

# MINUTES OF MEETING

## STRATHALBYN COMMUNITY CONSULTATIVE COMMITTEE

Thursday 17 May 2012 @ 7.00 pm

Senior Citizens Hall, 6 Parker Street, Strathalbyn

### PRESENT:

Charles Irwin - Chair	Ben Brazzalotto	Susan Jettner	Fred Carrangis
Mark Dale	Malcolm Twartz	Anne Woolford	
Julia Currie	Karen Hawke	Adrian Pederick MP	Merri Tohill – Sec

Gallery approx 14, including Terramin staff

### DMITRE:

Hans Bailiht	Greg Marshall	Dr Ted Tyne	Martin Reid
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### TERRAMIN:

Matt Daniel	Ian Holman	Nic Clift, Managing Director and CEO	Yullinah Wylie
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### EPA:

Rob Lyons (late arrival)

### APOLOGIES:

Mike Farrier, Rhonda McCarthy.

Meeting commenced at 7.10 pm

### 1. WELCOME, INTRODUCTIONS AND APOLOGIES

Charles Irwin welcomed all and thanked everyone for attending. Apologies were accepted, as outlined above.

### 2. REVIEW OF MINUTES OF LAST MEETING

Minutes, accepted as true and correct record.

### 3. DMITRE: COMPLIANCE OVERVIEW - Inspections and compliance report

#### Greg Marshall - Significant Water Issues

Monthly report shows water levels are reducing but not reaching monthly targets in last 2 months. DMITRE has had multiple meetings with Terramin to ensure that able to get back on track and to deliver 28 RL by 31 December 2012.

There are 3 key issues:-

1. *Underground workings*
2. *RO plant performance*
3. *Utilisation of the water*

1. *Underground workings* – this is raw mine water and correct handling of it reduces the amount needed to be managed as part of the TSF. Clean ground water received from the mining process can be prevented from going into the TSF and this has been achieved. But reject water from RO still ends up in the TSF; need to reduce and eliminate this. It can be shandied to ensure it meets EPA standards and can then use this water for irrigation and dust suppression.

Re-injection not happening because of expiry of permits (DFW). Terramin have submitted applications to DFW for current and two extra permits and these will be issued soon. Then re-

injection can start again. This will be monitored to ensure no impact on ground water and existing users.

If clean water components of mine water is correctly handled this can reduce the pressure on the other water management options and Terramin can reach the targets.

*2. RO performance* – there have been significant technical challenges and this is a very significant issue for Terramin. There are three different RO's doing various jobs. The Veolia was working at about 2/3 capacity and the two OSMOFLO plants are working in a less than optimal way. OSMOFLO Company run all the RO plants on site and participates in optimization of water planning.

The new paste backfill plant is capable of a high production rate. There were some commissioning issues but these have now been resolved.

*3. Utilisation of water* – significant amount of water has been discharged to STEDS and Council permission for this has been extended to July. Need another option i.e. pipeline to Langhorne Creek for use on vineyards. This is going according to schedule and will be completed by the end of June 2012.

*Summary* – the decant water levels are dropping at a better rate, but haven't met targets as per Water Management Plan and we are now heading into winter. Need input to get back on track. Water Balance modelling has again been revised, and DMITRE need to maintain pressure on Terramin to meet their targets. A key challenge is to make sure water is available for discharge at the "right" quality.

The Monthly Report has areas that need improvement, and it is a challenge to get this right. Need to hear comments from the community.

Sue Jettner highlighted that water directed off site for irrigation needs to be of suitable quality for sustainable activity and approved against EPA quality standards. EPA requires an Irrigation Management Plan by 15 June 2012; this should answer such questions.

#### **Questions:**

*Is the clean raw mine water going back into the mine?*

Yes, it is about 10% of raw water from underground

*Does Terramin have an Irrigation Management Plan and is it sustainable?*

Yes, are working on a plan which will address sustainability and any identified risks and ensure that they are managed.

*Is using the TSF level still valid, isn't volume more useful?*

As tailings deposited into the TSF increase, then volume and surface area become the required measuring tool.

#### **Hans Bailht - Inspections**

Hans has inspected site. Other issues when onsite include:-

- Concentrate door was left open. There is a shut down process; this is a lesson for maintenance people.
- Terramin has reshaped ground so less dirty water going into the Tailings Dam but acid forming scats were found, so no run off into clean area is allowed.
- Chemical Shed – some chemicals on pallets were not bunded.
- Many of old tyres from the operation are now on site. These are to be removed. Terramin asked if they can go underground into the paste fill. This method of disposal has been approved.
- Buffer Zone – this has been checked out
- The annual Geotechnical Report of March 2012 is currently being assessed.

#### **Questions**

*What is the status of the decant drain?*

It has been blocked and it is not able to be unblocked. DMITRE have asked for a report from Australian Tailings Consultants on whether this is an issue for the operation of the TSF. Their reply was no, not an issue and it would be too dangerous to try and unblock it. Still have the pump to provide negative pressure for the under membrane drain flows and it is believed that this method is appropriate to prevent the under drains from blocking.

*What is the status of the site rehabilitation and bond?*

Have asked Terramin to re-assess bond and they have done so. The Quantity Surveyors report had some flaws, so DMITRE will engage an independent quantity surveyor to re assess the liabilities for the government and then DMITRE will set the bond amount within next few months.

#### **Ian Homan comment**

Have re-done the scats and Chemical Shed is all done except the anti-scaling area. This will be done.

#### **4. TERRAMIN: REVIEW OF MINING OPERATION**

##### **Ian Holman – Production Activity (presentation available on website)**

Ian introduced Matt and Rene (Terramin) and Ashley Keegan.

Terramin are becoming more efficient and continue to focus on this but only able to make incremental improvements. Slightly down on tonnage but grade of ore is up and 165 better than last quarter. It's about continuous improvement.

Mine life is until November 2014 and nothing major has changed on this but still looking for additional ore on site and beyond the Angas Mine.

##### **Matt Daniel – Environmental report**

Please see Terramin Quarterly Report #21 (October – December 2011), available in full on the PIRSA/DMITRE website [www.pir.sa.gov.au/minerals/sa\\_mines/approved\\_mines/angas](http://www.pir.sa.gov.au/minerals/sa_mines/approved_mines/angas) under Wider Community Engagement and also emailed to all members prior to the meeting. Hard copy also made available at the meeting. Presentation available on website also.

Matt reported on the QER, focusing on exceptions, the unusual and any exceedances.

##### **Noise Monitoring**

Noise monitoring was undertaken in March

Limits have changed based on the AECOM Report from November 2011.

Updated Environment Protection (Noise) Policy 2007 compliance limits – at nearest neighbour;

- Day time 57dB(A), 7am - 10pm
- Night time 50dB(A), 10pm - 7am

AECOM modelled the maximum permissible noise levels at both locations using these updated criteria.

All noise data was within compliance, with some spikes at eastern monitor, western well within compliance.

##### **DMITRE Comment**

Used to have attended noise monitoring. This has been modelled and approved for a 12 month trial period which has now expired. Terramin need to justify why they want to continue with this. Also a new zone has been introduced –“grazing zone” This is the first time DMITRE has seen “grazing zone” – has “rural living” zone been changed? If not then the noise limits need to be consistent with this.

***Action – Terramin to have further discussion with consultants re this new zoning and implications of this and report next meeting.***

##### **Questions**

*In the QER still using old terms i.e. MARP and this should be PEPR?*

MARP does not exist; it is now PEPR, same document but a name change.

## **Dust Monitoring**

All lead deposition results were within PEPR criteria

A number of onsite and offsite gauges exceeded the EPA early warning report limit. These numbers were reported to the EPA

Numerous TSP results above PEPR criteria

- The highest TSP results recorded in January and February at gauges 2 and 12
- Gauge 12 located in a bare open area
- Gauge 2 located at a neighboring property, recent earthworks may have contributed to the increased dust levels
- Gauges 2, 11 and 12 has bird droppings observed in the collection bottles – analysed as dust

Some offsite dust and this is not unexpected but closer to the mill using water tanks to lessen dust. If it is in the air and does not land in a watered spot, then the dust continues on (this needs clarification, including at what stage Terramin takes responsibility for the dust) NB Dust relates to prevailing wind.

While within PEPR limit, need to look at relationship with lead. Could use this to indicate if on or off site. Could also analyse soil, as if it is off site then it would be heavily weathered. Having a discussion with EPA on this and how to apportion dust source and while some risks it is worth looking into.

## **PM10 trial**

Data collected and report generated by Independent consultants, S.A Environment Pollution Monitoring Services. The report concluded; that:-

The need to institute a PM10 particulate monitoring program will not be warranted. During the three month period PM10 dust and PM10 lead did not exceed the PEPR criteria.

EPA are happy with this.

(Comment - DMITRE require that PM10 monitoring on site must continue)

## **Blast Monitoring**

115 blasts recorded over the quarter, 100% of all blast that occurred

Roving monitor was erected when fixed monitors off-line

99% of blasts were between 0-5 mm/s and 1% between 5-10mm/s (PEPR criteria allows 5% of blasts to fall within this range each year)

The one reading over 5mm/s (7.64 mm/s, 21<sup>st</sup> Jan 5.27pm) was recorded on the roving monitor SAROS site visit in Jan identified the location of the roving monitor may effect readings (vibrations from nearby closing gate)

## **Community/ Environment feedback**

6 community events recorded

- 2 internal recorded incidents - late firing of stope blast and stope blast notification not sent
- 4 noise complaints - Reverse beeping noises - machinery no longer on site and general noise - changed operating procedures at paste plant

3 internal environmental events recorded

- Flash float bogged multiple times overnight - Area was cleaned
- Sediment (fines) from sandpit washed under fence - bund and additional draining installed, area cleaned
- Faulty re-injection valve - valve replaced

## **Questions/Comments**

Can have white noise beepers on site to fit onto vehicles and can charge them for this.

**Need to put a follow up column in the QER so know what action has been taken.**

## **Environmental Activities**

- Control burn of western paddock
- TSF Rehab trial ongoing, interim report produced by independent consultants
- PM10 trial and report completed
- 200 native trees planted along western fence line
- Rabbit baiting and weed control

- Submitted 2011 MARCR
- Standpipe installed, local landowners can now access RO water (irrigation quality standards)
- Additional mulching of front entrance

### **Community Interaction**

- Terramin Race Day - community and industry forum, very successful. Thanks to Terramin from all who attended.
- Attendance at CLASS fundraising event at the Strathalbyn Race course
- 2 presentations took place over the quarter - Local NRM Groups in regards to on-site water management and Strathalbyn Polo club on Environmental and Water issues
- Donations to CLASS, Silent Ripples and the Strathalbyn Cricket Club
- Tours of the AZM mine including; SCCC members and government personnel, focusing on on-site water management and Strathalbyn R6 Campus School Group visited AZM for general site tour and presentation
- SES training on site

### **Upcoming Activities**

- Program for Environmental Protection and Rehabilitation (PEPR) review/Closure plan (ongoing) – October target with SCCC and DMITRE
- Seeding barley on TSF Embankment
- Planting of native vegetation in eastern paddock (winter), irrigation plan upgrade to a Irrigation Management Plan as required by the EPA guidelines.
- FABAL pipeline construction and commissioning
- Independent recycling audit – KESAB making recommendations for improvement
- Continuation of feral animal and weed control

### **Questions/Clarification**

Seeding on the embankment is relying on rain but do have a water truck

*Is the eastern paddock revegetation going to be a woodlot – what species and what is the long term result of putting water on this paddock?*

This will be addressed in the Water Irrigation Plan and using EPA guidelines. It will be a biodiversity planting.

*This is not on the Mining lease, so do you need a Miscellaneous Mining Licence, so there is some control?*

The EPA licence includes this land title and this ensures it will be dealt with correctly. Water went to this area in April but this has since stopped.

*Is any pattern being shown in the regional rainwater tank monitoring?*

None has been discerned. There are random elevated numbers but not too greatly concerning levels, no pattern in any direction or distance – can discuss this further if required.

## **5. TERRAMIN: UPDATE ON WATER MANAGEMENT**

Please see presentations available on the DMITRE website

[www.pir.sa.gov.au/minerals/sa\\_mines/approved\\_mines/angas](http://www.pir.sa.gov.au/minerals/sa_mines/approved_mines/angas) under Wider Community Engagement.

### **Ashley Keegan from Food and Beverage Aust Ltd (FABAL)**

FABAL is an agribusiness management company with a focus on in Langhorne Creek and a commitment to that region. Water security is a significant issue, so building a 7.9km pipeline from Strathalbyn mine to the vineyard. It will be designed and built – fit for purpose. Water will flow into the Belvedere dam which has a plastic liner and is emptied and filled 4 times per year. There will be an open hose in the dam.

FABAL will manage the water and it will be used for irrigation and take the load off the River Murray. It will be used to repair saline soil i.e. flush salts from profile in a discrete period of time. Salts have accumulated during drought.

### Questions/Clarification

It is a commercial arrangement between FABAL and Terramin. Terramin is paying for the pipeline. It provides a winter option for water removal.

*How saline is the water?*

Low salinity as it is RO water.

This is a positive move and a good result.

NB Water is Terramin's problem/responsibility until it is out of the pipe.

### Rene van Oevelen - Update on Environmental Direction

Committed to achieving this but still more to do.

Have updated the model. Now a dynamic model is based on TSF water volume inputs and outputs which is converted to RL. This needs to be tested.

In May 2012 the tailings changed shape and volume of the decant pond. Will check underwater profile with a sonar survey later this month.

**Paste Fill** – commissioning took longer than planned and still some problems to sort. Aim is to achieve 10,000m<sup>3</sup> per month and minimise water to the tailings (cf model at 6,500m<sup>3</sup>). When run the paste fill there is a dramatic decrease in TSF level.

**RO's** -V2 lower performance compared to modeled (425m<sup>3</sup>/day)

Improvement in V2 performance in March and April in comparison to January and February (replacement of faulty pump)

Recent actions to increase V2 performance;

- Blocked pipes replaced last week
- Pontoon-RO pipe line to be hydro jetted and maintenance to pull up pump to overhaul or replace ( completed by the 19th May 2012)
- Laminar plates will be replaced in the pre-treatment clarifier within the next month to increase flow rates
- Anti-scale injection at Pontoon pump

RO permeate off-take disposal options - excess capacity available

- STEDS ponds - up to 1000 m<sup>3</sup>/day
- Water to locals - up to 200 m<sup>3</sup>/day
- Irrigation - up to 300 m<sup>3</sup>/day
- Re-injection - up to 388 m<sup>3</sup>/day
- FABAL pipeline available from July 2012, ensures wet season RO disposal available when STEDS no longer available - up to 750 m<sup>3</sup>/day. Still disposing to STEDS.

If going to increase use of OSMOFLO RO, then need to increase pre-treatment plant capacity.  
In treatment of Raw water, excess brine goes to TSF

### Actions to ensure achievement of 68 RL

Item	Action	Status	Provisional completion date
1	Paste fill production is scheduled to be 10,000m <sup>3</sup>	complete	complete
2	Improvements in Evaporation capacity – Portable Gun sprinkler was placed on beach to ensure beach surface is kept wet	complete	complete
3	Improvements in Evaporation capacity – Increased sprinklers on dam	complete	complete
4	Improvements in Evaporation capacity - Proposal being drafted for overhead sprinkler system to disperse water, keeping beach wet and promoting evaporation	in progress	23-Jun-12

5	Conduct tailings beach survey	in progress	25-May-12
6	Pipeline to primary producer (FABAL)	in progress	30-Jun-12
7	Review pre-treatment of TSF water by both RO Plants	in progress	30-Jun-12

### **Irrigation of Eastern paddock**

- Approximately 600m<sup>3</sup>/day of water, using a mixture of ultra filtrated underground water and RO permeate and will be irrigated using drippers
- Contour ripping and bunding has been completed
- Planting of salt tolerant native species/ sheep fodder e.g. saltbush and bordered by native tree species

If boron is outside compliance, will use this as an indicator

### **TSF Audit Summary**

Audit in January there was no immediate threat:-

- Some non conformances i.e. embankment deficiencies and non structural cracks
- Lower tailings level at discharge no 4
- Decant pump out of action
- Liner seepage collection system maintenance
- Damaged drain repaired
- Monitoring bores damaged and to be repaired
- Routine inspections on weekends and public holidays are recorded

### **Key highlights**

Terramin is committed to achieving the Environmental Direction targets by the 31 December 2012 March and April milestones were not met. To remediate this;

- Optimising onsite assets to increase permeate production
- Increase paste fill production (also important for overall production)
- Maximise evaporation
- Further improve raw water management

Continuing update of on-site water balance

FABAL pipeline - construction approvals complete and construction commencing

Surface area reduced 16,972m<sup>2</sup> since December 2010 (8,400m<sup>2</sup> since December 2011)

### **SHORT BREAK TAKEN AT 9.05pm.**

### **DMITRE comments**

Acknowledge ongoing commitment to achieve December 2012 ED targets. Actions to be managed in monthly report and DMITRE will monitor this performance both treatment and disposal.

Yet to see/review inputs to the latest water model underlying the current projections and this will be followed up with Terramin.

### **EPA comments**

Irrigation Management Plan will be assessed for compliance – you can do what you want on your own property but it must have no impact on others.

Water quality and site contamination provisions include harm to others; ground water and impacts on use of the land. These have been assessed and currently there is no indication or sense of non compliance. The plan has been written to EPA guidelines.

Broad area of concern is amount of irrigated water put on and rain (winter) coming up, relate to the nature of the soils – sand through to clay and potential to migrate into the river. Currently no information on this. Also nature of the crops has not yet been discussed. There are opportunities to improve this before 15June. Bunding is in but no determination on how applied water might migrate to the clay layer.

Plan will be circulated once it is approved and EPA has made a determination. Will have a presentation on this in the future.

## Questions

Concern that this is a significant departure with water going off the mine lease area, even though within the EPA licence. How much can be taken up by the plants?

Still looking at the plan, especially as the crops are native plants that require little irrigation.

Lease conditions state that silt and storm water should not affect other people, ground water and water dependent ecosystems.

Note that Burnside Creek discharge is now off the agenda.

## 6. MINE CLOSURE PLANNING

Hans Bailiht – Under current PEPR, Closure Plan to be in place by October 2012.

PEPR is not up dated, has been in limbo. Terramin now working on PEPR as it needs to be up graded to have:-

- Appropriate measurement criteria in place
- Effective water management criteria
- Comprehensive closure plan

Need to get subcommittee to meet more often if needed to get Mine Closure Plan done.

Subcommittee structure to include DMITRE and Terramin people (already in place). Important for Council to be a member of sub committee and if other groups interested, please bring this forward. Have community organisations interested in the land, so need to have something to consider and review.

Current sub committee members:-

Charles

Mike

Susan

Julia

Terramin rep

DMITRE rep

Council rep

First cut of plan will be achieved in next few months. DMITRE will meet with Terramin.

Proposed schedule:-

- End of June to review
- Presentation at August meeting
- Final product in November

**Action – DMITRE to initiate Mine Closure Plan process as per schedule above. Have everyone's email addresses, so can get together when there is something to talk about.**

## 7. TERRAMIN; COMMUNITY ENGAGEMENT PROGRAM UPDATE

Draft newsletter circulated. Will be printed next week and distributed, including in the Courier and Argus.

Race Day included an enjoyable presentation.

Adverts for the meetings are good.

## 8. OTHER BUSINESS

### Terms of Reference

Seeking proposals from consultants, to be advised.

### Round Table

Can use a piezometer to measure water level in the tailings

Mark Dale can provide scheduling for irrigation

May newsletter – well done



Box Cut – looking at structural integrity, managing feral animals, erosion management. Monitored every month and after significant rain

Still no Eastern Fleurieu School rep

Terramin – thank you for all comments, helped us to put together more complete reporting. Still a work in progress. Would still like feedback and it will evolve as a document. Effort has been extreme at times.

EPA – could put a wind rose on the map and time of reporting, so know what ones to focus on. More explanation on reveg trials next meeting (COEE). These to be factored into Mine Closure.

Terramin has a new General Manager – Joe Ranford, from Crocodile Gold Mine in NT. Ian will retain the water management issues at SCCC meetings.

**Thanks to Ruth, Margaret and Bill for hall and catering, to Merri for taking the minutes and thanks to all in attendance.**

## **9. FUTURE MEETINGS**

Next meeting on Thursday 16 August 2012 at 7pm.

Meeting Schedule – 15 November 2012.

## **10. MEETING CLOSE.**

Meeting closed at 10.15pm.

### **ACTION LIST**

<b>Terramin</b>	<i>Have further discussion with consultants re this new zoning (Grazing Land) and implications of this on noise monitoring and acceptable levels and report next meeting.</i>
<b>DMITRE</b>	<i>Initiate Mine Closure Plan process as per schedule above. Have everyone's email addresses, so can get together when there is something to talk about.</i>