M I N U T E S O F M E E T I N G

STRATHALBYN COMMUNITY CONSULTATIVE COMMITTEE

Thursday 18 August 2011

@ 7.00 pm

Senior Citizens Hall, 6 Parker Street, Strathalbyn

PRESENT:

Charles Irwin - Chair	Mike Farrier	Susan Jettner	Fred Carrangis
Rhonda McCarthy	Malcolm Twartz	Anne Woolford	Mark Dale
Gallery 23			

PIRSA:

Hans Bailiht	Greg Marshall	Dr Ted Tyne	Merri Tothill – Sec

TERRAMIN:

Matt Daniel	Robert Howie	Yullinah Wylie

EPA:

Rob Lyons	Glenn Sorenson

APOLOGIES:
Julia Currie, Barry Davis, Karen Hawke, Adrian Pederick MP, Ben Brazzalotto, Nicole Edkins (PIRSA)

Meeting commenced at 7 pm

1.	**WELCOME, INTRODUCTIONS AND APOLOGIES** Charles Irwin welcomed all and introduced SCCC members, PIRSA and EPA and Terramin staff to the gallery. Matt Daniel has taken on role while Anya is on maternity leave. He has background in Environmental Science. Matt will be the key contact for the mine community interface. He has recently moved from Northern territory and has worked with traditional land owners negotiating with mining companies including the Ranger Uranium Mine in Kakadu National Park. Yullinah Wylie (PA for the Terramin management team) and John Quirke and Mike Riley (assisting with community engagement in place of Stephen Marlow) were also introduced. Anya has had a baby girl and both are well. Apologies were accepted, as outlined above.
2.	**REVIEW OF MINUTES OF LAST MEETING** Corrections to 19 May 2011 minutes: 7. Other Business – former catering worker Bob Newton (not Newcombe). **Action item on AECOM report is ongoing.** 19 May minutes, amended as above accepted as true and correct record. NB **Minutes are available on the PIRSA website.**

3. PIRSA: COMPLIANCE OVERVIEW – Greg Marshall

PIRSA has had a number of visits to the site, focussing on the water issues and regulatory processes. This included regular PIRSA personnel as well as other PIRSA officers familiarising themselves with process in preparation for the MARP assessment and also attending the risk assessment of the RO to get a full overview of water management.

PIRSA officers sat in and observed the risk assessment and hazard study on possible RO equipment failure conducted by Terramin. This included the development of hazard control strategies. PIRSA officers were satisfied with the risk assessment process which was completed to industry standard – AS/NZ 4360 and ISO 3100.

PIRSA also visited underground, and has had a general review of MARP. No compliance issues other than Water Management.

MARP Review

Final process and timing is still not clear. It has been delayed pending resolving the water treatment issues. There is also been discussion on clarification of criteria e.g. geotechnical monitoring; water quality etc. It is important to be measuring the "right" things and measurements must not be ambiguous. Finalising these will be done in consultation with the SCCC.

Matt is working full time, so he will work with PIRSA to define these criteria. It is expected that it will take 6 months.

PIRSA reassured the SCCC that there will be no "lowering of the bar" and no review of lease conditions. The MARP is to demonstrate enshrined lease conditions and risk assessment will inform any refinement of criteria.

MARP Addendum

The RO discharge criteria need to be amended to include the risk assessment. PIRSA will be consulting with EPA on this to see how water quality outcomes can be achieved. PIRSA has not yet given any approvals on current proposals.

NB new terminology since the *Mining (Miscellaneous) Amendment Bill 2010* and *Mining Regulations 2011* came into effect as of 1 July 2011 - MARP is now called Program for Environmental Protection and Rehabilitation (PEPR).

The PEPR has a higher standing than the MARP as it is referred to in the Act. The format is similar to the MARP but it now integrates closure plans into operations.

One way to review the MARP is to compare old document with the new document (PEPR), so that the debate on issues raised can be more easily focused and resolved.

MARCR 2010 Review

This is the annual summary of compliance. PIRSA has completed review of the draft document, highlighting what they believe is important. NB draft MARCR circulated to SCCC at the May 2010 meeting.

When finalised, the MARCR 2010 will be placed on the PIRSA website.

Questions:-

Does the PEPR have any clout? There have been suggestions that the current MARP doesn't really count, that only the lease conditions count.

Not the case: MARP criteria are requirements. So are PEPR criteria; it is now enshrined in legislation and outcomes and criteria in the document will be used to measure achievement of outcomes and PIRSA will regulate according to these.

We need to be clear as some requirements of the current MARP appear to have been ignored. An example is the tree planting and revegetation (to counteract carbon footprint)?

PIRSA has discussed the tree planting with Terramin and alternatives need to be found. There needs to be some flexibility. However, greenhouse gas emissions will not be regulated using the PEPR.

Action: PIRSA to ensure updates of the rainwater tank survey, geotechnical report, and TSF Audit report (circulated today) also need to be added to the website.

4. TERRAMIN: REVIEW OF MINING OPERATION

Please see Terramin Quarterly Report #19 (April to June 2011) by Matt Daniel, available in full on the PIRSA website www.pir.sa.gov.au/minerals/sa_mines/approved_mines/angas under Wider Community Engagement and also emailed to all members a few days prior to the meeting.

Up coming Activities

- Paste backfill operations
- Noise monitoring (September)
- Community Newsletter (September 2011)
- On site exploration
- Rabbit and weed control

Activity report

- Over 9,000 m underground decline
- 101,753 tonnes of ore processed
- Drill rig on site for next 3 months, none on neighbouring properties
- Noise monitoring conducted in June
- Weed management continued
- 5 community and environment complaints received

Reports follow on noise monitoring; dust/air quality and water management overview. The details of water management will be covered separately.

1. Noise Monitoring

Monitoring conducted end of June, a time of gusts and wind activity.

Eastern monitor showed 3 nights over compliance limit and western monitor 3 nights and 1 day over limit. No unusual operations during that time. Reasons include site weather station under repair during that period and wind speed recorded at Strath Racecourse (distance away) and so may not match those at mine site.

3 dB reduction in noise attributed to use of blanket over mill gearbox.

Next round of monitoring will be end of September. AECOM will review the noise model in next quarter. NB: Model was to be trialled for 12 months, then reviewed.

Action: Terramin (Matt) to circulate AECOM report on review of noise model when it is completed.

Questions:-

Can the graph readings be explained?

The graph shows the readings at the source, the EPA limits are for the readings at the near neighbour's property. The limit lines indicated relate to the required 50-57dB(A) at the neighbour, not Terramin's lower internal target of 40-47. So noise is outside MARP compliance.

Is the noise contribution of wind and also its ability to carry other noise considered?

The monitors are not manned, so cannot remove other noise influences from the readings.

1 noise complaint received; was not mine related.

2. Dust Monitoring

High Volume Samplers - total dust and lead in dust within MARP criteria and generally within EPA limits.

No real change in last 6 months. NB that the surrounding area has high base level of lead, indicated by readings taken a long distance from the mine site.

The EPA limit is an early warning indicator and is much lower than the national standard and the MARP limit is the absolute limit.

Dust Deposition Gauges- all lead deposition within MARP criteria, however 9 results above MARP dust limits.

EPA still need to consider:-

- Other ways to characterise dust, as it is difficult to characterise, it cannot be traced easily
- Consistent high results of stations #2 and #7 (NB: no other stations in this sector)

Action: EPA (Glenn) to report to next meeting on characterising dust and station anomalies.

Questions:-
In QER Appendix G the lead results from both high volume samplers are not complete – what is the reason?
The data had not been received by the due date for QER. Matt will report back on this information.

Action: Matt to report on lead levels from 21 May to 26 June from high volume samplers.

There is no acceptable level of lead in the human body. The MARP uses 0.5. Currently the USA is looking to adopt a level of 0.15. Looking at the 3 month data for the mine site, it is below 0.15, so it is leading globally.

Action: Matt to update map background (e.g. Appendix B) to include current state of mine infrastructure.

3. Community/ Environment feedback
2 community incidents recorded include:-

- 1 non mine related noise
- Ongoing community discussions re approval to dispose of water in wetlands/creek system

3 internal environmental incidents reported

- 2 – pooled water near visitors area
- 1 fuel leak from light vehicle

Other monitoring parameters

- No ground/surface water quality issues
- 161 blasts recorded, all within guidelines
- Recorded site waste removal
- 4 sponsorship/donations, plus Strathalbyn Antique Fair.

NB one of the blast monitors (paddock) was not recording for about one third of the recording period as it is solar powered and batteries were not charging properly; this is the one that records over pressure related to over blasting. This is being rectified. **Of the available data 5 blasts showed over pressure above 120 dB(L) criteria and one more was above the 115 dB(L) level, but these were omitted from the summary.** The other (fixed) monitor was working for the whole time and showed vibration measurements within criteria. The company regards over pressure compliance as more important for open cut mining so hasn't "pushed the point". . **The meeting noted that this was far from the first time this had occurred, despite MARP requirement, and requested consistent and effective measurement.**

4. Water Management Overview
There has been no release of RO water and no mine impact on river (see Appendix D in QER). See below for further detail.

Updates

- Flora survey of wetlands to determine impact of potential water release found that no significant native flora under threat (see report emailed to SCCC members).
- Up dated modelling of water re-injection into underground bores by Australian Groundwater Technology to see effect on underground water production. PIRSA endorsed the competence of author John Armstrong.
- MARP Addendum for water release – risk assessment undertaken, providing more information to PIRSA
- MARCR review - responding to PIRSA feedback i.e. additional information, reformatting – internal timeline is 6 weeks to finalise.

	• Water release risk assessment – all onsite operators and contractors involved. Identified 15 risks and impacts e.g. piping, ecosystem impact, water testing, monitoring etc. Assessment included 5 actions to improve control and bring risks to low category e.g. RO membrane technology certification, installation of erosion matting and wetland survey. No assessment detail was tabled but noted the event to be mitigated is treated water of insufficient quality reaching the environment. • Concern was expressed about the possibility of additional flows increasing flushing of ecoli, etc from the STEDS and adjacent wetland. EPA thought this unlikely to be a problem but can review. ***Action: PIRSA/EPA to look at potential leaking of STEDS into creek system and the ramifications of this.*** **SHORT BREAK TAKEN BEFORE CONTINUING THIS AGENDA ITEM.**
5.	**REVIEW OF ANGUS MINE WATER BALANCE AND TSF ISSUES (Rob Howie/Matt Daniel) – includes pate backfill and application to release RO water offsite into wetland.** This has been a long slow process because the water changes its character constantly. The commissioning of the RO has taken a long time, and only in last 6 weeks has it reached desired treatment volumes. Rob described in detail the TSF design and planned operation to re-familiarise the SCCC and for the benefit of the gallery, including information on the effect of the single and double liner. The double liner only covers about half of the dam area. **Update** <u>Independent TSF audit 2011</u> Report states that TSF is being operated and inspected and monitored with aim of complying but full compliance has not yet been achieved. However, concluded that TSF does not present any immediate risk to personnel, downstream population and environment, or on going operations of mine but still some issues to be addressed. <u>Water Treatment</u> Large RO Microfiltration and 2 smaller RO plants currently treating mine water. A major improvement has been achieved with the Veolia (large RO) output now averaging more than 600m³/day. Major improvements include:- • TSF dam pumping • Filtration upgrade • 24 hour manning • Silt removal • Tailings backfill - 6,600m³ placed underground • Rain event modelling for 1/11 and 1/1,000 year events show that structural capacity of TSF is 6 times volume of 1/1,000 year rainfall event. So TSF currently has capacity for extra water storage before overflowing from spill way. Alexandrina Council regard the current STEDS level as still too high for resumption of use for RO product so this disposal option will not be available for the foreseeable future. <u>Water Monitoring</u> Terramin has 3 years of data collected monthly and some once per week on a wide range of parameters. The location of the surface water monitoring sites is contained in Appendix 3 of the QER. ***Action: Terramin to supply SCCC members with spreadsheets for all surface water monitoring sites and parameters.*** Seepage from the dam goes into 5 drains, then into a collection pit and then back into the dam. The total volume into the drains is increasing as the head of the dam is increasing. A schematic cross section of the TSF was emailed to SCCC members after the meeting to show the relationship

between the dam liners and seepage collection and monitoring.

Paste Backfill

Mining lease conditions state that tailings must disposed of underground to the extent that it is *technically feasible.* According to the MARP, approx 45% of the tailings are to be returned underground.

Steady paste backfill since May 2011 totalling 11,515 m^3 with improvements including a new facility that has better density control. This is a short term solution for minimum of 3 months, max. 6 months until new permanent facility is completed. Will have steady performance of 6,000 m^3 with a target of 7,000 to 10,000 m^3 by next month (September 2011).

Next year the decline will be fully developed so will have less waste rock, so therefore more capacity for paste backfill.

Forecast Update

Increase in paste backfill to 6,000m^3 and RO water maximised, so paste backfill and RO will soon be working together to solve water issues. Have modelled rainfall and evaporation on 15 years of "real" data, so current forecast is to reach target of 68RL in TSF by October 2012. See presentation graph. NB current date for end of mine is 2014.

Maximum comfortable level of 600-700kl/day to reinjection bores, so it is vital for Terramin to have multiple areas and options for disposing of water and this includes the STEDS (limited), re-injection into underground bores and disposal into off site wetland.

Proposal to release RO water offsite into wetland.

It is proposed to put water into the wetland in winter to replicate natural flows, it is estimated that it will take up to 40 days before wetlands will overflow and water will reach the creek. If there are big rains, it will be shut off. The average flow in the Angus River is 10-40mgl/day, the proposal is to put 1mgl into the system from the mine, a small % of the natural flows.

Issues, comments and questions from the floor:

The natural flow of the Angus is highly variable and spasmodic.

How is Angus River flow monitored now? – The DFW website information is used. Suggest that actual flow be modelled.

What is the flow rate for the Burnside Creek? – This is not known, therefore need to do a thorough analysis of effect on Burnside Creek applying the 20% criteria to that stream as this is the watercourse that will take the flow (and it is normally dry for long periods).

What happens if the RO membrane fails? Can it pass certain molecular weights? Will there be fail safe shut down or diversion?

Even though RO water is good quality, the public perception after all of the media focus is that TSF waste water (albeit treated) is being put into the river system – a negative perception and likely to affect producers in the area. Although a misinterpretation and RO purified water is OK, this perception is damaging the image of the area as relatively clean and green. There needs to be a process to manage this perception, it should have been part of the risk assessment. A PR strategy is yet to be finalised but should be released in two weeks.
Currently Terramin only has verbal approval from the landholders along the Burnside Creek (not formal written approval).

Terramin have developed a process for handling stakeholders if they get approval but this is not yet ready for public release. Terramin have already had discussions with:-

- Murray Darling Basin NRM (re Water Affecting Activities - WAA) – advice received that it is not a WAA
- Alexandrina Council
- PIRSA

- EPA

Most questions raised to date have now received answers from various authorities. However, information on the proposal needs to be complied into one easily accessible document and the message needs to get out into the local and wider community as soon as possible. The facts need to be available and in a form that can be understood.
If there are amendments to the MARP, then there must be consultation with stakeholders.

PIRSA Comment
Documents supplied by Terrramin are being assessed in consultation with EPA, DFW and MDB NRM. PIRSA is reviewing from Mining and Agricultural/Horticultural perspectives.

The credibility of the scientific/technical aspects of the proposal is a major issue, therefore it is important to consult with other agencies. An analysis of Burnside Creek needs to be included. A MARP amendment must demonstrate consultation with all stakeholders and include "iron clad guarantees" regards water quality and impacts. Public perception is critical.

EPA Comment
EPA and Dept Health have considered the *E Coli* aspect and have recommended that it be part of the overall PIRSA assessment.

Action: Terramin to find out precise locations of Angus River flow rate monitoring sites and inform SCCC and community.

Action: Terramin to include an analysis of Burnside Creek flow rates as part of proposal.

6.. OTHER BUSINESS

Review SCCC Terms of Reference
PIRSA is looking at this in the context of other similar committees and groups. Item on hold.

Mine Closure Planning
Note that Appendix C was incorporated into the main body of the MARP.

Neville Styan will replace Graham Webster (as Council rep) on Mine Closure Sub group. Graham has resigned from the Council.

With an updated site plan, progress can now be made with this issue.

Newsletter
Last newsletter was out at end of May, available on the Terramin web site, http://www.terramin.com.au/projects/angas/newsletters/default.aspx. Next newsletter is due at end of August 2011.

Committee member replacement and contact details
Charles has contacted the new principal at Eastern Fleurieu School and they are considering options for replacement SCCC member. On going item.

It appears that Terramin may not be using the most up to date and correct contact list, as many SCCC members have not been receiving weekly up dates and other emailed documents. Several committee members appear not to have received some recent e-mailed documents.

Action: Merri to email Yullinah the most up to date and correct contact list. Both to ensure all documents have been received.

Media contact
All SCCC contact with media is to be made through Charles as the Chair. It is important that the media hear the level of detail that is discussed at SCCC meetings. Charles thanked Genevieve Cooper from the Mount Barker Courier and members of the gallery for attending the meeting.

	Round Table Discussion of other issues (Not discussed above) Why is there a seasonal variation in pH? – This is the influence of rainfall. All media articles should indicate article writer and source of quotes and information. The recent Rainwater Tank monitoring report is not on the PIRSA web site. It was noted that there are a number of other documents missing from the web. This will be rectified by PIRSA. PIRSA stressed that leakage through the single liner in the TSF does not equate to leakage through the double liner. If any SCCC member does not have complete understanding of the TSF, they should ask more questions. EPA is also available for to answer questions and for clarification on issues. **Thanks to Don and his wife Ruth for hall and catering and thanks to all in attendance.**
8.	**FUTURE MEETINGS** The next meeting on Thursday 17 November at the Senior Citizens Hall @ 7pm. Frequencies of SCCC meetings are once every three months on the third Thursday of the month.
9.	**MEETING CLOSE** Meeting closed 11.10pm.

ACTION LIST

Terramin	**Circulate AECOM report on review of noise model when it is completed.**
Terramin	**Report on lead levels from 21 May to 26 June 2011 from high volume samplers (missing data in QER).**
Terramin	**Update map background (e.g. Appendix B in QER) to include current state of mine infrastructure, including TSF.**
Terramin	**Supply SCCC members with spreadsheets for all surface water monitoring sites and parameters.**
Terramin	**Find out precise locations of Angus River flow rate monitoring sites and inform SCCC and community.**
Terramin	**Include an analysis of Burnside Creek flow rates as part of RO water release proposal.**
EPA/Glenn	**Report to next meeting on improved ways of characterising dust and station anomalies.**
PIRSA	**Look at potential leaking of STEDS into creek system and the ramifications of this.**
PIRSA	**PIRSA to ensure updates of the rainwater tank survey, geotechnical report, and TSF Audit report (circulated today) also need to be added to the website.**
Merri	**Email Yullinah the most up to date and correct contact list. Both to ensure all documents have been received.**