The Honourable Kon Vatskalis
Minister for Primary Industry, Fisheries and Resources
GPO Box 3146
Darwin NT 0801

16 November 2011

Dear Minister

Independent Monitor's Audit Report of the McArthur River Mine for the 2010 Operational Period.

For the second year in succession, the Independent Monitor has identified no issues requiring urgent investigation and has complimented MRM on the evidence of improved environmental management and procedural compliance.

These results reflect the significant investment of resources and capital made to continuously improve our environmental performance.

In particular, we note the IEM's acknowledgement that environmental improvements have been noted in:

- Flora and Fauna monitoring both at Bing Bong and the mine site
- Surface Water monitoring
- Fluvial sediment monitoring
- Structural monitoring of the river diversions.

This follows from the 2009 audit report which acknowledged that:

- MRM has acted to eliminate previously identified extreme risks
- The Water Management Plan prepared in November 2009, contingency planning and mitigation measures have significantly improved MRM's water monitoring and management
- Dust mitigation has improved
- A range of monitoring programs are considered "generally appropriate" including the monitoring of dust, soil, fluvial sediment, riparian bird and macro invertebrates, vegetation monitoring at Bing Bong Dredge Spoil Pond, and marine environments
- Procedural improvements have been made (and were commended) including the scientific approach to the marine monitoring program for seawater quality and updated procedures for classifying waste rock destined for the Overburden Emplacement Facility

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- Salt discharge to land adjoining the Bing Bong dredge spoil pond has been brought under control through rectification works and is no longer considered an urgent issue.

We have thoroughly reviewed the Report for the 2010 Operational Period and submit the following comments on the issues identified.

Importantly, our comments provide clarification on matters where assumptions or errors of fact have been made by the audit team. They also provide information on additional work completed against the issues or in complete commitments raised by the IEM since the site visit and issue of the report.

Issues Considered Significant

The water in cell two of the TSF remains a concern, as it is considered an extreme risk of embankment failure or overtopping of the spillway

We do not agree with the assessment there is an 'extreme risk of embankment failure'. MRM experienced significantly higher than average rainfall during the 2010-2011 wet season with 1462mm falling over the period compared to the average of 760mm. These water flows were well accommodated within the TSF design and at no time was the TSF at risk of embankment failure or overtopping of the spillway.

The cell 2 spillway is designed for a 1:200 rainfall event over the full areas of cell 2 and cell 1. The design of the concrete spillway at RL48.0m is 1m below the crest level of RL49.0m. The spillway has been designed as per Allan Watson and Associates (AWA) - McArthur River Mining Cell 2 (Stage 1) Tailings Dam Construction – Construction Report May 2007. The suitability of the cell 2 spillway has been reviewed through annual inspectionts in 2008, 2009, 2010, and more recently in 2011 – with these reports indicating the spillway design is in accordance with the ANCOLD guidelines. Additionally in 2010 remediation works were carried out as per AWA designs to the spillway to rectify a high water leak – again the final designs are sufficient to prevent the dam from overtopping.

An additional emergency spillway was installed after consultation with AWA – as per e-mail evidence provided for this review. The erodible emergency spillway was added to increase the maximum storage capacity of cell 2 to prevent water flowing to the WMD and contaminating this cleaner water source. By its design the emergency spillway would have eroded if it too overtopped returning the spillway to the RL48 level and the spillway to its design maximum discharge rate.

The covers referred to in the report as geo fabrics are in fact used filter cloth and were installed to provide some wave protection on the inside of the dam. These would have been removed if the dam level rose to a point where overtopping was imminent. The maximum level reached during the 2010-2011 wet season was RL47.7 – 300mm below the concrete spillway at RL48 and 800mm below the emergency spillway.

As previously mentioned infrastructure was put in place to direct cell 1 water to the WMD. During the 2010/2011 wet season there was no overflow from the eastern drain spillway to cell 2 from cell 1. All rainfall from the eastern side of the cell 1 was captured and pumped to the WMD. The western drain has a smaller storage capacity and did overflow during the 2010/2011 wet season during 7 rainfall events for the year. The vast majority of rainfall catchment on cell 1 was diverted around cell 2. This cell 1 rainfall catchment diversion infrastructure will be in place for the 2011/12 wet season.

As per the SDWMP cell 2 is designed to overflow into the WMD in a high rainfall event.

The water level in cell 2 has dropped 940mm since the end of the 2010-2011 wet – driven by high tailings density, 100% recycling of water to the plant, and evaporation of cell 2 water on the established beaches. This level decrease equates to 860ML of water reduction from cell 2.

Additional activities to reduce water levels within the TSF have also included the implementation of evaporative fans which have the ability to evaporate up to 38% of their throughput in the correct conditions. These fans have an automated weather station shutting them down in unfavourable conditions based on modelling by PAE Holmes

The visual method for classification of NAF/PAF waste rock is of concern as it poses the potential for misclassification

There is significant science and analysis involved in classifying NAF and PAF waste rock.

Waste is characterised through a block model based on drilling information gained from analytical programs that have in the main, been completed since 2002.

Stratigraphic units are identified in the block model based on geological logging and interpretation. Domains or stratigraphic units in the MRM block model have hard boundaries; this means that blocks in the block model are not spread across a boundary or different stratigraphic units; rather a particular block will represent one material type only.

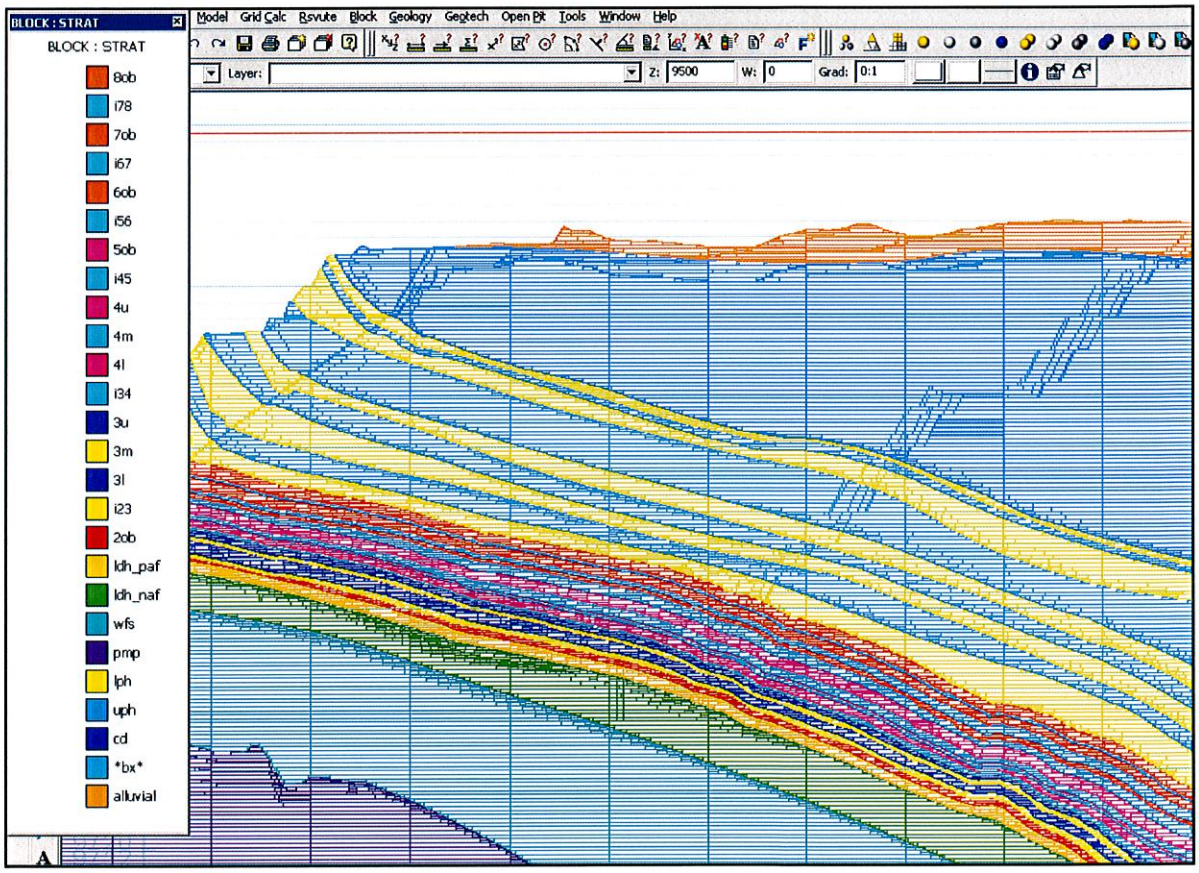

Figure One- A cross section at 2300mN of the MRM Resource Model showing stratigraphy

Stratigraphy coded into the block model represent the following waste units:

- ldh_PAF Lower Dolomitic Shale;
- ldh_NAF Lower Dolomitic Shale;
- wfs; W Fold Shale (footwall shale);
- pmp; Teena Dolomite (footwall);
- lph; Lowr Pyritic Shale;
- uph; Upper Pyritic Shale;
- Cd; Cooley Dolomite; and
- bx; Pyritic Shale Breccia

A designated stratigraphy is then considered along with the weathering profile to assign a bulk code. The *fw_naf_2009.bcf* codes the PAF variable in the model with an integer based on the acid forming potential of each lithological domain according to the following:

- Paf = 1 indicates a NAF lithology in the 'oxide' or 'alluvial' weathering zone
- Paf = 2 indicates a NAF lithology in the 'transition' weathering zone
- Paf = 3 indicates a NAF lithology in the 'fresh' weathering zone
- Paf = 8 indicates a PAF lithology in the 'transition' weathering zone
- Paf = 9 indicates a PAF lithology in the 'fresh' weathering zone

The majority of the footwall stratigraphy (Teena dolomite, W-Fold shale and the Lower dolomitic shale) has been identified as non-acid forming through geochemical waste characterisation testing of drillhole samples. However, the top 5 metres of the Lower dolomitic shale up to the 2 orebody footwall has been re-classified as PAF in the block model as it contains 1.5 -2 metres of the strongly sulphidic #1 orebody and 1.5 metres of pyritic shale.

For PAF classification of the more heterogenous hangingwall sequence, the *hw_paf_2009.bcf* codes the paf variable with the same integers as above based on interpolated Fe and final NAG pH content derived from 5 metre length composites sampled during the 2002 and 2007 waste characterisation drilling campaigns. e.g. For fresh material: if, for a particular block the Fe grade is >7.5% and the pH is < 4, this block is coded with PAF = 9, which means the block is classified as PAF. For fresh material: if, for a particular block the Fe grade is <7.5% and the pH is > 4, this block is coded with PAF = 3, which means the block is classified as NAF.

Using these criteria, most of the Lower Pyritic shales directly above 8 orebody hanging wall are classified as NAF. This is largely due to the predominance of thick dolomitic debris flow breccias over the narrower inter beds of often intensely pyritic siltstone within that unit. Waste characterisation analysis has shown that the breccias buffer the local acid generating nature of the siltstones and that overall, the unit is NAF. However, during mining, a more conservative approach has been taken and thicker beds (>2metres) of pyritic siltstones are selectively mined as PAF and taken to the PAF cell.

Analysis of more extensive PAF zones higher in the hanging wall show that most are associated with the Bituminous and Upper Pyritic shales which occur in stages G major and H. Waste characterisation drilling done in 2002, 2007, 2008 and 2010 is stored in the waste characterisation drilling drill hole database.

By viewing this drill hole database in Vulcan there is a well defined change from dominantly NAF to dominantly PAF at the Lower Pyritic Shale/Bituminous shale contact. This zone will be more closely delineated with further planned waste characterisation drilling.

In order to improve on this classification method a waste characterisation drilling program is currently underway at McArthur River Mine (MRM). The drilling program commenced in October and is expected to be completed in December 2011. The drilling is targeting the hanging-wall waste stratigraphy to improve the data density in this area. The holes are designed to focus on areas identified in the mine schedule as mining waste over the next 3 years. Additional drilling will continue to be completed in future on a campaign basis to ensure the appropriate level of data is available and interpreted in front of the mining footprint.

Results from the current drilling program are not expected until Q1 2012. Once these are received the resource model will be updated with this data. Results from this drilling will be incorporated into the block model as per the previous drilling campaigns (i.e. based on interpolated %Fe and final NAG pH content derived from 5 metre length composites).

The block model is used as the basis for identification of NAF and PAF by the Pit Technicians. This is followed by a visual check once the material is blasted and as it is being dug to ensure the classification is accurate to what has been actually revealed. Based on the combination of this information, material is ultimately classified by the Pit Technician and sent to the appropriate location at the NOEF.

In situ testing of waste material for classification as NAF and PAF will be investigated in 2012 in line with the update of the resource model. Part of this process will be a review on the methodology used for the classification of NAF and PAF.

Timing of acidification of the tailings and delineation of the treatment options

During the IM audit of the 2009 operational year, concerns were raised about the geochemistry of the tailings in cell one and its ability to be retarded by dolomite gravel below cell one. As a result, MRM engaged Golder Associates to undertake further studies and in the early stages of this study, sought input by the IM. This study was conducted at a substantial cost to MRM in order to directly address questions raised by the IM in the context of parameters also set by the IM.

The draft audit criticises the adequacy of the Golders study while at the same time, agreeing with its recommendations. We believe it is inappropriate and unprofessional to be criticising a respected, specialist consultant in this manner when the work performed was limited to the interests of the IM. Because of the limitations created by the parameters set, MRM has, in any event, engaged a peer review to verify the outcomes.

Fugitive dust emissions from Pacrim area, the uncovered tailings in cell one and to a lesser extent the Bing Bong Concentrate storage shed

Every year since the IM commenced auditing MRM, improvements have been made for dust suppression around site and Bing Bong including both engineering and isolation controls. We would expect that since completing 99% of the first stage of rehabilitation of cell 1 with a clay layer in the 2011 operational period, the generation of dust in the form of total insoluble matter, lead and zinc would have decreased immensely.

Additional sprays, covers and associated pumps and water distribution pipe work have been added to the Pacrim crushing circuit however it should be noted that it is a crushing facility and not all dust can be stopped.

As per recommendations by the Independent Monitor in the 2009 audit, a substantial amount of tube stock has been planted in this location in order to act a wind break/dust barrier between the main road and the crushing facilities.

In relation to Bing Bong, MRM will be installing a wet scrubber extraction system "Venturi Particulate Scrubber" before the end of the year. This is a negative pressure system that is being designed to allow for one roller door to be open at a time. As part of the project we will also be replacing the main roller doors to fast action remote driver operated roller doors that will allow the doors to be closed during normal operations and only opened when a road train is on location.

The structural integrity of the Bing Bong dredge spoil pond walls remains as a significant issue this year.

Timing of each IM audit is relatively early in the year and no earthworks are normally undertaken until after the wet season. As a result of this and the fact that MRM had a large wet season it gives the impression no additional work had been conducted since the last audit report issued in November, just prior to the wet season.

Since the IM's 2010 visit operational work was undertaken on the perimeter and internal walls prior to the 2010/2011 wet season and in early 2011 while rain was still occurring. Material was placed on batters of the last cell and along the perimeter road in order to rectify areas of erosion. All flow through points between cells were also breached in order to allow water to free flow between cells.

During this year's audit inspection some earthworks were shown to the audit team which occurred during the late part of the wet season. As stated to the IM, further work was planned prior to this wet season and has been completed already as per the following pictures.

Figure One - Completion of cleaned out perimeter drain around Bing Bong dredge spoil

Figure Two – Earthworks completed on perimeter road around Bing Bong dredge spoil

Figure Three- Earthworks completed on perimeter road around Bing Bong dredge spoil (2)

Slow progress of revegetation on the McArthur River diversion

Observations made by the audit team during the time on site was positive in regards to revegetation and whilst three wet seasons have occurred since the channel was opened it must be highlighted that no work was able to be conducted for one of these due to Commonwealth Government approval constraints.

It should be noted that a significant amount of resources have been put into the planting of the channel however due to logistics issues during wet season this task has been made difficult.

In 2010 and 2011, approximately 50,941 trees were planted along the banks of the channel and in the past month an additional 12,000 plants have been planted with a majority of these on the McArthur channel. Additional planting is still to occur before the end of the wet season and into the 2011/2012 wet season along with direct seeding of several species.

The successful rehabilitation of the Barney Creek diversion demonstrates the benefit of an additional year's growing season and the lower level of impact from wet season flows through that channel compared to the greater volumes in the McArthur River.

Riparian bird monitoring has indicated within the last survey that indicator species such as the Purple Crowned Fairy Wren are utilising rehabilitated regions along Barney Creek highlighting that rehabilitation to date has been successful. Whilst this is in a different system it is an indication of rehabilitation after a period of three years.

Inadequacy of reporting on routine monitoring programs

The IM has previously mentioned that over the last couple of years reporting has improved with each SD Mining Management Plan and SD Water Management Plan. This continuous improvement will continue to occur with each SDMMP and SDWMP. In the audit report, the IM proposes the use of a consultant to sum up all monitoring programs and attach each as an appendix to either the SDWMP or SDMMP.

We do not support this recommendation based on need or value. MRM conducts an extensive routine monitoring program annually in line with all regulatory conditions. This program is already subject to audits by the Department of Natural Resources, Environment, The Arts and Sport, the Department of Resources and the federal Department of Resources, Energy and Tourism. All programs are also audited by the IM itself. Where there is already two levels of review and assessment, we do not see the need for a third.

The use of consultants to assess all monitoring programs would also be a costly exercise, made more expensive by the fact that the delivery of some of these programs is already outsourced to external consultants.

MRM has demonstrated a commitment to continuous improvement in its monitoring performance and analysis and a high level of compliance with regulatory reporting. Further auditing is an unnecessary expense.

Clarification and Errors within the report

Section 4.4.4 Low Risks

The report states that topsoil stockpiles are not enough for rehabilitation of the tailings dam or waste dump. This is incorrect.

Topsoil for the TSF is stored in a stockpile to the north of cell two. Topsoil for the OEF is marked in locations on the following map.

Topsoil is currently stockpiled in three locations at the NOEF. Topsoil is stripped from the ground to expose a clay layer prior to placing a NAF base. Generally up to 300mm of topsoil is removed. The survey pick up of the NOEF as shown below shows the stockpile locations (highlighted in blue).

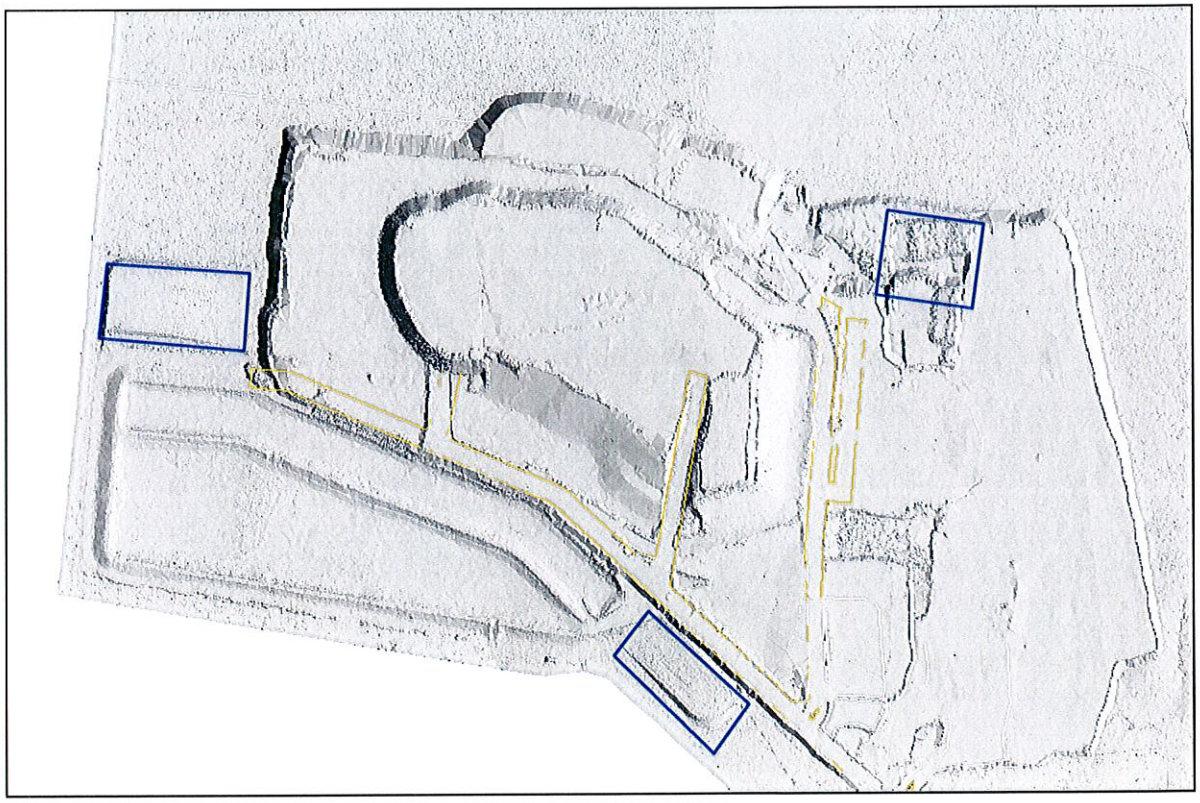

Figure Two- Topsoil locations at the Northern OEF

Incomplete Commitments

Cattle will be excluded from the mining and processing areas by the construction of a 17 kilometre fence.

Fencing was completed by the 15th of October and mustering was undertaken from within the fenced area. The fence perimeter has been increased in order to minimise damage from flood waters to the best of our ability. However, it should be recognised that due to the nature of the floods, it is likely there will always be some areas prone to having fences washed out. In these cases, gaining access to fix this fence is not possible during the wet season or until July due to logistical problems associated with ground conditions. As a result, some cattle will be able to enter these areas.

Rehabilitation trials will recommence on the Bing Bong Loading facility dredge spoils and opportunistic panting will occur.

A trial area was prepared in 2010 and seed was placed over the area however this was not done in conjunction with Charles Darwin University (CDU) as previously stated. MRM internally prepared an area based on previous discussions with CDU. During 2012 a greater emphasis on this trial area will include monitoring similar to that of the McArthur River channel and Barney Creek.

An improvement to the dust monitoring program in 2010 is to occur with inclusion of Minivol dust samplers.

MRM commissioned Lear Seigler Australasia Pty Ltd in September 2011 to inspect the mine site operational area and provide advice regarding upgrading the instruments used to monitor particulate dust. Subsequently MRM will install the following instruments and equipment:

Tapered Element Oscillating Microbalance (TEOM) analyser

The TEOM provides near continuous monitoring of particle mass. The TEOM consists of an oscillating tapered tube with a filter on its free end. As particles land on the filter, the filter mass change is detected as a frequency change in the oscillation of the tube. The mass change and the flow rate through the system provide a measure of the particle concentration.

The analyser relates to Australian Standards AS 3580.9.8-2001: Method for sampling and analysis of ambient air- Determination of suspended particulate matter – PM10 continuous direct mass method using a tapered element oscillating microbalance analyser.

It operates at 10-minute intervals, allows detailed comparison with meteorological conditions and the data is stored at regular intervals. The TEOM can be configured with an alarm system that is set off when Trigger Levels are exceeded, which is useful for management purposes

Mini Vol® Tactical Air Samplers

The low volume sampler collects particles by drawing a constant flow rate of ambient air through filter paper using a small pump. It provides a quantitative sampling and measuring technique for particle pollutants (active) over a 24 hour operating period.

The samplers relate to Australian Standards:AS/NZS 3580.9.92006; Methods for sampling and analysis of ambient air- Determination of suspended particulate matter – PM_{10} low volume sampler – Gravimetric method; and AS/NZS 3580.9.10.2006: Methods for sampling and analysis of ambient air- Determination of suspended particulate matter-$PM_{2.5}$ low volume sampler – Gravimetric method;

Some vegetation scar mapping has been conducted with the use of aerial photographs

In late October MRM received aerial photographs taken during September and as a result this imagery will be utilised to compare to previous annual photographs and update the current report on the Bing Bong dredge spoil and potential vegetation loss.

The TSF area has been fenced to exclude stock and permanent firebreaks will be constructed around the perimeter

Fire breaks were constructed late in the year in 2011 due to logistical issues in wet conditions. Several of the TSF firebreaks have been completed since the EIM visit howeverfencing is continuing into some areas still containing water.

The top of the clay layer encapsulating the PAF cells will be covered by a minimum of 3 metres of NAF material

The possibility of placing three metres of NAF on top of clay is being investigated based on current cells and material availability.

The PAF dams will consist of two parts, first a sediment dam trap into which any run off or leachate will flow and the second, a main dam with run off from the OEF spilling into the sediment dam first.

MRM has both of these dams in place which is highlighted in the current Sustainable Development Mining Management Plan. Further drainage strategies have also been addressed which have been incorporated into the recently submitted Sustainable Development Water Management Plan.

Activities completed in the last operational year that were approved in the last MMP included: completion and commissioning of the tailings line upgrade

Only one further task is required to close this commitment which includes the inclusion of two flow meters. Both flow meters have been installed however power is yet to be installed to the TSF side flow meter. This action is due to be complete in the first quarter of 2012 after power logistics have been rectified.

Operation of water recovery bores from the Surprise Creek corridor back to TSF Cell 2

Whilst recovery bores were operational during 2010 /2011 and records were being maintained on a weekly basis there were several periods over the wet season when they were not utilised as infrastructure associated with the pumps had to be moved to prevent damage by water from Surprise Creek.

During 2011 water from recovery bores was also placed back up on cell one on top of the clay in order to facilitate further evaporation and to reduce the input of water into cell two. A greater emphasis will be placed on recovery bores during 2012.

For any other further information please don't hesitate to contact Gary Taylor, Health, Safety and Environment Manager on gtaylor2@xstratazinc.com.au or on 0447041376.

Yours faithfully

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Encl:
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