing maintenance costs

## Our commitment to the local community and local economy...

Through various initiatives, the mine sponsors many community and sporting organisations including;

- Strath Roosters football club, major sponsor since 2008
- CLASS, Community Living and Support Services
- Workplace Learning
  - Cornerstone College
  - Trinity Senior College
- Strathalbyn Swimming Club
- Strathalbyn Cricket Club
- Strathalbyn Bowling Club
- Strathalbyn Kindergym
- Strathalbyn Tennis Club
- Strathalbyn Soccer Club
- Strathalbyn Senior Citizen's Club
- Strathalbyn CFS
- Strathalbyn Polo & Recreation Club
- Make A Wish Australia
- Silent Ripples

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## CLASS

Local community organisation CLASS Incorporated (Community Living and Support Services) has received several significant donations over the past two years from Angas Zinc Mine special events or fund raising activities.

Support is ongoing for this community based local organisation and its large volunteer support base.



CLASS CEO, Mark Kulinski, accepts a donation presented by Matt Daniel.

## Have your say

Terramin welcomes your feedback and there are many ways to contact us. The hotline is your way of reporting urgent matters or seeking an urgent response to a situation. The telephone number is (08) 8536 8010.

Matt Daniel is the company's Environment & Community Superintendent and can be contacted on (08) 8536 5950 or [mdaniel@terramin.com.au](mailto:mdaniel@terramin.com.au).

Mike O'Reilly is our Community Engagement Consultant and can be contacted on 0414 882 505 or [mike@oreillyconsulting.com](mailto:mike@oreillyconsulting.com), or you can contact a member of the Strathalbyn Community Consultative Committee, which is the two-way conduit between the Community and Terramin.