Independent Monitor ENVIRONMENTAL PERFORMANCE ANNUAL REPORT 2012 – 2013

McARTHUR RIVER MINE

October 2014
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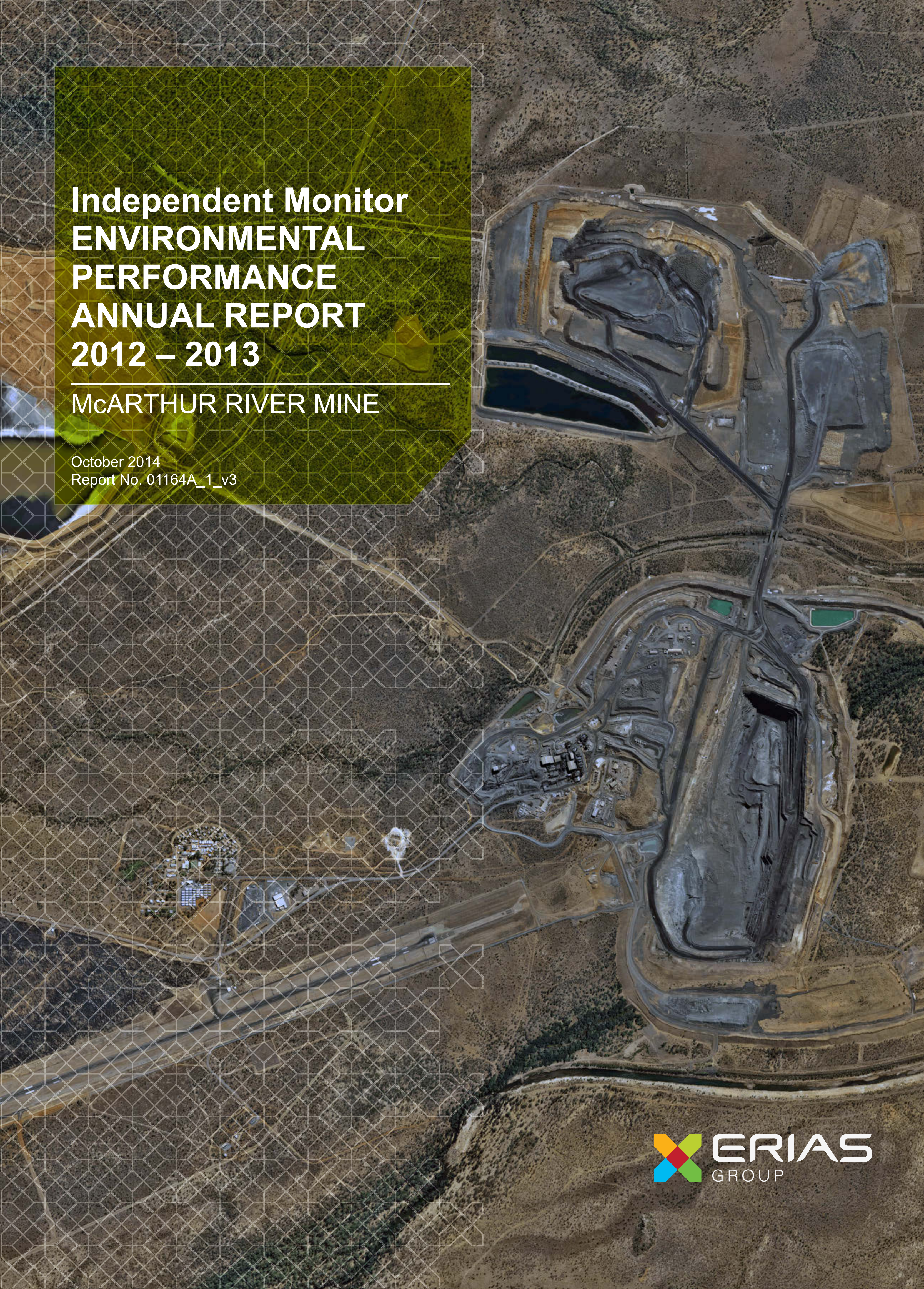

ERIAS GROUP

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Report to the Minister for Mines and Energy
Department of Mines and Energy

McArthur River Mine

Independent Monitor Environmental Performance Annual Report 2012-2013

October 2014
(Report No. 01164A_1_v3)

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Executive Summary

This environmental performance report has been prepared by the Independent Monitor following review of monitoring data and environmental assessments during the 2012 and 2013 operational period (October 2011 to September 2013).

During the review of the 2013-2018 MMP in early 2014, the Department of Mines and Energy identified a major change in the classification of overburden and design of the northern overburden emplacement facility. This change was made following further geochemical testwork undertaken by Klohn Crippen Berger. The impact of the revised mine waste classification has been that the volume of potentially acid-forming overburden has increased from around 30% to over 50%, with the further recognition that an additional 30% of the overburden has the potential to generate saline and metalliferous pH-neutral drainage. While outside the reporting period, this information is of such significance that the Independent Monitor has included it as part of the review.

Since the last Independent Monitor report for the 2011 operational year, major changes have occurred at the McArthur River Mine with the approval of the McArthur River Mine Phase 3 Development Project. The expansion of the mine will extend the mine life by a further nine years to 2036, and will result in an annual production of 5 to 5.5 Mtpa of ore and an increase of stored waste rock by 345 Mdmt. At the time of the site visit in March 2014, McArthur River Mine was in the process of commissioning the expanded processing plant and increasing the mining rate to meet the requirements of the expansion.

An extensive environmental monitoring program has been implemented by McArthur River Mine, which is supplemented by a number of investigations undertaken by the operation or external consultants. The extent of monitoring and investigations is reflected by over 7,000 documents being provided to the Independent Monitor as part of the review of the 2012 and 2013 operational years.

Some of the improvements noted by the Independent Monitor in its review are:

- Inclusion of Surprise and Barney creeks in the aquatic fauna monitoring program.
- Continued addition of large woody debris in the McArthur River diversion channel.
- Observations of sawfish and other marine species passing through the McArthur River diversion channel.
- Construction of an interim clay cover over potentially acid-forming material on the Northern overburden emplacement facility prior to the wet season commencing.
- Implementation of additional surface water monitoring sites on Emu Creek and upstream sites on Surprise Creek, Barney Creek and McArthur River.
- Installation of the northern siltation pond at Barney Creek bridge which appears to be reducing contaminants entering the creek, with notable reductions in Pb and Zn levels at the Surprise Creek confluence and Barney Creek bridge.

- Implementation of comprehensive programs and investigations to characterise overburden and identify management issues following changes in the understanding of geochemical risks on site.
- Development of an interim cover design for TSF Cell 1.
- Extension of the geopolymer cut-off wall along the entire length of the eastern embankment of the TSF.
- Installation of various seepage control measures and additional groundwater monitoring bores.
- Ongoing groundwater remediation in the area of the power station following the 2011 diesel spill.
- Ongoing improvements to minimise fugitive dust emissions involving covering dust generation points at the ore crushing plant, including transfer points between conveyors and at the base and top of the secondary crusher.
- Review of the marine ecology monitoring program, which has resulted in changes to the monitoring program and introduction of a new quantitative method for seagrass monitoring.
- Continual revision of the water balance model, which has shown an improvement in the correlation between modelled and observed pond water levels.
- Planting of 67,000 tubestock along the McArthur River diversion channel during 2012 and 2013.

As highlighted above, the overburden geochemical categories/classification at McArthur River Mine have undergone major revision since the last Independent Monitor report. The revision has greatly reduced the estimated volume of benign materials available for use in controlling acid, saline and metalliferous drainage. Previous assumptions concerning the proportion of overburden geochemical types require re-assessment, as do previous overburden emplacement facility designs and approaches towards overburden management. The proposed redesigned Northern Overburden Emplacement Facility, which is based on the revised geochemical classification, is therefore much less robust than that reviewed in the last Independent Monitor report.

The changes in the geochemical classification of overburden have implications for surface water quality, groundwater, site water balance, mine closure, and terrestrial and aquatic ecosystems. As the information has only recently been received by McArthur River Mine, strategies to manage this change are being developed. As a consequence, the Independent Monitor has highlighted particular issues that McArthur River Mine will need to consider in formulating strategies to manage the overburden. The Independent Monitor considers acid, saline and metalliferous drainage to be the most significant environmental issue at McArthur River Mine.

The Independent Monitor identified a number of areas for improvement in its review of the 2012 and 2013 operational years and these are detailed in the report. Of particular importance are the following:

- The concentrations of metals and Pb isotopes in aquatic fauna were assessed in conjunction with the early dry season aquatic fauna survey. In 2013, the maximum permitted concentration for Pb as outlined in Food Standards Australia and New Zealand (2009) was exceeded in 9 of 10 fish caught at SW19 (site downstream of Barney Creek bridge). Lead isotope ratios at SW19 were very similar to those of the orebody, indicating that this Pb could have been derived from the orebody. However, high Pb isotope ratios similar to the orebody can occur naturally, as indicated by results from Kilgour Junction upstream of the mine and the two regional reference sites. Additional investigation is required to identify the sources of contamination. There was no evidence of mine-derived Pb in the McArthur River.

- The volume of water stored on the surface of TSF Cell 2 was highlighted as a concern in the 2011 Independent Monitor report. During the Independent Monitor's inspection in March 2014, the depth of water was observed to be at least 2 m above the tailings surface along a substantial section of the TSF Cell 2 southern embankment. The extensive and consistent accumulation of water in TSF Cell 2 appears to be current McArthur River Mine practice and is based on primary concern for water storage, separation of contaminated water and dust control. This approach conflicts with the environmental impact statement commitments, mining management plan commitments and Australian national committee on large dams guidelines for subaerial deposition. At the same time, installation of piezometers, which would provide the ability to assess the implications of these elevated water levels, does not appear to have been implemented despite repeated recommendations by the designer, McArthur River Mine's appointed independent assessor and the Independent Monitor.

- Construction quality control at of the TSF Cell 2 Stage 2 was found to be inadequate with 18% of compaction tests failing to meet the design specifications. While remedial action was taken to rectify the areas that failed to meet specifications, no supporting records are available. It was also apparent that in most cases subsequent retesting was not undertaken to confirm that remedial action was successful.

- At the NOEF it was observed that there is no lower limit on in situ moisture content, with 59% (36 of 61 tests) compacted -2% dry of optimum. Compacting dry of optimum, and particularly -2% dry of optimum, is known to result in higher permeability than compacting wet of optimum. The implication of these results is that the construction of the compacted clay liners may not be in accordance with the design specifications and, consequently, the performance of this compacted clay liner will be different to that assumed in modelling.

- Seepage from TSF Cell 1and TSF Cell 2 has continued despite the implementation of a number of seepage recovery measures. It is unclear if the covering of TSF Cell 1 tailings with clay has reduced seepage, although reductions in dust emissions have occurred. The existing controls would appear to be insufficient in controlling seepage, which may be linked to the excess water stored on TSF Cell 2.

- Rehabilitation of the McArthur River diversion channel has continued with a further 67,000 trees being planted. The Independent Monitor commends McArthur River Mine on its continued efforts to rehabilitate the diversion channel. It is noted, however, that erosion of sections of the diversion channel of up to 2 m has occurred in the past four years, indicating that the diversion channel remains unstable and that establishing vegetation in areas with such high levels of erosion will present ongoing difficulties. The Independent Monitor recommends review of the current strategy and, in particular, the schedule required to complete the rehabilitation if progress continues at the current pace.

The Independent Monitor has also reviewed the Northern Territory Department of Mines and Energy's performance in regulating the McArthur River Mine. Over the reporting period, the department has reviewed and provided comment on two mining management plans, several amendments to mining management plans and the Phase 3 Development Project Environmental Impact Statement. In addition, the department has undertaken two compliance audits and two check monitoring campaigns. The Independent Monitor believes that there are opportunities for the department to improve in the following areas:

- The timeliness to issue audit reports. The 2012 compliance audit report was issued six months after the site visit while the 2013 compliance report had not been issued at the time of preparing this report (also six months after the corresponding site visit). The Independent Monitor believes that the department should set a target to issue draft audit reports within six weeks of the site visit.
- The audit protocol provided to the Independent Monitor discusses assessing the environmental performance against best practice. The protocol, however, does not define best practice in relation to the McArthur River Mine. Defining and documenting this term for specific areas of the operation would enable the department and the Independent Monitor to better determine if the operation is meeting best practice.
- Tracking of progress to complete audit recommendations. The department currently does not have a mechanism for tracking progress to complete audit recommendations. The Independent Monitor has noted that a number of recommendations from the 2011 Independent Monitor report have not been actioned. While it is understandable that not all will be actioned, some of the recommendations were identified as being high priority.
- In assessing compliance against the mining management plan commitments, the Independent Monitor found that commitments were often stated as actions with no direct link to environmental performance, e.g., meeting a specific water quality guideline. The Independent Monitor believes that the department should place a greater focus on the commitments contained in the mining management plan to ensure that they are specific, relevant and measurable and, where possible, linked to environmental performance.

1. Introduction

1.1 Role of the Independent Monitor

In December 2013, the Department of Mines and Energy (DME) engaged ERIAS Group Pty Ltd (ERIAS Group) to provide an independent monitoring assessment of the environmental performance of the McArthur River Mine (Figure 1.1) for a period of 60 months. The scope of the project includes the mine (Figure 1.2) and Bing Bong Port (Figure 1.3). The main role of the Independent Monitor (IM) is to assess the environmental performance of the McArthur River Mine by reviewing and reporting on environmental assessments and monitoring activities undertaken by McArthur River Mining Pty Ltd (MRM), and environmental assessments and audits undertaken by DME, with respect to the environmental performance of the mine and Bing Bong Port.

The imperative for the IM is outlined in the MRM mining authorisation (0059-02), where Schedule 2 (independent monitoring assessment conditions) states that:

> 3.1 The purpose of these conditions is to establish and set out the operational requirements for an independent monitoring assessment of the environmental performance of the mine.
>
> 3.2 The Department will engage an Independent Monitor to undertake the independent monitoring assessment.

1.2 Scope of the Assessment

Clause 4.1(a) of the independent monitoring assessment conditions states that the IM is required to monitor the environmental performance of the mine[1] by reviewing:

> (i) environmental assessments and monitoring activities undertaken by the Operator; and
>
> (ii) environmental assessments and audits undertaken by the Department.

Issues relating to mine safety, social issues, personnel matters, administration matters or governance arrangements resulting from the operation of the mine in the McArthur River region will not be included in the assessment.

This assessment of environmental performance addresses the two-year operating period from October 2011 to September 2013[2] and includes:

- An inception meeting with the operator (MRM) and department, i.e., the regulator (DME) in Darwin.
- Reviewing environmental assessments, monitoring activities and audits undertaken by both MRM and DME.
- Reviewing relevant research required to inform monitoring activities.

[1] Includes the Bing Bong Port.
[2] Note that monitoring data has been assessed for an operational period of July to June, i.e., July 2011 to June 2013.

PROJECT LOCATION

McArthur River Mine Project

FIGURE 1.1

ERIAS Group | 01164A_1_F1-1_v1.pdf

McArthur River Mine Project

FIGURE 1.2

030985 - v04 - 03 July 2014

BING BONG PORT

McArthur River Mine Project

FIGURE 1.3

Source: Google Image 2005

ERIAS Group | 01164A_1_F1-3_v1.pdf

030985 - v04 - 03 July 2014

- Updating the previous IM's formal risk assessment and gap analysis (for the 2011 operational period).
- Undertaking a site visit.
- Preparing a report for the Minister for Mines and Energy concerning the environmental performance of the MRM operation (by both the operator and regulator).
- Preparing and distributing a report to the Borroloola community and other key stakeholders concerning the environmental performance of the MRM operation. This includes a community presentation.
- Developing and maintaining a website for the display of the report, the response reports from the operator and regulator, community report and other relevant information.

The scope of subsequent assessments will be similar to that described above and defined in the associated environmental performance annual report.

1.3 Objectives of the Assessment

The objectives of the IM assessment are to:

- Document the review of environmental performance.
- Report on progress from the previous IM assessment.
- Identify any urgent issues that require investigation and reporting.
- Identify areas of MRM's and DME's environmental performance that require improvement and recommend actions to address these deficiencies.
- Acknowledge areas of MRM and DME environmental performance that are done well.

1.4 Report Structure

This report comprises nine chapters:

- Executive summary – provides a summary of how the assessment was undertaken and the key findings.
- Chapter 1 Introduction (this chapter) – provides definition around the scope of the assessment.
- Chapter 2 Background – provides general context for the assessment.
- Chapter 3 Method – outlines the approach to the review of environmental performance.
- Chapter 4 Results – presents results by technical discipline, e.g., terrestrial ecology, and highlights key risks, existing controls, successes, new issues, incidents and non-compliance, progress since the previous IM assessment and new recommendations. Assessment of MRM and DME performance is described separately.
- Chapter 5 Summary of Recommendations – provides a summary of the recommendations.

- Chapter 6 Conclusions – presents an overview of the environmental performance of the McArthur River Mine since the previous assessment and highlights the main areas of concern.
- Chapter 7 Limitations – identifies the limitations of the assessment.
- Chapter 8 References – provides the details of the bibliographic references used in the report.
- Chapter 9 Definitions – provides definitions for less commonly used terms.

Supporting information such as the updated risk assessment and gap analysis are appended to the report.

2. Background

2.1 Statutory Requirements

The need for the IM environmental assessment is set out in the mining authorisation (see Section 1.1) that is issued by the Mining Environmental Compliance Group of DME under the Northern Territory *Mining Management Act* (MM Act).

The MM Act is the main piece of legislation that governs mining operations in the NT. Pursuant to the act, a mining management plan (MMP) must be prepared that details the particulars of the management systems to address environmental issues. Operators are obliged to comply and manage their operations in accordance with the approved MMP.

A waste discharge licence (WDL 174-05) issued under the *Water Act* applies to the discharge of waste water into the McArthur River and Bing Bong Port. It is an offence under the act if the holder of the discharge licence contravenes, or fails to comply with, the conditions of the licence.

The McArthur River Mine is also operated with reference to other legislation, agreements, standards and codes of practice, some of which are:

- *Aboriginal Sacred Sites Act* (NT) and *Aboriginal and Torres Strait Islander Act 2005* (Cwlth).
- *Environmental Assessment Act* (NT).
- *Heritage Act* (NT).
- *Mineral Titles Act* (NT).
- *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth).
- *Waste Management and Pollution Control Act* (NT).
- Licences and agreements.
- Other relevant codes and standards (e.g., National Water Quality Management Strategy, National Health and Medical Research Council, Enduring Value Framework (Minerals Council of Australia), national environment performance measures).

2.2 Project Status

Mining at McArthur River commenced in 1995 with underground operations and converted to open pit mining in 2007. Ore from the zinc/lead/silver deposit is extracted and processed to produce a high-grade bulk zinc/lead/silver concentrate. Waste associated with mining and processing is stored in the northern overburden emplacement facility (NOEF), western overburden emplacement facility (WOEF) and tailings storage facility (TSF) (which comprises two cells and an adjacent water management dam). Three river diversions have been required to facilitate the operation resulting in the construction of three diversion channels: McArthur River diversion channel, Barney Creek diversion channel and Little Barney Creek diversion channel. Surprise Creek is the other catchment within the mine development area (see Figure 1.2).

The concentrate is transported from the mine to Bing Bong Port by road along the Carpentaria Highway. The concentrate is stored at the port in a concentrate storage shed from where it is loaded onto the MV Aburri bulk carrier and barged to waiting ships in a transfer (transhipment) zone in the Gulf of Carpentaria. Concentrate is offloaded via a boom that feeds the material onto conveyor belts that discharge into the hold of the ship. A swing basin and channel allow the MV Aburri to move between Bing Bong Port and waiting ships; these facilities require regular maintenance dredging with the spoil stored in onshore dredge spoil ponds (see Figure 1.3).

Surface water at the mine site is managed via a series of ponds and dams that manage process water, pit water (including dewatering) and runoff. Similarly, surface runoff from the facilities at Bing Bong Port is managed via three ponds and a pond drain. The main features of these systems are described in Table 2.1 and shown in Figures 1.2 and 1.3.

Table 2.1 – Surface Water Management Ponds/Dams

Pond/Dam	Description of Water Stored
Mine Site	
Anti-pollution pond (APP)	Contaminated water[1] from the run of mine (ROM) pad, laydown areas, process water, and water from the concentrator runoff pond (CRP) and TSF
Concentrator runoff pond (CRP)	Contaminated water from the processing area, process water
Van Duncan's dam (VDD)	Mine water
Pete's pond (PP)	Contaminated water from underground workings and pit
Lake Archer (LA)	Dirty water[2]
NOEF southern potentially acid-forming (PAF) sediment dam (SPD)	Runoff from OEF (contaminated)
NOEF southern PAF runoff dam (SPROD)	Runoff from OEF and SPD overflow (contaminated)
NOEF southeast PAF runoff dam (SEPROD)	Runoff from southeast area of NOEF (contaminated)
Pond 2	Dirty and raw water
Bing Bong Port	
Bing Bong surface runoff pond 1	Contaminated runoff from sumps, washdown and infrastructure areas
Bing Bong surface runoff pond 2	Water from Bing Bong surface runoff pond 1
Bing Bong surface runoff pond 3	Water from Bing Bong surface runoff pond 1
Dredge spoil pond drain	Contaminated water from dredge spoil

1. May contain contaminants such as heavy metals, hydrocarbons, and mill reagents.
2. Contains sediment.

In June 2013, the Northern Territory Government approved the Phase 3 development project, i.e., mine expansion. The expansion involves increasing processing capacity from 2.5 Mt/yr to 5.5 Mt/yr and producing up to 800,000 dry metric t/yr of concentrate. The expansion extends the mine life from 2027 to 2036. To accommodate the expansion:

- The open pit will increase from 145 ha to 210 ha.
- The TSF will be expanded, converting the water management dam into Cell 3 and constructing a new water management dam that will ultimately be used as Cell 4.
- The NOEF will be expanded and two new overburden emplacement facilities (OEFs) will be constructed to manage the additional 530 Mt of overburden.
- A new gas-fired power station will be constructed to increase capacity by 45 MW.
- On-site ore processing facilities will be upgraded.
- Site offices, workshop facilities, accommodation village and other supporting infrastructure will be upgraded and expanded.

At the time of the IM site visit in March 2014, the expansion was being commissioned and it was expected that steady state production would be achieved by July 2014.

2.3 Previous Independent Monitor Audits

Environmental Earth Sciences (EES) was the IM prior to ERIAS Group and during their five-year term completed five audits of MRM's environmental performance during the 2007, 2008, 2009, 2010 and 2011 operational periods (October to September). The key findings of each audit are provided in Table 2.2.

Table 2.2 – Overview of Previous IM Audits

Audit Year	Key Findings/Recommendations	Environmental Performance Over Time
2007	♦ Improved monitoring, technical review and interpretation of all water monitoring data around the mine, in particular the assessment of seepage from the TSF into Surprise Creek ♦ Improved management and subsequent reduction of fugitive dust emissions at the Bing Bong Port load-out facility ♦ Improved dust management practices, particularly at the TSF ♦ Improved management and rehabilitation of the Bing Bong Port dredge spoil ponds ♦ Adjustments to analytical suites for the surface water and groundwater monitoring programs	♦ High level of procedural conformance with statutory commitments and conditions
2008	Significant issues: ♦ Tailings leachate migration from TSF Cell 1 into Surprise Creek ♦ Saline leachate from the Bing Bong Port dredge spoil ponds affecting vegetation surrounding the spoil ponds Less urgent, but still significant issues: ♦ Fugitive dust emissions at the Bing Bong Port load-out facility ♦ Weed management along the river diversion channels and around the mine site	♦ Some improvements since the 2007 audit

Table 2.2 – Overview of Previous IM Audits (cont'd)

Audit Year	Key Findings/Recommendations	Environmental Performance Over Time
2009	♦ Excess water storage in TSF Cell 2, which poses a significant risk of overtopping and embankment failure due to the TSF spillways being under-designed for a flood event ♦ Seepage migration from the TSF to Surprise Creek and the hazard classification of tailings in Cell 1 and Cell 2 ♦ Fugitive dust emissions from the mine site ROM (run of mine) pad/ore crushing area at the mine site ♦ Fugitive dust emissions from the Bing Bong Port concentrate storage shed ♦ Detail of reporting and quality of data analysis for the dust, soil and sediments monitoring program and inclusion of long-term trends and base studies ♦ Weed management along the river diversion channels and the mine site ♦ Structural integrity of the Bing Bong Port dredge spoil ponds ♦ Testing of the TSF Cell 1 clay cap to ensure it meets design specifications	♦ A number of issues identified in the previous audits addressed; however, there were a number of ongoing, and additional, issues
2010	♦ Adverse impacts of seepage from the TSF detected in Surprise Creek ♦ Dust from operations at the ROM pad and crushing plant, and also historically from the TSF expressed in stream sediments in both Barney and Surprise creeks ♦ Volume of water stored in Cell 2 of the TSF remains a concern as there is an extreme risk of embankment failure or overtopping of the spillway ♦ Visual method for classification of non–acid-forming (NAF)/PAF waste rock of concern as there is the potential for misclassification ♦ Progress of acidification of the tailings and delineation of the treatment options ♦ Generation of fugitive dust emissions from the ROM pad and crushing plant, and, to a lesser extent, the Bing Bong Port concentrate storage shed ♦ Structural integrity of the Bing Bong Port dredge spoil ponds ♦ Slow progress of revegetation on the McArthur River diversion channel ♦ Inadequacy of reporting for many routine monitoring programs	♦ Many improvements were noted through the audit and the following monitoring programs were considered to be generally adequate: – Flora and fauna monitoring both at the mine site and at Bing Bong Port – Surface water monitoring – Fluvial sediment monitoring – Structural monitoring of the river diversion channels
2011	♦ The volume of water stored in Cell 2 of the TSF ♦ Delineation of seepage at the TSF, and its effect on Surprise Creek ♦ Progress of acidification of the tailings and delineation of the treatment options ♦ Identification and management of PAF rock waste at the NOEF ♦ Progress of revegetation on the McArthur River diversion channel, particularly along downstream sections	♦ Environmental performance had improved over the past five years of monitoring, most notably around: – The level and detail of reporting presented within the 2011/2012 MMP and water management plan (WMP) – Dust mitigation and monitoring at the mine site – Ongoing rehabilitation of the McArthur River diversion channel

2.4 Stakeholders

The assessment of the environmental performance of the MRM operation is of interest to the following audience (Table 2.3). These people and groups are the McArthur River Mine's stakeholders.

Table 2.3 – Stakeholders

Government	Non-government
Minister for Mines and Energy	MRM
DME	Traditional Owners of the Borroloola region
Minister for Lands, Planning and the Environment	Local Indigenous organisations
Department of Lands, Planning and the Environment (DLPE)	Wider community of Borroloola and surrounds
Northern Territory Environment Protection Authority	Land councils
Other Northern Territory Government agencies	Environment groups
Commonwealth Government agencies, e.g., Department of the Environment	Other interested parties

Some of these stakeholders, e.g., DME and MRM employees, were involved in the assessment (Chapter 3), while others are interested in the outcomes (e.g., other government agencies, environment groups, other interested parties).

The IM is maintaining a website that will provide:

- An overview of the role and activities of the IM.
- Access to current and previous annual IM reports, operator and regulator response reports, community reports and other relevant information prepared, or used, by the IM in assessing environmental performance.
- Links to other relevant websites.

This website allows stakeholders to access information associated with the annual assessment of performance. Information will also be disseminated to local community stakeholders via a separate community report and presentation.

The website can be accessed at: www.mrmindependentmonitor.com.au.

3. Method

3.1 Review Team

The IM is led by ERIAS Group and supported by a team that brings together the experience and skills required to fulfil the role (sections 1.1 and 1.2). The roles of the IM team members are outlined in Table 3.1.

Table 3.1 – IM Team

Name	Company	Technical Expertise for the Assessment
David Browne	ERIAS Group	Team leader; environmental risk and management; closure planning
Michael Jones	ERIAS Group	Natural surface water, artificial surface water and marine water quality; fluvial and marine sediment quality; soils
Michael Wright	ERIAS Group	Dust
Luci David	ERIAS Group	Peer review
Mick Cheetham	Water Technology	Diversion channel hydraulics
Richard Walton	Water Technology	Site water balance and management; surface hydrology
Gareth Swarsbrick	Pells Sullivan Meynink	Geotechnical; TSF operating strategies
Rob Garnham	Groundwater Resource Management	Groundwater modelling and monitoring
Stuart Miller	Environmental Geochemistry International	Geochemistry; TSF and NOEF cover design strategies
Warwick Stewart	Environmental Geochemistry International	Geochemistry; TSF and NOEF cover design strategies
Bill Low	Low Ecological Services	Terrestrial flora and fauna; aquatic ecology; marine ecology
Nicola Hanrahan	Low Ecological Services	Terrestrial flora and fauna
Matt leFeuvre	Low Ecological Services	Aquatic ecology; marine ecology (including the annual marine monitoring program, seagrass and *Vibrio* assessment)
Derek Mascarenhas	Integrated Design Solutions	Website design and maintenance; graphic and report/presentation production support

3.2 Assessment Framework

The IM team reviewed environmental performance within MRM's mining lease numbers 1121, 1122, 1123, 1124, 1125 and 1126, and downstream along the McArthur River to the coast and beyond within the Sir Edward Pellew Group of Islands (see Figure 1.1) in terms of:

- Key risks (Section 3.5).
- Existing controls.
- Successes.

- New issues.
- Incidents and non-compliances.
- Previous audits.

With the exception of key risks, each of these is discussed below. Deficiencies in any of the above translate to either an ongoing or new recommendation.

In general, performance has been assessed in terms of the:

- MMP, which is the principal document required under the MM Act that informs how the mine will be operated and describes the controls that will be implemented to manage and monitor environmental risks (Section 2.1). Three MMPs apply to the period of assessment (Section 1.2), their relevance being as follows:
  - Sustainable Development Mining Management Plan 2011-2012. This document addresses proposed management and monitoring for the period October 2011 to September 2012 and monitoring data for the period July 2010 to June 2011. The latter is not relevant to the period of assessment. Similarly, the commitments listed in this MMP have not been included in the assessment of performance as they have been superseded by the following year's MMP.
  - Sustainable Development Mining Management Plan 2012-2013 (Part A public and Part B commercial in confidence). All proposed management and monitoring measures, monitoring data and commitments described in this document are relevant to the assessment period.
  - Sustainable Development Mining Management Plan 2013-2018. This document addresses proposed management and monitoring for the period October 2013 to September 2018 and review of monitoring data for the period July 2012 to June 2013. While this document was withdrawn by MRM following the IM site visit, the review of monitoring data remains relevant to, and has been considered in, the assessment.
- Relevant criteria, guidelines and standards, e.g., Australian and New Zealand guidelines for fresh and marine water quality (ANZECC/ARMCANZ, 2000), Australian National Committee on Large Dams guidelines (ANCOLD, 2012).
- Leading practice, in the context of the key risks identified in the risk assessment (Section 3.5).

3.2.1 Existing Controls

The IM team has identified the controls that MRM has implemented/made to manage and monitor environmental risks. These are summarised for each technical area and assessed for adequacy.

3.2.2 Successes

The assessment of environmental performance identifies areas of improvement, e.g., closing out an ongoing IM recommendation, and where it can be demonstrated that an environmental value, e.g., environment protection objective or beneficial use declaration (as defined in the water discharge licence (Section 2.1)) has been protected by meeting, where relevant, a criterion, guideline or standard.

3.2.3 New Issues

New issues are those that are not an incident or non-compliance (Section 3.2.4), or an ongoing issue from a previous IM audit. They may relate to an information gap (Section 3.6) or be risks (Section 3.5) that are not addressed in existing controls (Section 3.2.1).

3.2.4 Incidents and Non-compliances

Incidents are defined by MRM as (MRM, 2011a):

> An unplanned or unwanted event with the potential to harm personnel, the environment, equipment or the community.

Incidents are managed according to the MRM Incident Management Procedure (GEN-SD-PRO-6040-0015) and ranked based on severity (actual or potential in the case of a near miss) (Table 3.2):

Table 3.2 – Incident Severity Ranking

Ranking	Environmental Impact
1	No or very low environmental impact. Impact confined to small area. Site impact only
2	Low environmental impact. Rapid clean up by site staff and/or contractors. Impact controlled to area currently impacted by operations
3	Moderate environmental impact. Clean up by site staff and/or contractors. Impact confined within lease boundaries. Or, minor impact off site; however, no irreversible damage
4	Major environmental impact. Considerable clean up effort using site and external resources. Impact may extend beyond lease boundaries
5	Severe environmental impact. Local species destruction and likely long recovery period. Extensive clean up involving external resources. Impact on regional scale

There were 57 incidents in the reporting period (39 in 2012; 18 in 2013) and these will be discussed within each technical area of the report.

Compliance was assessed in three areas:

- The extent to which MRM has complied with the commitments in the MMP. The assessment of commitments was limited to those that could be verified. In some cases, this was prevented by a lack of time during the site visit or available documentation.
- Compliance with the waste discharge licence (WDL 174-05) that specifies trigger values that must not be exceeded for two authorised discharge points (SW11 and BBDDP – dredge spoil drain).
- Compliance with relevant criteria, standards and guidelines.

There are four categories for compliance: full, partial, non and not verified. The assessment of compliance for the MMP commitments is provided in Appendix 4. All areas of non-compliance are discussed in each technical area of the report.

3.2.5 Progress Since Previous Audits

The recommendations from the previous (2011) audit were revisited and progress assessed. Those that have been satisfactorily addressed will be discussed in 'Successes'. Those recommendations that have not been closed out will be discussed and captured in the summary of recommendations (Chapter 5).

3.3 Document Review

The IM was provided with a number of documents just prior to the site inspection. In the time available before the site visit, some documents were reviewed to gain an understanding of the status of activities, provide context, and assist with the prioritisation of issues (questions and areas to inspect) for the site visit. The bulk of the document review was undertaken following the site inspection. Additional requests were made to MRM for additional documents, following both the document review and site inspection. A full list of documents used in the assessment is provided in Appendix 1.

3.4 Site Inspection

The IM team (excluding Michael Wright, Luci David, Stuart Miller and Derek Mascarenhas) visited the McArthur River Mine (including Bing Bong Port) in the week 25 to 27 March 2014. The purpose of the site visit (inspection) was to:

- Visit the mine site and project infrastructure, including the processing plant, TSF, NEOF, water storage ponds, river diversion channels, concentrate storage and handling facility at Bing Bong Port, workshops, power station and linear infrastructure.
- Gather information from discussions with MRM personnel.
- Present preliminary outcomes of the review at a close out meeting with MRM at the end of the site visit.

3.5 Risk Assessment

3.5.1 Objective

Each year the IM is required to undertake a risk assessment to assess environmental risks associated with the MRM operation. The objectives of the risk assessment are to:

- Identify environmental risks.
- Evaluate whether environmental monitoring and assessment practices undertaken by MRM are adequate and appropriate to mitigate the risk of potential environmental impacts.

3.5.2 Method

On 28 March 2014, following the site visit, a risk assessment was undertaken in Darwin with the IM team. The risk assessment was based on the review of information provided by DME and MRM[3], interviews with MRM and DME personnel, and observations made during the site

[3] The risk assessment was based on information available at the time, and was subsequently updated (as required) by the IM team once additional documents had been received and reviewed.

inspection. This updated the previous risk assessment (completed in 2011) and therefore used the same method. This method is in accordance with ISO 31000:2009 – Risk Management Principals and Guidelines (Standards Australia, 2009), is described in EES (2012) and is based on the following definitions and matrices (Tables 3.3 to 3.6).

Table 3.3 – Consequence Definitions

Consequence		Definition
1	Catastrophic	Severe environmental impact. Local species destruction and likely long recovery period. Extensive clean up involving external resources. Impact on regional scale
2	Major	Major environmental impact. Considerable clean up effort using site and external resources. Impact may extend beyond lease boundaries
3	Moderate	Moderate environmental impact. Clean up by site staff and/or contractors. Impact confined within lease boundaries. Or, minor impact off site; however, no irreversible damage
4	Minor	Low environmental impact. Rapid clean up by site staff and/or contractors. Impact controlled to area currently impacted by operations
5	Insignificant	No or very low environmental impact. Impact confined to small area. Site impact only

Table 3.4 – Likelihood Definitions

Likelihood		Definition
1	Certain	Expected to occur frequently at this operation
2	Likely	Expected to occur occasionally at this operation
3	Possible	Has occurred, or could occur, for this or a comparable operation
4	Unlikely	Known to occur in the global industry, but unlikely
5	Improbable	Not known to occur in the global industry, but plausible

Table 3.5 – Risk Matrix

Consequence		Likelihood				
		1	2	3	4	5
		Certain	Likely	Possible	Unlikely	Improbable
1	Catastrophic					
2	Major					
3	Moderate					
4	Minor					
5	Insignificant					

Table 3.6 – Risk Rating Definitions

Risk Rating	Definition
E	Extreme. Immediate intervention required to eliminate or reduce risk at a senior management/government level
H	High. It is essential to eliminate or reduce risk to a lower level by the introduction of monitoring and assessment measures implemented by senior management
M	Moderate. Corrective action required, and monitoring and assessment responsibilities must be delegated
L	Low. Corrective action should be implemented where practicable, and risk should be managed by routine monitoring and assessment procedures

3.5.3 Outcomes

The updated risk register is provided in Appendix 2. A total of 68 risks were assessed, of which one was extreme, 31 were high, 29 were moderate and seven were low. A comparison of the risk assessment results with the previous assessment is provided in Table 3.7.

Table 3.7 – Comparison of Risk Assessment Results

Risk Rating	2011 IM Audit Risks	2014 IM Assessment Risks
Extreme	2	1
High	13	31
Moderate	36	29
Low	19	7
Total	**70**	**68**

Key risks are discussed in each technical area of the report, with all risks detailed in Appendix 2.

3.6 Gap Analysis

ERIAS Group has adopted the gap analysis approach that EES used in previous IM audits, where a gap is defined as (EES, 2012):

> a discrepancy between the monitoring program that is taking place, and the monitoring program that should be staking place if MRM's environmental performance is to be maintained at industry best practice standards.

EES's 2011 gap analysis register was reviewed and each team member identified monitoring and assessment gaps in their field of expertise based on three questions:

1. Is monitoring undertaken in accordance with associated potential risk?
2. Is monitoring sufficient in design (frequency, type, location) to address and mitigate potential risk?
3. Is monitoring data/output information assessed, interpreted and managed to track risk alteration and evaluate the need for improved risk mitigation?

Gaps were categorised into three groups (Table 3.8).

Table 3.8 – Gap Categories

Category	Description
1	Monitoring to mitigate potential associated environmental risk is not undertaken
2	Monitoring is undertaken, but is not sufficient in design—that is, frequency, location, type and so on, are insufficient to identify or quantify potential environmental risks
3	Monitoring is undertaken and is appropriate in design, however data/output information is not adequately assessed, interpreted or managed to appropriately mitigate potential environmental risks

A total of 88 gaps were identified:

- 20 Category 1 gaps.
- 46 Category 2 gaps.
- 22 category 3 gaps.

These gaps will be discussed within each technical area of the report and in the most relevant section, i.e., existing controls, new issues or non-compliance.

3.7 Review of DME's Monitoring

DME's performance assessing the environmental performance of MRM has been determined by reviewing the following documentation:

- Audit reports undertaken during the assessment period, i.e., legislative compliance and MMP compliance audits.
- Correspondence between DME and MRM:
  - During review of MRM's MMP and WMP.
  - Regarding environmental incidents reported to DME.
- Environmental monitoring (database of results) undertaken by the Environmental Monitoring Unit (EMU) of DME.

In general, performance was assessed in terms of:

- Whether there is a clearly defined auditing framework.
- The ability for DME to measure performance based on the MMP commitments.
- Timeliness in issuing the final audit report.
- Whether the review of sustainable development mine management plan and sustainable development water management plan documents was comprehensive and addressed the key risks in a timely manner.
- Appropriate follow up and close out of commitments arising from environmental incidents, and audit recommendations (both DME and IM audits).
- EMU activities in terms of providing adequate verification of MRM monitoring activities.

4. Results

4.1 MRM Performance – Key Risks

The IM has reviewed the risk register prepared by EES as part of the review of the 2011 operational year. An update of the risk register has been undertaken with the following actions being completed:

- Review of all risks to determine if these risks remain current.
- Risks that remain current have been updated to include a new section on impact/ consequence. The risks were also updated to reflect changes since the register was last compiled.
- New risks as a result of the IM's document review and site inspection have been included.

Review of the risk register has resulted in the number of risks identified by the IM decreasing from 70 to 68. Table 4.1 outlines a summary of the risks from the 2011 and 2014 risk assessments undertaken by the IM.

Table 4.1 – Summary of Risks Identified by Independent Monitor 2011 and 2014

	2011	2014
Extreme risk	2	1
High risk	13	31
Moderate risk	36	29
Low risk	19	7

Risks considered by the IM to be key risks as identified in the 2014 review of the risk register include:

- Potential failure of the NOEF cover design resulting in acid, saline and metalliferous drainage impacts on groundwater quality, and terrestrial and aquatic ecosystems.
- Insufficient NAF materials available for the construction of the NOEF cover resulting in acid, saline and metalliferous drainage impacts on groundwater quality, and terrestrial and aquatic ecosystems.
- Misclassification of geochemical rock types leading to the placement of waste rock in the wrong locations resulting in acid, saline and metalliferous drainage from unexpected parts of the NOEF and consequent impacts on groundwater quality, and terrestrial and aquatic ecosystems.
- End dumping of PAF materials resulting in segregation of coarse and fine materials and creation of chimney structures resulting in greater rates of oxidation and generation of acid, saline and metalliferous drainage impacting groundwater quality, and terrestrial and aquatic ecosystems.

- Materials placed historically without controls and new materials not sufficiently managed combust and leave voids creating instability in the NOEF and compromising the NOEF cover resulting in acid, saline and metalliferous drainage impacts on groundwater quality, and terrestrial and aquatic ecosystems.

- Inadequate QA/QC of NOEF cover construction resulting in performance of the cover being less than designed, causing either failure of the cover or poor performance leading to acid, saline and metalliferous drainage impacts on groundwater quality, and terrestrial and aquatic ecosystems.

- Oxidation of exposed PAF and NAF materials in the pit walls leading to development of poor pit water quality and potential impacts on surface water quality through overtopping and/or groundwater movement impacting on groundwater quality, and terrestrial and aquatic ecosystems.

- Seepage of tailings water impacting on groundwater quality, and aquatic and terrestrial ecosystems where groundwater is discharged to creeks or the surface.

- Using the TSF to store process water raising the risk of: 1) failure of the embankment; 2) excessive settlement of the embankment; 3) piping through the embankment; or 4) piping through the foundation releasing tailings and/or process water into the environment causing impacts to terrestrial and aquatic flora and fauna and sedimentation of Surprise Creek.

- Slow revegetation of the McArthur River diversion channel resulting in erosion of the diversion channel and lack of suitable habitat for terrestrial and aquatic flora and fauna.

The recent changes in the geochemical classification of waste rock have resulted in a number of new risks and these together with other risks identified by the IM are outlined in Section 4.1.2 to Section 4.2.5.

4.1.2 Mine Site Water Balance

4.1.2.1 Key Risks

The key risks to water balance as described in the risk assessment (Appendix 2) are:

- Errors in the water balance model parameter estimation. There is considerable interaction between water balance model parameters. That is, it is possible to obtain a match between modelled and observed water levels in ponds with a range of different parameter sets. The potential issue is that while the model may appear to provide a reasonable estimate of the water balance under the current mine site conditions, the model may be a poor predictor of the water balance under changed mine site conditions.

- Changes in mine site runoff/seepage water quality. There is a chance that the mine site runoff and seepage water quality (collected in ponds on site) may become substantially worse than currently estimated. This is because the large volumes of potentially acid-forming waste rock may result in a reduction in runoff/seepage pH with a concomitant increase in dissolved metal concentrations. These possible changes are not assessed in the water balance modelling.

- Changes in climate. The water balance modelling assumes that the historical climate record from 1889 to the present is representative of the current and future climate (during the mine life). Possible climate change needs to be considered in the water balance modelling and measures put in place to mitigate risk.

4.1.2.2 Existing Controls

The existing controls employed by MRM to reduce risk in the mine site water balance management are:

- Annual revision of the water balance model to incorporate changes in the site layout and additional monitoring data. Additional modelling is also undertaken between the annual revisions, as required.

- Continual investment in equipment used to monitor water balance (e.g., pond levels and pump rates). This greatly assists in the parameterisation of the water balance model which, in turn, reduces model prediction uncertainty.

4.1.2.3 Successes

The successes of the MRM site water management over the reporting period include the following:

- Continual revision of the water balance model, which has shown an improvement in the correlation between modelled and observed pond water levels.

- Identification of uncertainties in the mine site water balance as a result of water balance modelling results. This has led to continual investment in monitoring equipment and improvement in the monitoring of water balance parameters.

4.1.2.4 New Issues

The mine site water balance is constantly changing due to changes to the mine site configuration and improved monitoring of the water balance components. As such, the 2011-2012 water balance (WRM, 2012a) (developed for the Stage 3 environmental impact statement) and the 2012-2013 water balance (WRM, 2012b) developed for the 2012-2013 MMP are now largely redundant. These previous water balances assist in the understanding of the development of both the mine site and the modelling. However, the results have limited current application. The most relevant plan is the 2013-2014 site water balance (WRM, 2013a). In particular, the 2013-2014 site water balance reflects the existing mine site conditions during the site visit undertaken for this review.

This report covers the 2011-2012 and 2012-2013 operational years; however, the review is both backward- and forward-looking. While it is important to assess the past performance of MRM, a key aim of the review is to improve future performance. To this end, surface water management plans covering future years are considered in this audit. This is especially true for the mine site water balance, given its dynamic nature.

The 2013-2018 MMP has been withdrawn by MRM pending revision to reflect changes to the NOEF design and management. This will most likely include substantial changes to the surface water management design north of the NOEF. Notwithstanding this, the 2013-2014 site water balance (WRM, 2013a) is a key document for inclusion in this review as it gives the most accurate representation of current site water balance conditions and model estimates.

The primary water balance modelling reports included in this review are the 2011-2012 Water Balance (WRM, 2012a), 2012-2013 Water Balance (WRM, 2012b), 2013-14 Water Balance (WRM, 2013a) and the 2013-14 Water Balance Update (WRM, 2013b).

Tailings Storage Facilities

Exclusion of Tailings Storage Facilities from Site Water Balance

There is confusion in the reporting of how the tailings storage facilities are included in the site water balance. The water balance reports state that '… a detailed water balance of the TSF was not undertaken as part of this study' (WRM, 2012a, b; WRM, 2013a). It is unknown what this statement means as the reporting clearly shows the TSFs are included. This statement requires clarification

TSF Cell 1 Runoff Management

TSF Cell 1 has been partially rehabilitated. The top surface of TSF Cell 1 has bunds to direct surface runoff to either a western or eastern sump. The bunds divide the TSF Cell 1 surface area unevenly, with a substantially larger catchment area reporting to the eastern sump. Water in the sumps is pumped to TSF Cell 2.

An incident occurred on 27 November 2013 where the western sump overflowed into a nearby borrow pit where it was contained (see Section 4.1.2.5). The overflow was due to failure of a bund on the top of TSF Cell 1, which resulted in additional runoff (normally diverted to the eastern pond) flowing to the western pond. This resulted in a runoff volume in excess of the design capacity directed to the eastern pond.

No surface water management design for TSF Cell 1 has been sighted. A request for the design was made to MRM; however, no documentation had been received in time for inclusion in this review. The following is of note:

- It is unknown whether a detailed stormwater design has been undertaken for the TSF Cell 1 bund and pond system.
- It is unknown whether the bunds have been designed with the appropriate engineering/ hydrology input.
- The bund has been repaired, although it is understood that the repair is temporary and is not based upon appropriate engineering design (Taylor, pers. com., 27 March 2014).

Inclusion of TSF Cell 1 Surface Runoff from the Mine Site Water Balance

The top surface of TSF Cell 1 has bunds to direct surface runoff to either a western or eastern sump. Water in the sumps is pumped to TSF Cell 2.

There is confusion in the water balance reporting as to whether these sumps and the transfer of their water to TSF Cell 2 are included in the mine site water balance. The 2012-2013 MMP (Xstrata & MRM, 2013) states that water is transferred from the sumps to TSF Cell 2. However, the 2013-2014 mine water management schematic in WRM (2013a) shows:

- A 'TSF Cell 1 sediment dams pump' transferring water to TSF Cell 3 dams.
- An 'overflow flowpath' from TSF Cell 1 to TSF Cell 2.

The modelling/reporting of TSF Cell 1 runoff needs clarification and correction (if required).

Use of TSF Cell 2 as a Water Storage

The use of TSF Cell 2 as a water storage is poor practice and not consistent with ANCOLD (2012) guidelines which state that tailings dams should be used primarily for the containment of tailings and the amount of water stored in a tailings dam should be minimised to encourage drying and consolidation of the tailings (see Section 4.1.7). If TSF Cell 2 is no longer used for water storage, it is possible that TSF Cell 4 will need to be constructed.

Inclusion of TSF Cell 4 in Site Water Balance

TSF Cell 4 has been cited for construction in both the Sustainable Development Water Management Plan 2011-2012 (MRM, 2011b) and the 2012-2013 MMP (Xstrata & MRM, 2013), and three of the mine site water balance reports assessed during this review (WRM, 2012a, 2012b and 2013a).

Construction of TSF Cell 4 had not commenced at the time of the site inspection. It is noted that an assessment of the mine site water balance without TSF Cell 4 has been undertaken by MRM (WRM, 2013b).

TSF Cell 4 is included in the water balance model and reports, although it is not operational. The inclusion of TSF Cell 4 in the water balance model (when it is not operational) may lead to errors in the model estimates. It is recommended that the timing of construction of TSF Cell 4 be clarified to assist in site water balance management. If TSF Cell 4 won't be commissioned during the life of an MMP, it needs to be removed from the water balance flow chart.

Mine Site Water Balance Model Calibration

Simultaneous Calibration of Multiple Parameters

An overarching problem with the water balance modelling calibration is that the reports indicate that most of the calibration was undertaken within the Goldsim water balance model with a number of parameters calibrated simultaneously. This is a flawed method due to the confounding influence of multiple different physical processes. That is, there is substantial correlation between elements of the water balance; if one is overestimated others are underestimated to compensate. When calibrating a number of parameters simultaneously it is not possible to separate the confounding influences. The only way to calibrate the elements of the water balance is to eliminate all confounding factors and calibrate each parameter independently.

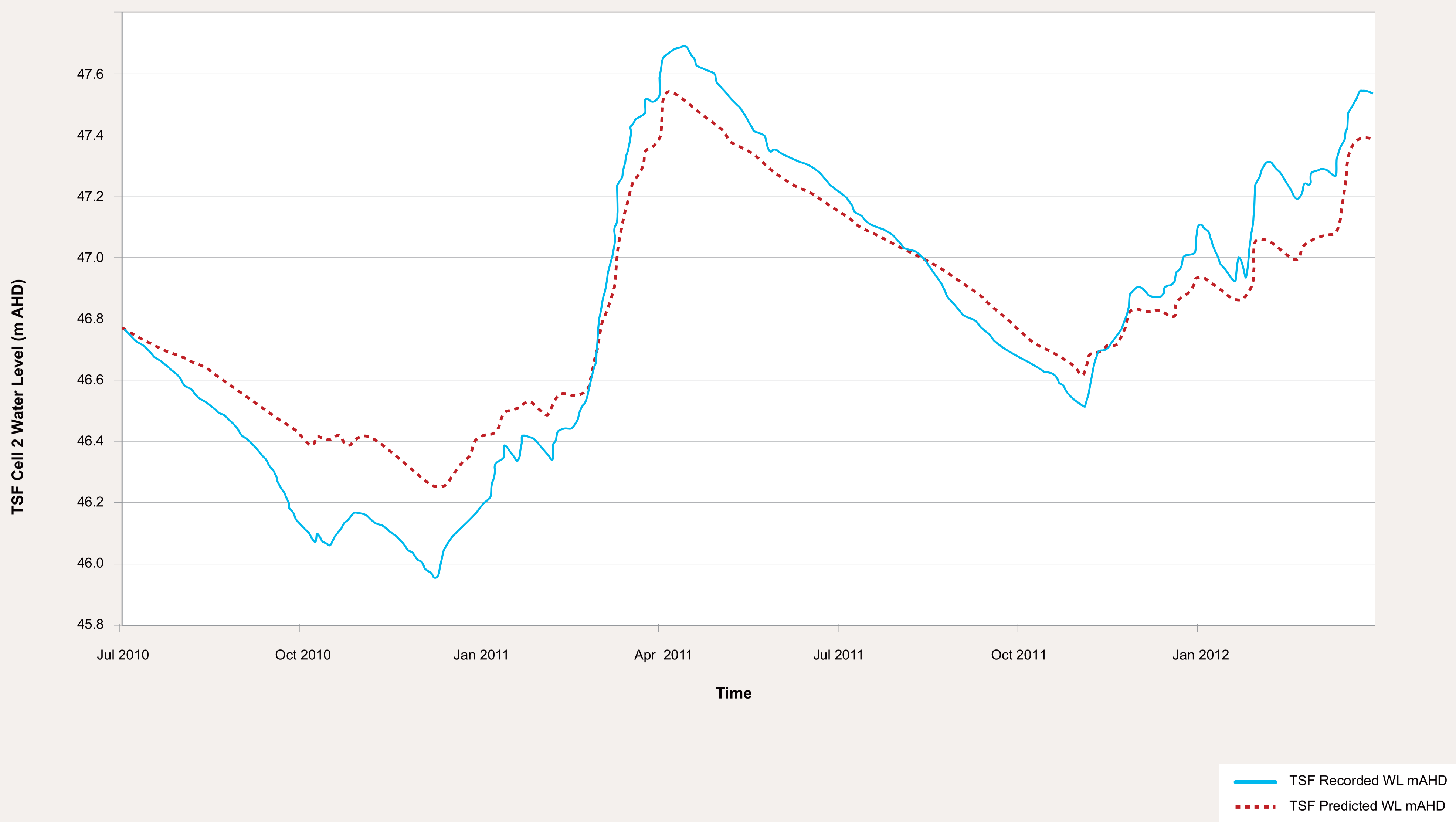
As an example, Figure 4.1 shows the calibration result for TSF Cell 2 for the period July 2010 to March 2012 (from WRM, 2012b, Figure 7.5). The figure shows a poor match between modelled and observed water volumes with an underestimation of both water inflow and outflow. This could be due to the inaccurate representation of any number of processes. For example:

- Underestimation of evaporation and/or rainfall and/or pumped inflows and/or seepage.
- Over and/or underestimation of pumped inflows (inflows from TSF Cell 1 are excluded).

COMPARISON OF RECORDED AND PREDICTED WATER LEVELS, TSF CELL 2, JULY 2010 - MARCH 2012

McArthur River Mine Project

FIGURE 4.1



- Errors in the adopted TSF Cell 2 stage storage-area relationship.
- Errors in the estimated tailings inflow moisture content.

Changes in Climate and Water Chemistry

Climate Change Impacts

The water balance modelling assumes the historical climate record from 1889 to the present is representative of the current and future climate (during the mine life). The water balance modelling does not assess the current and/or possible future impact of climate change on model estimates. This is considered a major unmanaged risk. For example, there is a non-linear relationship between rainfall and runoff. That is, a small change in rainfall usually leads to a larger change in runoff. Further, changes in rainfall patterns may result in changes to evaporation (e.g., more rain days per year may result in reduced annual evaporation). It follows that changes to rainfall and evaporation may have a substantial impact upon the site water balance.

Trend analyses undertaken by the Bureau of Meteorology (BoM, 2014a) show an increase in rainfall (over the periods 1900-2013 and 1970-2013) and a decrease in pan evaporation (over the period 1970-2013) for the mine site area. Further, trend analysis undertaken as part of this review (over the period 1889 and 2014) shows that the period 1998 to the 2014 has been an extended period of above average rainfall. Therefore, using climate data from 1889 to the present is not representative of current or (possibly) future conditions. For example, the median (50^{th} percentile) 'wet' year reported in the water balance studies does not represent a 50^{th} percentile wet year under the current (2014) climate. It is expected that the median climate year (under present climate conditions) will be somewhere between the median and wet year climate presented in the water balance model reports.

There is considerable uncertainty in climate change projections for rainfall and evaporation during the proposed mine life (BoM, 2014b). Notwithstanding this, the evidence suggests that it is likely that climate change impacts will be experienced during the proposed mine life. Therefore, it is important that possible future climate change be addressed in the water balance assessment. Of note, it is important to consider rainfall and evaporation changes.

Changes to Mine Site Water Quality

There is a reasonable chance that the mine site runoff and seepage water quality (collected in ponds on site) may deteriorate during the mine life (see Section 4.1.3). This is because the large volumes of potentially acid-forming waste rock may result in a reduction in runoff/seepage pH with a concomitant increase in dissolved metal concentrations. The possible impacts of changes to mine site water quality are:

- A higher dilution ratio required for off-site discharge, which will reduce the ability to discharge water off-site.
- The requirement for additional on-site storage to, firstly, separate good and poor quality water and, secondly, store the additional contaminated water until controlled release is possible.
- The need to construct a water treatment plant.
- Uncontrolled releases.

Possible site runoff/seepage water quality changes are not assessed in the water balance modelling. The impact of declining water quality on the site water balance could be substantial. This process needs to be considered in the water balance modelling and measures put in place to mitigate risk.

Accurate Quantification of Water Balance Processes

Evaporation Fan/Sprinkler/Fountain Performance

Fans, sprinklers and fountains are used to augment pond evaporation at the mine site. This additional evaporation is a key component of the mine site water balance. The water balance modelling reports indicate uncertainty in the effectiveness of these devices as follows:

- There are differences in the adopted evaporation efficiencies for different ponds.
- Sometimes there is no measured data for a device and an efficiency is assumed.

Given the substantial evaporation attributed to these devices (in the order of 1 GL/year for the mine site, excluding Bing Bong Port) the accurate definition of their effectiveness is important. Reports quantifying the effectiveness of these devices have been requested but none have been sighted at the time of writing this report. Further, there is insufficient information in the water balance modelling reports to determine whether the adopted evaporation rates are based upon appropriate measurement (WRM, 2012a, WRM, 2012b and WRM, 2013a).

The IM recommends studies be undertaken to quantify the performance of evaporation fans, sprinklers and fountains. The following is of note:

- It is not necessary to measure the performance of every device on site, only a number of representative devices.
- The studies need to isolate the evaporation fan/sprinkler/fountain process from other water balance elements to ensure accurate measurement.
- The ability to quantify evaporation device effectiveness will vary between ponds. For example, it would be relatively easy to quantify pond evaporation and sprinkler effectiveness at Bing Bong Port Pond 3 as the water balance components could be easily isolated (i.e., turn off sprinklers, stop transfers in/out). Conversely, quantification of evaporation at Pete's Pond would be difficult as there is a large number of inputs/outputs and isolation of individual fluxes would be difficult (e.g., it would not be possible to turn off the groundwater dewatering pumps for an extended period).

Groundwater Inflow Rates

The water balance modelling reports and Gary Taylor (MRM) (pers. com., 27 March 2014) acknowledge that there is substantial uncertainty in the groundwater inflow estimation. It is noted that MRM has current studies aiming to reduce this uncertainty. The results of the groundwater assessment undertaken by MRM are inconclusive as to whether the adopted groundwater inflow rates in the water balance model are an over or under estimate (see Section 4.1.5). The uncertainty in the groundwater inflow rate requires further reduction.

Seepage

There is uncertainty in the seepage estimates provided in the water balance modelling reports. Table 4.2 summarises seepage loss estimates from four water balance modelling reports. The following is of note:

- Total site seepage estimates vary from insignificant (e.g., 64 ML/yr for the 2011-2013 dry year) to substantial (e.g., 2,385 ML for the 2012-2013 'actual' year).
- There is a substantial difference in the volume of 'predicted' (1,150 ML/yr) and 'actual' (2,385 ML/yr) seepage for 2012-2013.
- The predicted seepage for 2012-2013 (estimated in September 2012) is only 9% of total site outflow compared with the 'actual' seepage for 2012-2013 (estimated with actual monitoring data from the period) of 35% of total site outflows.

It is of note that some of the changes in seepage estimates between reports will be due to changes in the mine site water balance configuration and the availability of additional monitoring data for each subsequent report. Notwithstanding this, seepage is difficult to measure directly and is usually calculated by difference from known (or more easily estimated) processes. This means seepage can end up as an error term, where it is used to compensate for uncertainty in the estimation of other water balance components. The wide range of results in Table 4.2 indicates this may have been occurring with the seepage estimates at the mine site.

The uncertainty in seepage estimation needs to be reduced. This is best done by isolating seepage in a pond system (by either eliminating or having a good estimate of all other fluxes) and estimating seepage by difference. This has been undertaken in the 2012-2013 Water Balance report ((WRM, 2012b), Section 6.5.3). However, the seepage was estimated from only seven days of data. This is an inadequate calibration period as it does not allow for random variation in the data (e.g., measurement error in water level). A longer period, multiple periods and estimation for multiple ponds are required.

Table 4.2 – Annual Average Seepage Loss Estimates from Water Balance Modelling Reports

Modelling Period (Report)	Seepage (Total Site Outflows)[1] (ML/yr)				
	Dry Year (90th %ile)	Median Year (50th %ile)	Wet Year (10th %ile)	Wettest Year (2000)	Actual (Modelled in Following Year Report)
2011-2013 (Table 8.8 to 8.10, (WRM, 2012a))	64 (9,573)	63 (9,694)	63 (10,187)	-	-
2011-2012 (Table 7.7, WRM, (WRM, 2012b))	-	-	-	-	1,039 (9,551)
2011-2012 (Table 7.7, WRM, (WRM, 2012b))	-	-	-	-	1,039 (9,551)
2012-2013 (Table 7.8, WRM, (WRM, 2012b))	751 (9658)	776 (10,712)	844 (11,443)	1,150 (14,621)	-

Table 4.2 – Annual Average Seepage Loss Estimates from Water Balance Modelling Reports (cont'd)

Modelling Period (Report)	Seepage (Total Site Outflows)[1] (ML/yr)				
	Dry Year (90th %ile)	Median Year (50th %ile)	Wet Year (10th %ile)	Wettest Year (2000)	Actual (Modelled in Following Year Report)
2012-2013 (Table 7.8, (WRM, 2013a))	-	-	-	-	2,385 (6,693)
2013-2014 (Table 7.9, (WRM, 2013a))	678 (5,592)	919 (6,772)	1,339 (8,245)	2,009 (11,222)	-
2012-2014 (Table 2, (WRM, 2013b))	1 (5.853)	4 (6,848)	19 (8,099)	70 (10,483)	-

1. For the purpose of water balance assessment, the mine site is considered a control system. The water balance can then be simplified to: *inflow – outflow = change in storage*. 'Total site outflows' refer to the water leaving the control system.

Pond Evaporation

The use of SILO Datadrill data for evaporation (Qld Govt., Database) may be introducing errors into the water balance estimates. The water balance model reports provide water balance estimates for four 'wet seasons' based upon the total annual rainfall (based upon SILO rainfall data): dry (90th percentile), median (50th percentile), wet (10th percentile) and wettest year on record (being the year 2000). Model results generally show that the evaporation loss increases with average annual rainfall (e.g., Table 7.9 in WRM (2013a)). This is counter-intuitive as an assessment of the annual SILO rainfall and pan evaporation (1970-2013) for the MRM area undertaken for this review shows evaporation is inversely related to rainfall.

There are three possible explanations for the contradiction in the rainfall-evaporation relationship in the water balance modelling results:

- The SILO data for the mine site area use interpolated daily pan evaporation from 1970 to the present and long-term monthly averages prior to 1970. This is due to the lack of adequate daily pan evaporation data for the area before 1970. It is possible that the percentile wet years presented in the water balance reports incorporate some years before 1970. The pan evaporation for these years would be independent of rainfall.
- While pan evaporation is inversely related to rainfall, actual evaporation only occurs if there is water present to evaporate. That is, in a wetter year the ponds may hold more water for longer periods than in dryer years. Therefore, even though the pan evaporation is lower in wet years, the total volume of water evaporated may be higher.
- There are other errors in the water balance model (e.g., errors introduced through joint calibration of multiple parameters).

The evaporation estimates in the water balance model need checking to determine the accuracy of the estimates for different 'wet' years.

Model Parameter Uncertainty

Model parameter uncertainty is implicit in many of the water balance issues identified in this report. The water balance reporting shows the following:

- There is considerable uncertainty in quantifying elements of the water balance, even for a historical period where monitoring data are available.
- There is considerable interaction between water balance parameters, where an observed change in water level can be equally well described by a number of parameters (e.g., water loss can be attributed to a wide range of seepage/sprinkler loss combinations).
- The water balance monitoring that is currently being undertaken is inadequate to enable quantification of each of the separate water balance components.
- Additional monitoring is fundamental to improving the water balance.

Monitoring of Water Balance Components

A key issue identified in this review with the water balance modelling is the inability to separate the interaction between water balance components (e.g., storage water level, transfers, releases, meteorological data). A primary goal of future water balance modelling should be to separate and characterise the components. This will only be achieved with additional direct measurement.

During the site inspection MRM personnel advised there was continual improvement in both the number of water balance components being measured and the quality of measurement. While this is reflected in the model results, the changes to the monitoring network are inadequately reported.

Modelling of Multiple Years

Water balance modelling should assess water management plan performance over multiple consecutive years. The 2012-2013 and 2013-2014 water balances provide the probability of changes to the site water inventory over one year under different rainfall regimes (e.g., dry, median, wet or wettest rainfall years). Both reports estimate that the change in the volume of water stored on site varies between a small reduction under dry years to a large increase under wet years.

The water balance modelling in both of these reports assumes low pond water levels at the start of the period. The modelling does not assess the risk of having high starting pond water levels (following two or more two consecutive wet years). The risk of high starting water levels may substantially change the way water is managed on site. Of note, the 2011-2012 water balance modelling (WRM, 2012a) looks at the whole of mine life. The cost of modelling the whole of mine life every year, with the complexity of the different site configurations, is not warranted. However, assessment of multiple years with the same site configuration would be useful to manage the risk.

The reporting should assess the volume of stored water on site over time, e.g., a table of stored volume at the end of each wet season. This would indicate whether the volume of stored water is increasing or decreasing over time.

Sensitivity Analysis

Insufficient sensitivity analysis is undertaken in the water balance modelling. Sensitivity analysis should be undertaken on parameter uncertainty (from limitations in the available data) (e.g., groundwater inflow, seepage, runoff) as well as future possible process changes, in particular changes in mine site water quality and climate change. It is acknowledged that some sensitivity analysis of groundwater inflow uncertainty has been undertaken.

Documentation and Reporting

Reporting of Site Water Balance Components

The site water balance is complex; the reporting needs to be very clear and concise to assist in understanding this complexity. For example, the table in Appendix A of WRM (2012b) is very helpful in understanding the site water balance. This table was omitted from WRM (2013a). It is recommended that a similar table be included in all future water balance modelling reports.

Reporting of Monitoring Data

The reporting of monitoring data in the water balance reports is inadequate. The reports do not adequately identify what components of the site water balance are being monitored and the quality/reliability of that monitoring. Further, the reports do not identify where additional monitoring, or changes to current monitoring, is required. Monitoring of the water balance components is fundamental to understanding the interaction between water balance components.

It is recommended that a table be presented showing the inputs and outputs of each pond (e.g., rainfall, evaporation, sprinklers, pumped inflows/outflows) together with whether or not the processes are measured and (if measured) the details (e.g., accuracy, frequency).

Reporting of Surface Water Management in the MMP

Section 7.3 of the 2012-2013 MMP (MRM, 2011b) presents surface water management for the upcoming period. The level of reporting is inadequate as follows:

- The text consists of generic statements describing the separation of clean, dirty and contaminated water. There is nothing in the text regarding any proposed changes in the surface water management system.
- Figure 7.7 of MRM (2011b) shows proposed upgrades; however, the figure is illegible.
- Figures 7.8 and 7.9 of MRM (2011b) show diagrammatic representations of the water management systems at the mine site and Bing Bong Port. The proposed changes are not identified on the figures.

4.1.2.5 Incidents and Non-Compliances

Incidents

Northern Overburden Emplacement Facility Sump Overflow (MRM Incident No 29213)

On 31 December 2012, a breach in the bund on the northern side of the NOEF was found during routine inspection. The breach was due to the volume of water (from recent rainfall) being greater than the storage capacity of the bunded area. It is of note that at the time of the incident the bund and drain construction was not complete and the sump pump was not operational. The breach was blocked with a temporary repair. Water samples taken in the ponded area showed elevated zinc levels. Water samples in the downstream compliance point SW11 did not show elevated levels of zinc or other heavy metals. Figure 4.2 shows the location of the breach.

A MRM incident investigation report was prepared in February 2012 (MRM, 2012a).

Exceedance of Sulfate and Metal Concentrations in Drainage Line Adjacent to the Northern Overburden Emplacement Facility (MRM Incident No. 29223)

On 21 December 2011, seepage water from the NOEF was observed flowing in a natural drainage line which enters Emu Creek. The drain is known to have intermittent flow following rain. The three-day rainfall total prior to the incident was 98.4 mm. Drain water samples showed that filtered sample concentrations of Cd, Mn, Pb, Zn and SO_4 exceeded guideline values. Ongoing monitoring of the drain water was undertaken. Monitoring of Barney Creek and McArthur River since the incident did not identify an exceedance of the adopted guideline values for metal concentrations.

This incident was reported to the Department of Resources on 12 January 2012 (MRM, 2012b) with an MRM incident investigation report prepared in 2012 (undated) (MRM, 2012c).

Overflow of Tailings Storage Facility Cell One Sump (MRM Incident No. 30836)

While outside the current review period (2011-2012 and 2012-2013 operational years), it is considered the listing of this incident is relevant as it highlights the need for better surface water drainage design for the top of TSF Cell 1.

An incident occurred on 27 November 2013 where, following heavy rainfall, the west sump overflowed into a nearby borrow pit where it was contained (Figure 4.3). No runoff water from TSF Cell 1 flowed to Surprise Creek.

The overflow was due to the overtopping and subsequent failure of a bund on the top of TSF Cell 1, which allowed runoff that should have reported to the east pond to be directed to the west pond. This resulted in a runoff volume in excess of the design capacity being directed to the west pond.

This incident was reported to the Department of Mines and Energy on 28 November 2013 (MRM, 2013b) with a MRM high potential incident investigation report prepared in 2013 (undated) (MRM, 2013a).

Non-compliances

Non-compliances have been assessed against MRM's commitments as presented in the 2012-2013 MMP (Xstrata & MRM, 2013). The non-compliances identified for the review period are summarised in Table 4.3.

Table 4.3 – MMP Commitments Concerning Water Balance

MMP Commitment Number	Area	Commitment	Compliance Rating
Part A – 53	Site	Water usage on site is recorded through a series of flow meters on a monthly basis	Not verified

LOCATION OF NORTHERN OVERBURDEN EMPLACEMENT FACILITY BREACH ON 31 DECEMBER 2011

McArthur River Mine Project

FIGURE 4.2

AREA OF TSF CELL 1 OVERFLOW INCIDENT ON 27 NOVEMBER 2013

McArthur River Mine Project

FIGURE 4.3

Source: MRM, 2013b.

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4.1.2.6 Review of Progress Against Previous IM Audit

Recommendations from the previous IM review relating to mine site water balance are presented in Table 4.4. Comment as to whether the recommendations have been adopted by MRM is also provided.

Table 4.4 – Water Balance Recommendations from the Previous IM Review

Subject	Recommendation	IM Comment
TSF	A review of available capacity to store tailings, process water and rainfall runoff while maintaining sufficient freeboard, also taking into account the initiative to increase evaporation by using a larger part of the WMD. A review of the water balance including detailed water balance modelling should be carried out	Not verified. There is confusion in the reporting of how the tailings storage facilities are included in the site water balance (Section 4.1.2.4)
TSF Cell 2	Following a water balance review, excess water to be removed from the facility	Not addressed. Water is still stored in TSF Cell 2

4.1.2.7 New Recommendations

New IM recommendations related to mine site water balance issues are provided in Table 4.5.

Table 4.5 – New Water Balance Management Recommendations

Area	Recommendation	Priority
Documentation and reporting	Increased detail is required in the reporting of the following items: ♦ The rainfall-runoff model calibration, in particular on how calibration was undertaken and how parameters were adjusted ♦ The water balance model calibration, in particular on how calibration was undertaken and how parameters were adjusted ♦ The monitoring of water balance components, in particular what is monitored, the frequency of monitoring and the accuracy of the measurement ♦ How the monitoring data is used in the water balance modelling ♦ A summary table of water balance storages, inflows and outflows needs to be included in the water balance modelling reports ♦ How the tailings storage facilities are included in the site water balance ♦ How the TSF Cell 1 surface runoff is treated in the water balance model	Medium
Changes in climate	The possible impact of climate change on the site water balance needs to be addressed	Low
Changes in water chemistry	The water balance needs to assess the risks posed by possible deterioration in site runoff and seepage water quality	High
Monitoring	Studies need to be undertaken to quantify the performance of evaporation fans, sprinklers and fountains. Targeted monitoring of selected ponds needs to be undertaken to reduce the number of processes that need to be estimated by difference in the water balance model	Low

Table 4.5 – New Water Balance Management Recommendations (cont'd)

Area	Recommendation	Priority
Mine site water balance model calibration	The uncertainty in model parameter estimation requires reduction. While this is implicit in all aspects of the water balance monitoring and modelling, high priority areas that need addressing are: ♦ The groundwater inflow rate. ♦ Seepage estimates. ♦ Additional sensitivity analysis needs to be undertaken in the water balance modelling. While the reduction in uncertainty is implicit in most of the recommendations, the key requirement here is that the reporting quantifies how the uncertainty is reduced in each successive year	High
Evaporation data	The evaporation data adopted in the water balance model uses long-term evaporation averages prior to 1970. The effect of this on the water balance model results needs checking	Low
Modelling of multiple years	Assessment of multiple years with the same site configuration should be considered to manage the risk of high starting pond water levels (following two or more consecutive wet years)	Medium

4.1.3 Surface Water Quality Management

This section is based on review of:

- Various reports prepared by MRM and its consultants (as listed in Appendix 1).
- Excel spreadsheets provided by MRM that contain collated laboratory and in situ data.
- Various MRM forms and similar documents such as sample data forms, sample submission forms, chain of custody forms, field data forms, planned area inspection checklists, incident notification forms, monitoring procedures, correspondence between MRM and government departments, and photographs.
- Other documents such as laboratory analysis reports, laboratory sample receipt advice forms, waste discharge licence and DME compliance audit reports.

4.1.3.1 Key Risks

The risk assessment undertaken to support the review identified a number of key risks concerning surface water quality (including seawater). The risk assessment is provided in Appendix 2 and risks are summarised below.

Mine Site and Surrounds

The nature of the mine and processing plant at the McArthur River Mine is such that a number of risks are inherently associated with the operation. While some of these are relatively minor, some key risks have been recognised. These can be grouped together as follows:

- Poor quality seepage and surface runoff, primarily from areas such as the TSF and NOEF, may result in poor water quality in Surprise Creek and Barney Creek and, ultimately, McArthur River. The water quality variables of concern are pH, salts (e.g., sulfates) and trace metals (e.g., Pb, Zn, As, Cd and Cu). Poor water quality can result in loss of aquatic flora/fauna (including benthic biota) and bioaccumulation of metals with consequent human health or animal health implications should this biota be consumed. This class of risks also includes impacts such as those associated with TSF embankment failure and the TSF overtopping, and neutral or saline leachates from waste rock[4].

- Poor quality surface runoff due to soil contamination from depositional dust generated by mining and processing operations, primarily from the TSF, ore crushing plant (also known as 'PACRIM'), ROM pad and external concentrate storage area, and direct dust deposition itself, may cause poor water quality (pH, salts, trace metals) in Surprise Creek and Barney Creek and, ultimately, McArthur River. As noted above, this can have adverse impacts on aquatic flora/fauna and, potentially, human health or animal health via bioaccumulation.

A key closure-related risk concerns the final pit void water quality and the potential for this to reach nearby watercourses, with adverse impacts as noted above. This is discussed further in Section 4.1.8.

Bing Bong Port and Surrounds

With respect to surface (including marine) water quality, risks associated with Bing Bong Port were fewer than those found at the mine site (although a related risk of note is vegetation dieback due to migration of saline seepage from Bing Bong dredge spoil ponds). However, a number of risks were identified that warrant discussion, including:

- Release of dredge spoil due to embankment failure, with consequent adverse impacts on aquatic and marine flora/fauna and, potentially, human health or animal health via bioaccumulation.

- Poor quality surface runoff due to contamination from depositional dust generated by loading operations (and other material management procedures) causing poor water quality (trace metals, e.g., Pb and Zn) in onshore drainages and the nearshore environment. This can have adverse impacts on aquatic and marine flora/fauna and, potentially, human health or animal health via bioaccumulation.

- Concentrate spillages or direct dust deposition during MV Aburri barge loading or trans-shipment directly affecting coastal or marine water quality, with consequent adverse impacts as described above.

4.1.3.2 Existing Controls

Mine Site and Surrounds

In terms of the main sources of contaminants that can affect surface water quality on the mine site and surrounds, as indicated above, existing controls are discussed in the relevant sections that address:

[4] As noted elsewhere, the definition of PAF rock was expanded in 2013 to include rock that could generate runoff that would fail to meet discharge criteria, regardless of its acid generating potential. The former NAF and PAF rock types were replaced by six categories according to their acid rock drainage (ARD), saline drainage (SD) and neutral metalliferous drainage (NMD) generation risk, where this reflected the known mobility of sulfates and metalloids at neutral pH values.

- Geochemical classification of mine materials, materials management and monitoring, and design, construction and operation of the TSF and NOEF, all of which act as controls in relation to seepage and surface runoff from these facilities.
- Materials management and generation of contaminated dust.

Within the surface water management system itself, existing controls are best summarised in the operation's MMP (Xstrata & MRM, 2013), where key elements include:

- Classifying mine water into three categories:
  - Clean water (runoff from areas outside the mine lease and runoff from rehabilitated areas).
  - Sediment ('dirty') water (runoff from disturbed areas but not including mining areas).
  - Mine-affected ('contaminated') water (runoff from mining and product handling areas, including the mine pit and industrial areas).
- Establishing the following objectives:
  - Minimise raw water consumption by maximising the reuse of process water.
  - Evaporate excess contaminated water.
  - Maintain a non-release system for 'contaminated' mine waters, except under extreme conditions, as approved.
  - Provide adequate storage in the surface water management system.
  - Minimise the generation and release of contaminants, with an emphasis on source control.
  - Minimise the retention of 'clean' water.
- Implementing mitigation measures such as:
  - Directing runoff from disturbed areas to sediment, NAF or PAF dams, and maintaining a suitable freeboard in these storages prior to each wet season.
  - Implementing additional drainage control measures such as sediment traps, silt fences and clean water diversion drains/dirty water drains.
  - Prioritising use of pit water in the process plant and for dust suppression, followed by evaporation.
  - Undertaking water balance modelling on an annual basis to reflect changes in the water management system and improved knowledge (e.g., catchment runoff characteristics).
  - Providing bunded storage areas for fuels and dangerous goods, and spill response kits.
  - Minimising the water inventory on site by measures such as using sprinklers for evaporation.

Performance of the surface water management system is assessed in terms of adherence to the waste discharge licence (WDL 174-05, hereafter referred to as 'WDL') conditions and the MMP, with an additional specific target being a reduction in freshwater consumption intensity (Xstrata & MRM, 2013).

Incidents or failure to comply with surface water management requirements, as defined by MRM, include the following (Xstrata & MRM, 2013):

- Breach in integrity of ponds, pipes or drains.
- Overflow from contaminated water management system.
- Discharge in contravention of the site's WDL.

Specific corrective actions then need to be considered, where these range from cleaning out sedimentation ponds through to modifying the operating strategies for the surface water management system.

An important feature of MRM's controls at the mine site with respect to water discharges is the use of a 'site calculation tool'. This incorporates real time flow data from stream gauging stations and known concentrations of individual elements (as determined by sampling prior to discharging) to allow MRM to calculate theoretical concentrations at the point of compliance, i.e., SW11. These can then be compared with the limits specified in the WDL. Calculations are also carried out at regular intervals during each discharge.

A key aspect of MRM's management plan, as described in Xstrata & MRM (2013), is an environmental monitoring system. The stated aim of the program is to determine the impacts from the site operation and to establish trends in downstream water quality values. This monitoring program includes sampling sites located upstream and downstream of the mine and monitoring at site water storage points, with both in situ and laboratory (NATA-accredited) analyses being undertaken.

MRM devotes considerable effort to surface water monitoring. Key elements of the program include:

- Natural surface waters – sampling sites as shown in Figure 4.4 for the 2012-2013 reporting period, including SW11 which is used to determine compliance with MRM's WDL. Sampling is generally on a weekly basis (and restricted during the dry season to those sites having constant streamflow), with additional samples being taken on a biannual and annual basis. Sampling from sites located in streams that have ceased to flow (e.g., Surprise Creek, Barney Creek and Emu Creek) is on a monthly basis while water is present. Both in situ (e.g., pH, temperature, dissolved oxygen (DO), conductivity (EC)) and laboratory (e.g., total dissolved solids (TDS), total suspended solids (TSS), major ions and filtered (<0.45 μm) trace metals) analysis is undertaken.

- Artificial surface water – sampling sites (as shown in Figure 4.5 for the 2012-2013 reporting period. Sampling is generally on a monthly basis, subject to factors such as access to high risk sites. Both in situ (e.g., pH, temperature, DO, EC) and laboratory (TDS, TSS, major ions and filtered (<0.45 μm) trace metals analysis is undertaken.

NATURAL SURFACE WATER MONITORING SITES - McARTHUR RIVER MINE

McArthur River Mine Project

FIGURE F4.4

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ARTIFICIAL SURFACE WATER MONITORING SITES - McARTHUR RIVER MINE

McArthur River Mine Project

FIGURE 4.5

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The IM considers that the existing surface water controls at the McArthur River Mine are generally adequate, with some relatively minor deficiencies in the monitoring programs as discussed below.

Bing Bong Port and Surrounds

In terms of sources of contaminants that can affect surface water quality at Bing Bong Port and surrounds, existing controls relating to generation of contaminated dust (primarily when concentrate is loaded onto the MV Aburri transport barge, and when trans-shipment occurs) are discussed in Section 4.2.3 and Section 4.2.5.

In the absence of information to the contrary, it appears that the general surface water management objectives described above apply to Bing Bong Port as well as the mine site. Surface water management at Bing Bong Port involves primarily:

- Three runoff ponds that are used sequentially to contain runoff from the area around the concentrate shed, initial flushes from the concentrate shed roof, MV Aburri wash deck tank, wheel wash and similar.
- A dredge spoil emplacement area (DSEA) that consists of five ponds and a settling basin (Figure 4.6), where decant from settled dredge spoil[5] passes sequentially through the ponds to allow solids to settle and is then discharged via the dredge spoil drain to the tidal mud flats east of the Bing Bong Port area.
- A number of measures to minimise impacts on water and sediment quality due to the actual dredging process (in addition to placing spoil in the DSEA), including (EcOz, 2012a):
  - Using a cutter suction dredge to minimise sediment disturbance.
  - Minimising spillage of dredge material.
  - Ensuring that dredging equipment and vessels are maintained in a proper and efficient condition.
  - Confining dredging to the swing basin and access channel, with no direct disturbance of areas not previously dredged.
  - Monitoring plume turbidity, where turbidity readings greater than 20% of background values at 150 m from the dredge cutter trigger corrective actions such as varying suction pump flows and cutting rates, or considering alternative dredging methods.
  - Monitoring for early detection of metal mobilisation into seawater, where such detection will trigger a requirement for further assessment of potential toxicity to marine fauna (by the Australian Institute of Marine Science (AIMS)).
  - Testing for acid generating potential of nearshore sediments around Bing Bong Port, where positive results trigger further analysis of the DSEA water quality data to determine (i) whether or not acid is being generated, and (ii) treatment requirements.
  - Developing and implementing general spill response, waste management and cyclone procedures.

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[5] Dredging is not required on an annual basis.

DREDGE SPOIL EMPLACEMENT AREA - BING BONG PORT

McArthur River Mine Project

FIGURE 4.6

ERIAS GROUP

Source: Google Image 2005

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As with the mine site, MRM devotes considerable effort to surface water monitoring at Bing Bong Port and in the surrounding marine environment. The routine marine monitoring program is to assess whether MRM activities in the area have a significant impact on the local marine ecosystem. The specific objectives of the program are to (Xstrata & MRM, 2013):

- Establish routine surveillance monitoring to detect potential impacts and guide management decisions.
- Quantify the receiving environment water and sediment quality.
- Complete statutory monitoring in accordance with the WDL.
- Determine the risk to the receiving environment of impacts detected from Bing Bong Port.

The key elements of the program include:

- Marine waters – routine marine surface water sampling sites as shown in Figure 4.7 for the 2012-2013 reporting period. Sampling was undertaken on a monthly basis. Both in situ (e.g., pH, EC) and laboratory (e.g., total suspended solids and filtered (<0.45 μm) trace metals) testing was undertaken. ANZECC/ARMCANZ (2000) trigger values for marine waters (95% level of protection) were applied to these sites for reporting purposes.
- DGTs[6] were also deployed at four sites as shown in Figure 4.8 for the 2012-2013 reporting period (and a further two sites were subsequently added, with results to be described in a later report). Subsequent analysis was for trace metals and Pb isotope ratios.
- Artificial surface waters – sampling sites as shown in Figure 4.9 for the 2012-2013 reporting period (three runoff ponds and four sites along the dredge spoil perimeter drain (DSD)). Sampling was generally on a monthly basis, subject to dry season conditions. Additional weekly samples were taken when dredging occurred from 29 January 2013 to 12 June 2013. Both in situ (pH, temperature, DO, EC) and laboratory (TDS, TSS, major ions and filtered (<0.45 μm) trace metals) analysis is undertaken. Figure 4.9 also shows site BBDDP, which is the authorised discharge point specified in the WDL. Of particular note is that DGTs were deployed at a site near the outlet to Cell 5 and another at BBDDP in response to the results from grab sampling during dredging in the first half of 2013.

MRM (2013c) reports that, following DME approval, routine seawater sampling was discontinued in June 2013 in favour of an expanded DGT program.

As with the existing surface water controls at the McArthur River Mine, the IM considers that the surface water controls at Bing Bong Port are generally adequate. Some deficiencies in the monitoring programs are discussed in the following sections.

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[6] The 'diffusive gradients in thin films' (DGT) technique provides in situ determination of kinetically labile metal species in aquatic systems (Butler and Tsang, 2013).

DGT MONITORING SITES - BING BONG PORT

McArthur River Mine Project

FIGURE 4.8

Source: Google Image 2005
Note: Two additional DGT monitoring sites were added to the program in July 2013

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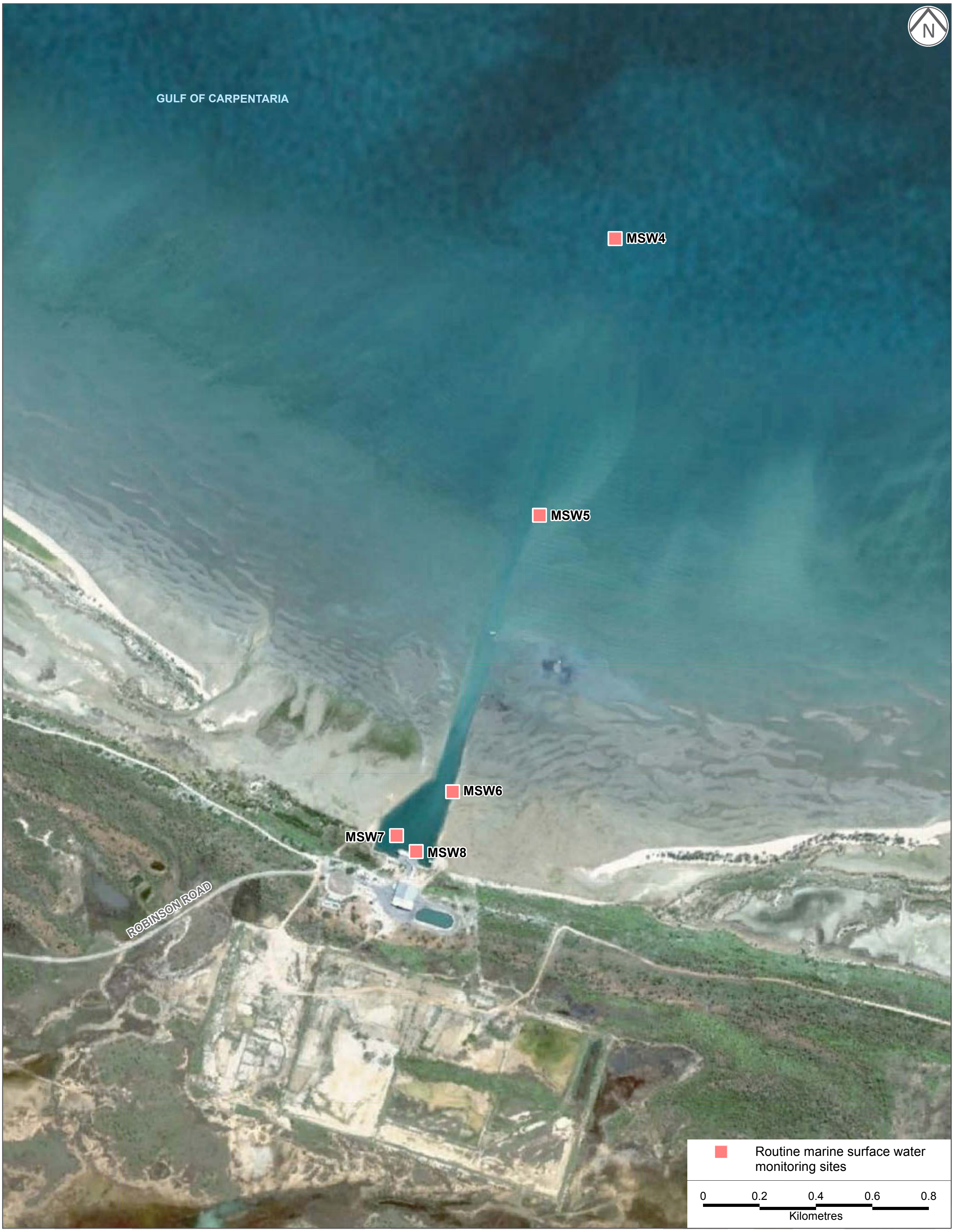
ROUTINE MARINE SURFACE WATER MONITORING SITES - BING BONG PORT

McArthur River Mine Project

FIGURE 4.7



Source: Google Image 2005
Note: Control sites are located at Mule Creek (MS01a), midway between
West Island and the shipping channel (MS01b) and on Home Creek delta (MS01c)

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ARTIFICIAL SURFACE WATER MONITORING SITES - BING BONG PORT

McArthur River Mine Project

FIGURE 4.9

030985 - v03 - 03 July 2014

Source: Google Image 2005

ERIAS Group | 01164A_1_F4-9_v1.pdf

4.1.3.3 Successes

Mine Site and Surrounds

From a broader water quality perspective, and consistent with the approach described in Section 3.2.2, evaluation of success from a surface water quality perspective is based on the following rationale:

- The beneficial uses that have been declared for the McArthur River Area are aquatic ecosystem protection, recreational water quality and aesthetics (as described in the WDL).
- Notwithstanding other factors such as habitat and stream flow, the water quality required to be achieved at SW11 (see Figure 4.4) by the WDL will ensure the protection of these beneficial uses downstream of this site.

This approach acknowledges that some deterioration of water quality upstream of the compliance point at SW11, both in McArthur River and tributaries such as Surprise Creek and Barney Creek, is expected due to the proximity of the watercourses to the mine.

It should also be noted that the WDL states that water quality at SW11 and BBDDP 'must not exceed the trigger values specified' in the licence, i.e., the WDL specifies a maximum value (or, in the case of pH and DO, both maximum and minimum values). This is conservative compared with the approach described in ANZECC/ARMCANZ (2000), whereby for physical and chemical stressors such as pH, DO or nutrients, the median concentration of samples from a test site (i.e., not the maximum value) should be compared with the 80th percentile value from a reference site or, if reference site data do not exist, the relevant guideline value published in ANZECC/ ARMCANZ (2000). Similarly, the recommended approach for toxicants is to compare the 95th percentile value (i.e., again, not the maximum value) with the default guideline values. Use of ANZECC/ARMCANZ (2000) guidelines as regulatory requirements is therefore a conservative implementation of these values. ANZECC/ARMCANZ (2000) also notes that '(t)hese Guidelines should not be used as mandatory standards', and that exceedance of a trigger values (using the statistical approach described above) should result in further action such as:

- Incorporating additional information or undertaking further site-specific investigation to determine if the chemical poses a real risk to the environment.
- Initiating management action or remediation (on the basis that the trigger value can be applied directly to the site in question).

The results from the monitoring program demonstrate a relatively high level of success in terms of compliance with WDL discharge requirements, as summarised in Table 4.6. Although the table includes data for both reporting periods, the focus is on the reporting period 2012-2013 which is both more recent and for which the data is more readily extractable from the information provided by MRM. Controlled discharges occurred during this period in accordance with the WDL, with all discharges occurring from within the mine levee wall. Discharge dates and volumes are shown in Table 4.7. No direct discharges occurred from the water management dam into Little Barney Creek and or Barney Creek due to insufficient flows.

Table 4.6 – Comparison of MRM Monitoring Data for SW11 with WDL 174-05 Requirements

WDL 174-05 (for the 2012-2013 Reporting Period[1])			MRM Monitoring Data (SW11)	
Parameter	**Units**	**Site specific trigger value (SSTV)**	**2011/12 (Jul 11 – Jun 12)**	**2012/13 (Jul 12 – Jun 13)[2]**
pH (in situ)	pH units	6.0 – 8.5	7.1 – **8.7**	6.8 – 8.5
EC (in situ)	μS/cm	1,000	All values <1,000	49 – **1773**
DO (in situ)	% saturation	85-120	NA	36.1 – 146.2
Al (filtered 0.45 μm[3])	μg/L	55	NA	0.5 – **353**
As (filtered 0.45 μm)	μg/L	24	0.25 – 1.75[4]	0.2 – 2
Cd (filtered 0.45 μm)	μg/L	1.73	0.01 – 0.12[4]	0.01 – 0.05
Cu (filtered 0.45 μm)	μg/L	10.97	0.15 – 1.44[4]	0.19 – 2.12
Fe (filtered 0.45 μm)	μg/L	300	NA	2 – **480**
Pb (filtered 0.45 μm)	μg/L	16.6	0.005 – 1.67[4]	0.01 – 0.79
Mn[5] (filtered 0.45 μm)	μg/L	1,900	0.36 – 26.8	0.8 – 216
Hg (filtered 0.45 μm)	μg/L	0.6	<0.02 – <0.1	<0.02 – 0.04
Zn (filtered 0.45 μm)	μg/L	62.68	0.05 – 28.2[4]	0.1 – 13.9 (n = 54)
TPH fraction C6-C9 (filtered 0.45 μm)	μg/L	NA	NA	All values <20
Benzene (filtered 0.45 μm)	μg/L	950	All values <1 (data from 04/01/12)	All values <1
TPH fraction C10-C14 (filtered 0.45 μm)	μg/L	600	All values <50 (apart from 80 μg/L on 12/12/2011)	All values <50
C15-C28 (filtered 0.45 μm)	μg/L	600	All values <100 (apart from 160 μg/L on 12/12/2011)	All values <100
C29-C36 (filtered 0.45 μm)	μg/L	600	All values <50 (apart from 90 μg/L on 12/12/2011)	All values <50
SO_4 (filtered 0.45 μm)	mg/L	341	0.7 – 46.5	0.7 – 290
NO_3 (filtered 0.45 μm)	mg/L	700	NA	0.003 – 0.340

1. The trigger values are consistent with the previous discharge licence WDL174-02.
2. Values in **bold** lie outside the relevant SSTV.
3. The licence actually refers to 'filtered 0.45 μg/l' for metals and metalloids.
4. For all McArthur River sites.
5. The licence actually refers to 'Magnesium Hg 1900'; MRM reports against an SSTV of 1900 μg/L for Mn.

Table 4.7 – Discharges During the 2012-2013 Reporting Period

Date	Discharge Volume (L)
17 December 2012	7,371,000
20 to 24 January 2013	75,421,465
19 to 20 February 2013	20,318,634
9 to 11 March 2013	49,675,633
TOTAL	**145,415,721**

MRM (2013c) reported the following in relation to metal concentrations for the 2012-2013 reporting period:

- All samples were below the ANZECC/ARMCANZ (2000) 95% level of protection guidelines values, with the exception of one sample collected at the McArthur River upstream channel site SW13 that had a Zn concentration of 25.3 µg/L (which is less than both the ANZECC/ARMCANZ (2000) 80% level of protection and the WDL174-05 trigger value (62.68 µg/L)).

- When evaluated against hardness modified trigger values (HMTVs) calculated with the hardness of each sample (as required by DME), a total of 21 exceedances were noted, i.e., seven Zn and fourteen Cu values. Points to note about these results are (and the IM notes that the specific exceedances mentioned below are of relatively small magnitude compared with the trigger values):

  – Most (62%) were at the upstream Barney Creek site and were attributed to naturally occurring Cu and Zn.

  – Two Cu results also exceeded the HMTV during a single monitoring event at two Barney Creek channel sites (1.9 and 1.64 µg/L compared with HMTVs of 1.7 and 1.47 µg/L, respectively).

  – Two of the Zn exceedances resulted from samples taken in the Glyde River catchment located southeast of the McArthur River and outside any potential influence of the mine operations.

  – A Zn exceedance at SW11 of 13.9 µg/L compared with the HMTV of 11.39 µg/L (but this value is well below the WDL 174-05 trigger value (62.68 µg/L)).

As noted earlier in this section, the underlying rationale for assessing surface water quality is that complying with the water quality requirements at SW11 as specified in the WDL will ensure the protection of the relevant downstream beneficial uses. Assessment of the licence conditions themselves (which are determined by the EPA) is beyond the scope of the IM (although comment is provided elsewhere within the context of MRM's request for a review of WDL 174-05). However, the IM notes that DME's requirement to take into account the hardness of each sample results in HMTVs for Cu and Zn that are considerably lower than the waste discharge licence values, and hence more protective of the beneficial uses. This is because the trigger values specified in the waste discharge licence for these metals are based on a hardness of 338 mg $CaCO_3$/L, whereas individual hardness values in the McArthur River and Barney Creek are often less than 100 mg $CaCO_3$/L and the toxicity of certain metals decreases with increasing water hardness (as reflected in the algorithms given in ANZECC/ARMCANZ (2000) that describe the relationship between trigger values for these metals and water hardness).

DME's approach is therefore appropriate as a further means of assessing metal concentrations, as long as the following are taken into account (as also described earlier in this section):

- Comparison of single values with trigger values provides another level of conservatism given that ANZECC/ARMCANZ (2000) recommends that the 95th percentile value be used (and this conservatism needs to be considered when evaluating the data).

- Exceedance of a trigger value does not necessarily mean that the toxicant poses a real risk to the environment.

The data summaries shown in Table 4.6 suggest that the maximum EC, DO, Al and Fe results required discussion due to their non-compliance with the WDL 174-05 trigger values, as follows:

- The maximum EC value of 1,773 μS/cm is well above the WDL limit, although MRM (2013) notes that the median value is 557 μS/cm, with changes in EC following seasonal trends.

- MRM (2013c) reports possible instrumental issues affecting the reported DO values, with a commitment to install data loggers at several sites in an attempt to improve data reliability.

- The elevated filterable Fe and Al results, as proposed in MRM (2013c) are consistent with results that have been historically reported to regulators. MRM (2013c) further suggests that the consistent temporal and spatial trends for the upstream reference site and downstream discharge point indicate that the exceedance is not a result of mining operations but reflects a natural occurrence. This is attributed by MRM to the natural acidity and ferro-manganiferous concretions throughout the soil profile, which causes leaching during initial wet season rainfall and is a common occurrence for regions within the Northern Territory.

A final parameter that warrants discussion is sulfate, for which concentrations increase markedly at SW11 compared with upstream sites. Although MRM reports that this is due to the natural groundwater in the area containing elevated sulfate concentrations, the increase at SW11 in the 2013 dry season is somewhat greater than reported in previous dry seasons (Figure 4.10), as is also the case for EC and TDS (also shown in Figure 4.10). Xstrata & MRM (2013) also note that elevated sulfate concentrations are reported at numerous locations, and attributes this to decreasing flows within surface watercourses and the effects of evapo-concentration, with the continued input from groundwater also being a contributing factor to the high levels of naturally occurring sulfates. Although the maximum value of 290 mg/L remains well below the WDL limit of 341 mg/L, reported concentrations later in the dry season exceed the WDL limit. This is discussed further in terms of non-compliance.

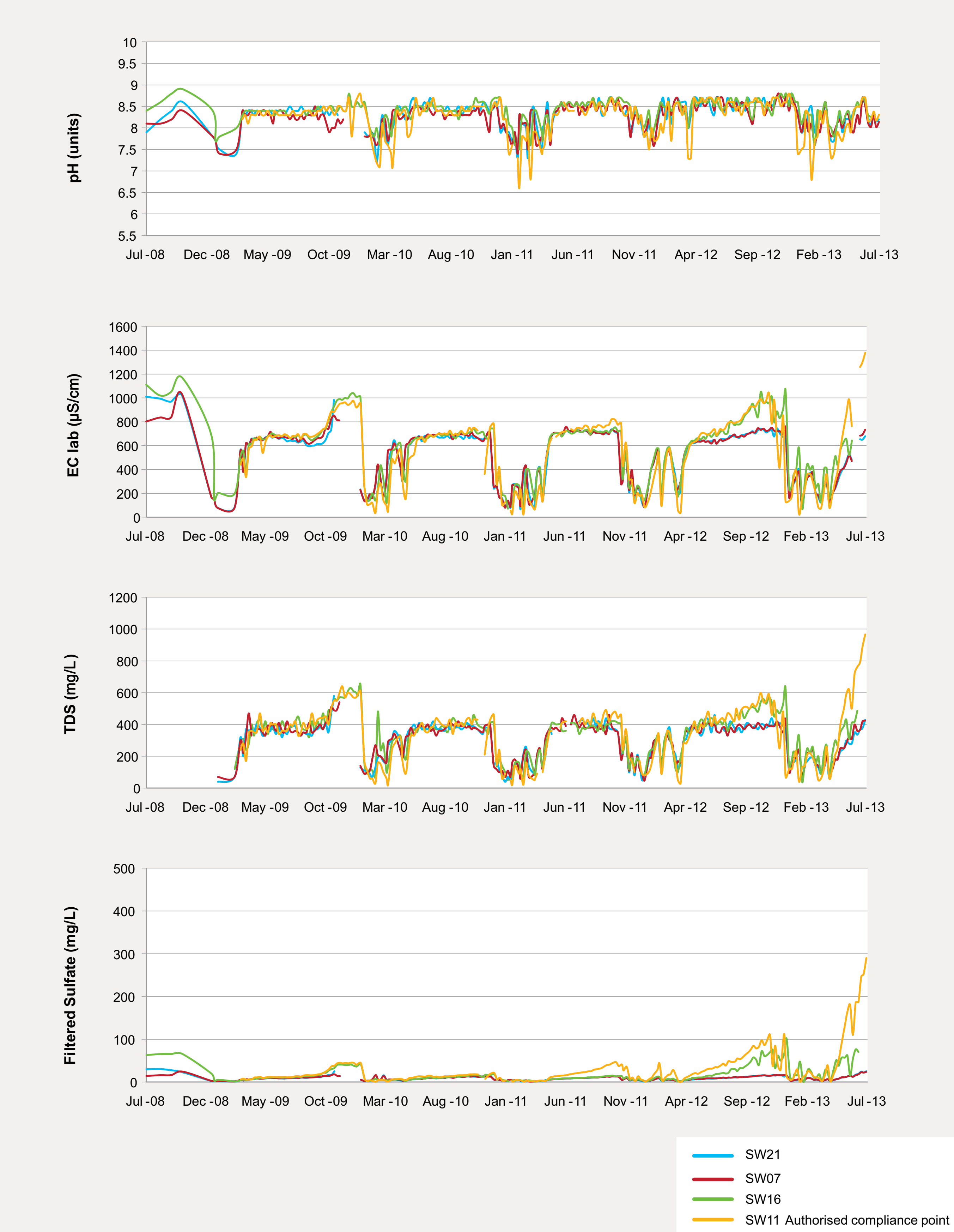
Elevated sulfate levels (214 and 475 mg/L at SW2) were also reported in Surprise Creek downstream of the TSF, although only two samples were analysed during the 2012-2013 reporting period when the creek was flowing under the 'cease to flow' criteria, and no upstream samples were obtained. These values were consistent with results obtained over nine sampling events in the previous 2011-2012 reporting period, and can be attributed to leachate from the northern side of the TSF migrating down the system (although there is no sign of acidification of waters as a result of acid drainage) (Xstrata & MRM, 2013).

With respect to the artificial surface water monitoring program, the objective of the program is to determine potential uses and assess contamination risk with the objective of developing effective on-site water management strategies (MRM, 2013c). Monitoring data also provides relevant information in the unlikely event of a bund breach or spill.

PHYSICO-CHEMICAL DATA FOR McARTHUR RIVER NATURAL SURFACE WATER MONITORING SITES (2008 - 2013)

McArthur River Mine Project

FIGURE 4.10



Source: MRM, 2013c.

The monitoring data reported by MRM indicates that the artificial surface water monitoring program provides a suitable basis for this objective to be achieved, and can also flag potential issues of concern, e.g., potentially problematic contaminants such as sulfate and various trace metals in TSF Cell 2. However, the extent to which this data is actively used to assist water management on site is not clear.

A second aspect of demonstrating success is where areas of improvement in environmental performance are identified, such as closing out previous IM recommendations (see Section 3.2.2). MRM has acted on two main recommendations from the previous IM report (EES, 2012). In particular, reporting of the QA/QC data for surface water monitoring has improved markedly, with most aspects of the previous recommendations now being addressed. Similarly, the surface water monitoring program itself has been modified, although both recommended additional sites have not been included in the revised program.

A final 'success' is that implementation of the additional monitoring sites on Emu Creek and upstream sites on Surprise Creek, Barney Creek and McArthur River. These sites provide a comprehensive coverage of the current mining operation and more appropriate reference sites.

The overall conclusion is that the mining and processing operation has had relatively low impacts on adjacent surface waters during the reporting period, although areas for improvement remain. However, a major risk is posed to future surface water quality due to the issues associated with the NOEF and TSF.

Bing Bong Port and Surrounds

Analogous to the approach described above for the mine site and surrounds, evaluation of success at Bong Bong Port is based on the following rationale:

- The beneficial uses that are applicable to the coastal waters of, and surrounding, Bing Bong Port are likely to be aquatic (marine) ecosystem protection, recreational water quality and aesthetics.
- The water quality required to be achieved in these waters is as defined by ANZECC/ ARMCANZ (2000) toxicant trigger values for 95% level of protection of marine species (as proposed by MRM) and default trigger values for tropical Australia for general water quality parameters (also as proposed by MRM). These values are applicable unless data from control sites suggests otherwise.

Although the WDL specifies application of ANZECC/ARMCANZ (2000) trigger values to BBDDP (see Figure 4.9) as a statutory compliance point, this effectively means ambient water quality guideline values are applied to the discharge from the dredge settling ponds. Evaluation of data from the swing basin and navigation channel is more likely to provide an indication of environmental performance in term of the protection of these beneficial uses. This approach has therefore been adopted in this report (which is consistent with the approach adopted by MRM).

It should also be noted that dredging of 175,000 m^3 of material from the Bing Bong Port area and entrance channel occurred in the period 29 January to 12 June 2013. Dredge spoil was disposed of onshore in the DSEA.

The results from the monitoring program demonstrate a relatively high level of success in terms of compliance with water quality requirements, as summarised in Table 4.8.

Table 4.8 – Comparison of MRM Monitoring Data for BBDDP with WDL 174-05 Requirements

WDL 174-05			MRM Monitoring Data	
Parameter	**Units**	**ANZECC/ ARMCANZ (2000) 95% (99%)[1]**	**Swing Basin/Navigation Channel (Jul 11-Jun 12)[2]**	**Swing Basin/Navigation Channel (Jul 12 – Jun 13)[2]**
pH (in situ)	pH units	8.0 – 8.4	**7.7** – 8.4	**7.61** – 8.12
DO (in situ)	% saturation	90 – no data	N/A	N/A
As (unfiltered)	μg/L	Insufficient data	0.97 – 2.0	0.9 – 1.82
Cd (unfiltered)	μg/L	5.5 (0.7)	0.003 – 0.03	0.005 – 0.054
Cu (unfiltered)	μg/L	1.3 (0.3)	0.38 – 1.3	0.361 – 0.925
Fe (unfiltered)	μg/L	ID	38.5 – 782	29 - 471
Ni (unfiltered	μg/L	70 (7)	NA	3.8 – 21.1
Pb (unfiltered)	μg/L	4.4 (2.2)	0.005 – 1.35	0.035 – 3.640
Zn (unfiltered)	μg/L	15 (7)	0.15 – 5.1	0.10 – **20.90**

1. Underlined values are recommended by ANZECC/ARMCANZ (2000) for slightly to moderately disturbed systems, even though they are aimed at 99% level of protection rather than 95%. However, WDL 174-05 refers only to the '95% marine ecosystem protection' values and does not explicitly refer to using the 99% level of protection for Cd and Ni in slightly to moderately disturbed systems.
2. Values in **bold** lie outside the relevant WDL requirements.

The elevated concentrations reported for Zn occurred on 28 March 2013 at the sites on the eastern side of the swing basin and were attributed by MRM primarily to high Zn levels in the discharge from BBDDP (although nearby project-related dredging operations may also have contributed) (MRM, 2013c). Further investigation by MRM (which was in accordance with the approach advocated by ANZECC/ARMCANZ (2000)) determined that the guideline values for 95% level of protection were not exceeded when DGT-labile metal results were considered, as reported by Butler and Tsang (2013).

As with monitoring at the mine, the objective of the artificial water monitoring program at Bing Bong Port is primarily to assess contamination risk with the objective of developing effective on-site water management strategies. A particular focus was the dredging program, when additional grab sampling (at BBDDP and DSD1-4) and DGT monitoring (at the outlet to Cell 5 and at BBDDP) (see Figure 4.9) was undertaken. As noted in Butler and Tsang (2013), no measurements of Zn or Cu (either filterable or DGT-labile) exceeded their trigger values in the Bing Bong Port swing basin during the 2013 dredging operations, nor were exceedances in the swing basin waters for other regulated metals observed. Other points to note from the dredge water quality monitoring program include:

- Some DO concentrations and pH values exceeded the default trigger values for estuaries in slightly disturbed ecosystems of tropical Australia.
- High concentrations of filterable and total Mn were found sporadically in Cell 5. However, Mn concentrations increased to even higher levels in the settling ponds' drainage system, especially in the perimeter spoon drain, during and after the dredging.

As noted above in relation to the mine site and surrounds, the second aspect of demonstrating success is where areas of improvement in environmental performance are identified, such as closing out previous IM recommendations (see Section 3.2.2). MRM has partially acted on the relevant recommendations from the previous IM report (EES, 2012) concerning the need to upgrade DGT monitoring QA/QC procedures, although explicit discussion of QA/QC results and their implications for both the routine seawater and the DGT monitoring programs is still required.

The overall conclusion is that the mining and processing operation had relatively low impacts on adjacent marine waters during the reporting period, although areas for improvement remain. However, no data was sighted in relation to possible impacts on seawater quality in the trans-shipment area. This is discussed further in the following sections.

4.1.3.4 New Issues

Mine Site and Surrounds

Natural Surface Waters

Sulfate concentrations at SW11 at the end of the reporting period were the highest observed to date, as shown in Figure 4.10 and discussed to some extent in Section 4.1.3.3. Additional discussion is provided in Section 4.1.3.5 within the context of non-compliance.

Additional issues (but of somewhat lesser importance) include:

- Routine annual reporting of mine-derived total metals loads reporting to McArthur River in relation to background loads. As acknowledged in MRM (2013c), Surprise Creek, Barney Creek and Emu Creek are intermittent streams in which material transport occurs primarily as pulses during flooding events. However, information does not seem to be routinely reported concerning background or mine-derived loads of contaminants, particularly trace metals or suspended sediment. Reporting such information would also be consistent with MRM (2013c), which refers to monitoring being undertaken to ‘Continually improve the knowledge and characterisation of natural water quality and variation in the upstream and receiving water environments’.
- The most frequent sampling regime is weekly, with no real-time in situ monitoring data being available. Little information is therefore available concerning short-term changes in water quality at site such as SW11 or possible mine-derived changes in water quality over these smaller time intervals.
- The MMPs contain a number of technical and editorial errors.
- Additional aspects that are only addressed in a relatively cursory manner in the MMPs include:
  - Lack of clarity concerning HMTVs and ANZECC/ARMCANZ (2000) trigger values.
  - Relationships between water quality and river/stream flow.
- Monitoring data is not presented in a collated form that can be readily interrogated.

Artificial Surface Waters

Some additional interpretation of the data generated by the artificial surface waters monitoring program would also be useful. Although this does not need to be extensive, such interpretation should address matters such as how effective the program is in actually achieving the stated objectives. This would also facilitate future reviews of the monitoring program to ensure its ongoing effectiveness.

Bing Bong Port and Surrounds

Marine Waters

Evaluation of marine water quality data is based primarily on ANZECC/ARMCANZ (2000) values that are aimed at providing a 95% level of protection. However, that document notes that the appropriate values to consider for Cd and Ni in terms of slightly to moderately modified ecosystems are those that correspond to the 99% protection level (see also footnote to Table 4.8). Although these higher levels of protection are presented in the various MRM documents, and the WDL refers only to '95% marine ecosystem protection', the discussion would benefit from specific recognition of this additional context for Cd and Ni.

Additional interpretation of the monitoring data would be useful, e.g., elevated Fe and, to a lesser extent, Ni in the navigation channel compared to the control sites.

Quality assurance/quality control data and discussion that is analogous to that for the surface water quality data at the McArthur River Mine would also be useful to facilitate data interpretation.

Artificial Surface Waters

Some additional interpretation of the data generated by the artificial surface waters monitoring program would be useful. Although this does not need to be extensive, such interpretation should address matters such as how effective the program is in achieving the stated objectives. This would also facilitate future reviews of the monitoring program to ensure its ongoing effectiveness.

4.1.3.5 Incidents and Non-compliances

Mine Site and Surrounds

MRM's waste discharge licence (WDL 174-05) specifies values for a range of water quality triggers (site specific trigger values, SSTVs) for SW11 that are largely based on, or derived from, the ANZECC/ARMCANZ (2000) guidelines for 95% protection of species in freshwater systems. Some water quality results at this site exceeded the SSTVs in both the 2011-2012 and 2012-2013 monitoring periods, with these exceedances primarily involving (MRM, 2013c):

- Elevated concentrations of filterable Al and filterable Fe that were attributed to leaching and surface runoff from upper-catchment (McArthur River, Glyde River, Surprise Creek, Barney Creek) clay loam soils, and not mining operations.
- Elevated EC due to a below average wet season, with consequent low levels of dilution of high EC water in Barney Creek.

Of greatest concern, and as noted previously, sulfate concentrations increased markedly at SW11 compared with upstream sites. Although the maximum value of 290 mg/L in the 2012-2013 monitoring period remained well below the WDL limit of 341 mg/L[7], reported concentrations later in the dry season exceed the WDL limit. As reported by Ashe (2013a), a maximum sulfate concentration of 633 mg/L was obtained at SW11 for a sample taken on 10 September 2013. Concentrations in the preceding months had shown a trend of increasing values prior to reaching this maximum, continuing the trend shown for this site in Figure 4.10 up to the end of June 2013. Sulfate levels after 10 September 2013 then started to decrease. EC values showed a corresponding trend with a maximum value at SW11 of 2,200 μS/cm (on 10 September), including non-compliance with the corresponding WDL trigger value of 1,000 μS/cm. Contributing factors were thought to be inputs from Barney Creek, as well as low flows in McArthur River with subsequent increased influence of evapo-concentration and groundwater inputs (Ashe, 2013a).

Although occurring in May 2011, which is prior to the reporting periods addressed herein, and previously reported by MRM, the potential for hydrocarbons originating from the May 2011 diesel leak (approximately 28,000 L) to contaminate local drainage lines and affect downstream water quality warrants a little discussion. The leak resulted from an open valve discharging diesel to the ground in the vicinity of the mine's power plant and MRM subsequently implemented a product recovery and groundwater monitoring program. The results of a risk assessment presented in MRM (2013c) suggests that there is no risk to Barney Creek or McArthur River since groundwater from the impacted area is inferred to discharge into the underground workings during both wet and dry seasons. This contaminated groundwater will then undergo further attenuation and dilution before possibly emerging in the pit or being pumped to the mines water management circuit. This is further discussed in the groundwater section.

Bing Bong Port and Surrounds

MRM's waste discharge licence (WDL 174-05) specifies values for a range of water quality triggers for BBDDP that are largely based directly on the ANZECC/ARMCANZ (2000) guidelines for 95% protection of species in marine waters[8]. Water quality results for BBDDP exceeded the WDL limits for Zn on 29 March 2013 and 3 April 2013, and for Cu on 5 February 2013 and 11 April 2013. In accordance with the Dredging and Spoil Disposal Management Plan (EcOz, 2012a), MRM then acted to increase retention/settling times within the cells and simultaneously engaged AIMS to further investigate the conditions of the exceedances. A DGT monitoring program, which was implemented for the dredge spoil cells and discharge point, showed that no measurements of Zn or Cu (either filterable or DGT-labile) exceeded their respective SSTVs in the Bing Bong swing basin during the 2013 dredging operations.

Field measurements from MRM's 2013 dredge water quality monitoring program showed that, of the other parameters cited in the WDL, DO and pH exceeded the default trigger values for estuaries in slightly disturbed ecosystems of tropical Australia. Dissolved oxygen saturation was both below and above the indicated acceptable range 80% to 120%. There was a single instance of pH exceeding the upper trigger value of 8.5 at BBDDP, but alkaline (higher) values were more common in Cell 5 and in Bing Bong swing basin waters. The exceedances for DO, both low and

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[7] Exceedances of the interim site specific trigger value (ISSTV) (15.8 mg/L) reported for the 2011-2012 monitoring period, where monitoring results ranged up to 4.39 mg/L, are not discussed herein due to the ISSTV being subsequently replaced in the current WDL by the site specific, ecotoxicologically derived trigger value of 341 mg/L.

[8] The WDL refers directly to '95% marine ecosystem protection' for field measurements, metals and metalloids, and 'other' (sulfate and nitrate); no other guidance or values are provided for site BBDDP.

high, were attributed to being a possible result of the unusual environment of the drainage system (e.g., shallow perimeter spoon drains) or extreme events.

It is worth noting that MRM (2013c) requests a review of WDL 174-05 on a number of grounds, including relevance of some of the water quality variables, and the lack of 95% marine ecosystem protection trigger values under the ANZECC/ARMCANZ (2000) guidelines for water quality variables such as DO and pH. Although review of the WDL does not lie within the scope of services for the IM, the IM concurs with MRM that such a review would be warranted (and this could also address matters such as the ambiguity in relation to Mg, Hg and Mn freshwater SSTVs).

MMP Commitments

Non-compliances have been assessed against MRM's commitments as presented in the 2012-2013 MMP (Xstrata & MRM, 2013). The non-compliances identified for the review period are summarised in Table 4.9.

Table 4.9 – MMP Commitments Concerning Surface Water

MMP Commitment Number	Subject	Commitment	Compliance Rating
Part A – 33	Environmental sample analysis	A new NATA-accredited laboratory will be built on site in order to conduct both environmental and metallurgy testing aiding in quicker sample preparation and analysis	Non-compliant. The laboratory has yet to be built/NATA-accredited
Part B – 9	Environmental sample analysis	All water and soil sample analysis is and will continue to analysed under NATA-certified systems and certification is currently provided on sample management receipts	Partial compliance – Environmental Chemistry & Microbiology Unit of Charles Darwin University is not NATA-accredited
Part B – 10	Environmental sample analysis	In 2013 it is planned to build a NATA-accredited laboratory on site as it has been identified as a long term saving and major advantage for sample management	Non-compliant. The laboratory has yet to be built/NATA-accredited
Part B – 108	Artificial surface water monitoring	Artificial surface water sampling is conducted on a monthly basis as reported in the 2011/2012 SDWMP	Partial compliance. Some minor gaps were noted in the sampling records (for example, Pit Sump in Q1, 2013)
Part B – 114	Seawater sampling	Seawater sampling is conducted on a monthly basis and consists of both in situ and laboratory testing	Partial compliance. Some minor gaps were noted in the sampling records (for example, MSW04 in Q4, 2012)

4.1.3.6 Review of Progress Against Previous IM Audit Recommendations

Recommendations from the previous IM review that relate to surface water are presented in Table 4.10, which also provides comment as to whether the recommendations have been adopted by MRM. Additional comment is provided in the text following the table.

Table 4.10 – Surface Water Recommendations from the Previous IM Review

Subject	Recommendation	IM Comment
Surface water monitoring – mine site sampling locations	Adjustments to the surface water monitoring program should be implemented by adding sampling points on the drainage line where the seepage from the Northern OEF was reported. In addition, the seepage observed from the western toe of the OEF during the May 2012 inspection should also be included in the monitoring program for surface waters	A sampling site ('NOEF ED' – NOEF Eastern Drain) was established near the southeast corner of the NOEF, although no new site was established near the western toe
Surface water monitoring – mine site sampling and analysis QA/QC	Aspects of the QA/QC reporting in the WMP should include comparison of field to laboratory results, in particular: ♦ TDS/EC ratio (acceptable range of 0.55-0.80) ♦ Field pH to laboratory pH relative percent differences (RPDs), with an acceptable RPD of 10% ♦ RPD between field collected blind (intra-laboratory) duplicate samples and split (inter-laboratory) duplicate samples, including presentation and discussion of results and elevations in RPDs in particular ♦ Discussion of findings of the laboratory's quality control reporting	MRM (2013c) reports: ♦ TDS/EC ratio ♦ Laboratory vs field pH RPD ♦ Anion/cation balances ♦ RPD for intra-laboratory blind duplicate samples (but not for inter-laboratory split samples) ♦ Discussion of the findings of the QA/QC program (although additional discussion is warranted, e.g., contamination was flagged as possibly causing unacceptable RPD values, but no examination of the causes of possible solutions were provided)
Surface water monitoring – seawater sampling and analysis QA/QC	Key recommendations for seawater monitoring and reporting: ♦ Include QA/QC samples (namely duplicate and splits) in the regular seawater and sediment programs ♦ Upgrade DGT monitoring QA/QC procedures	Although some progress has been made, discussion that is analogous to the discussion presented for the surface water monitoring program at the McArthur River Mine is required

As described previously, adverse impacts on surface water quality are currently limited in both spatial extent and magnitude. Of considerably greater concern is the risk associated with acid and neutral drainage from the NOEF, where the need to review the classification of NAF waste rock was flagged in the previous IM report (and is acknowledged in MRM (2013c)). In particular, while poor quality drainage can be managed during operations, this has possibly greater implications when considered as a potential legacy issue, with possible impacts on surface water quality and associated beneficial uses occurring after mine closure. Additional discussion is provided in both the geochemistry and mine closure sections of this report. At this stage, quantification of the possible extent and magnitude of the impacts on downstream water quality is not warranted given the current changes in waste rock management measures that are occurring on site. Nevertheless, this remains the issue of considerable concern from a surface water quality perspective.

A similar concern from a post mine closure, rather than operational, perspective relates to impacts on water quality in Surprise Creek and Barney Creek, and possibly McArthur River, due to seepage from the TSF. Additional discussion is provided in the groundwater section. From an operational perspective, TSF embankment failure could have material impacts on downstream water quality and associated beneficial uses.

In both instances, i.e., risks posed by the NOEF and TSF, management measures should be implemented as described in the respective sections of this report. The relevant monitoring programs (e.g., those concerning groundwater and surface water monitoring, and geochemical characterisation) should also be reviewed to ensure that early warning is provided should these mitigation measures not prove to be as effective as required.

The previous IM report noted that, while quality assurance/quality control (QA/QC) reporting presentation had improved, there was still room for further improvement. This remains the case with the artificial surface waters monitoring program, with the MMPs containing little discussion of QA/QC results, although data such as RPD for laboratory versus field pH measurements and the ratio of laboratory TDS to field EC values are presented in various figures. Additional data and discussion should be presented for intra-laboratory duplicate samples and inter-laboratory data, as well as blanks and the laboratory's own QA/QC program. The discussion should specifically include matters where QA/QC results do not meet requirements and how these findings have been addressed.

The previous IM report also recommended that the monitoring program should be expanded to include the following sampling points:

- On the drainage line where seepage from the NOEF was reported.
- Where seepage from the western toe of the OEF was observed during the May 2012 inspection.

A sampling site ('NOEF ED' – NOEF Eastern Drain) was subsequently established near the southeast corner of the NOEF; however, seepage from the western toe is not routinely sampled.

4.1.3.7 New Recommendations

New IM recommendations relevant to surface water issues are provided in Table 4.11. These recommendations have been categorised as either high, medium or low. High recommendations are considered a priority and relate to the more significant risks and information deficiencies to surface water, which include:

- Impacts from the NOEF and TSF.
- The observed high sulfate concentrations at SW11 at the end of the 2013 dry season.

Table 4.11 – New Surface Water Recommendations

Subject	Recommendation	Priority
NOEF and TSF	The relevant monitoring programs (groundwater and surface water monitoring, and geochemical characterisation) should be reviewed to ensure that sufficient early warning is provided concerning potential impacts on surface water quality from NOEF and TSF leachates and runoff (or other potential failures of these project infrastructure components)	High

Table 4.11 – New Surface Water Recommendations (cont'd)

Subject	Recommendation	Priority
McArthur River/SW11	Particular attention should be paid to increasing sulfate concentrations (and EC values) at SW11 as the 2014 dry season progresses. If concentrations equal or exceed the trigger value (341 mg/L), a risk assessment should be undertaken concerning (i) possible implications (should this trend continue in future dry seasons), (ii) likely causes and, if found to be due to MRM operations, (iii) mitigation measures commensurate with the level of risk	High
Monitoring	The feasibility of real-time in situ monitoring at the stream gauging stations on McArthur River, Surprise Creek, Barney Creek and Glyde River should be determined and, if found to be feasible, this capability should be installed so as to be consistent with leading industry practice. The parameters for which the feasibility of real time in situ monitoring should be investigated include pH, temperature, DO, EC (first priority) and turbidity (second priority)	Medium
General data interpretation and reporting	Mine-derived loads of contaminants reporting to the McArthur River should be reported on an annual basis, within the context of background loads in the river	Medium
	Further interpretation and analysis of data should be presented in the MMPs, including further detail about water quality changes with river/ stream flow and mine-derived influences	Medium
	All data should be collated on a yearly basis in a format that is readily accessible and able to be interrogated; this should include a reconciliation of all actual versus proposed/committed sampling events	Medium
General data interpretation and reporting	Comparison of metal and metalloid results with ANZECC/ARMCANZ (2000) values should include the 95th percentile value as well as median values	Low
	Evaluation of marine water quality data should reflect ANZECC/ ARMCANZ (2000) requirements for Cd and Ni to consider 99% protection levels for slightly to moderately disturbed ecosystem	Low
	Reporting surface water management measures and monitoring data should focus on reducing technical and editorial errors	Low
	Figures in the MMP that show sampling sites should show ALL sampling sites, including control sites	Low

4.1.4 Diversion Channel Hydraulics Management

This section is based on review of:

- Various reports prepared by MRM and its consultants (as listed in Appendix 1).
- Excel spreadsheets and presentations provided by MRM regarding erosion monitoring of the diversion channels.
- Aerial photographs of the MRM mine site provided by MRM.
- The 2006 environmental impact statement document, its iterations, associated reports and appendices.
- The 2011 IM report.

4.1.4.1 Key Risks

The key risks to diversion channel hydraulics as identified in the risk assessment (see Appendix 2) are:

- Flooding on the McArthur River causing erosion at the toe of the mine levee wall and along unplanned overland flow paths from the old McArthur River Channel into the diversion channel.
- Ponding of water between the diversion channel and mine bund leading to increased seepage through the shallow soil zone and mobilisation of salts.
- Sudden and significant flood-induced channel bank erosion/collapse within the McArthur River Diversion Channel leading to unexpected increases in flood level.
- Ongoing erosion in McArthur River Diversion Channel leading to a detrimental effect on rehabilitation efforts and water quality (higher sediment loads) with subsequent impacts on, e.g., aquatic ecology.

4.1.4.2 Existing Controls

MRM has a range of existing control measures to address the key risks listed in Section 4.1.4.1. These are provided in Table 4.12.

Table 4.12 – Existing Control Measures in Place for Risks Associated with Diversion Channel Hydraulics

Risk	Current control
Flooding within the mine pit	♦ Implementation of a revised Early Flood Warning System Procedure
Erosion at toe of mine levee wall	♦ Flow path conditions are examined after each wet season (after erosion experienced in the 2009-2010 wet season, rock armouring works were conducted in 2010. Following completion of the 2010 rock armouring works, it was found that both the 2010-2011 and 2011-2012 wet season flows caused only minor erosion). Not verified
Ponding of water between channel diversion and mine bund	♦ Small diameter pipes (<100 mm) to allow drainage installed (according to risk register (EES, 2012)). Not verified
Sudden flood-induced channel diversion bank erosion	♦ Post-wet season photograph monitoring along both channel diversion banks at 250 m spacing. Review of evidence of erosion shown in photograph series
Ongoing erosion in McArthur River Diversion Channel	♦ Rock armouring in parts (some failed). Taking of photographs – post wet season – along both banks at 250 m spacing. Informal assessment of ALS topography and aerial photographs

4.1.4.3 Successes

MRM's recent successes regarding diversion channel hydraulics include the following:

- Implementation of the revised Early Flood Warning System[9] Procedure. The revised early flood warning system establishes relationships between flood levels at gauges and flood hazard benchmarks (spill way and mine levee) (MRM, 2014a).

4.1.4.4 New Issues

Stability of the McArthur River and Barney Creek Diversion Channels

As recommended, two reviews were undertaken in relation to the Barney Creek and McArthur River diversion channels. These were the Review of the 'As-Designed' and 'As-Constructed' Diversions (WRM, 2012c) and the Phase 3 Development Project Surface Water Assessment (WRM, 2012a). These are discussed in the following two sections.

Review of the 'As Designed' and 'As Constructed' Diversions

WRM Water and Environment (WRM, 2012c) conducted a review of the 'As Designed' and 'As Constructed' McArthur River and Barney Creek diversions. In general, only minor differences in channel geometry are noted in the report. Differences in channel geometry are noted to have an impact on flood levels of up to +0.5 and +0.6 m in the McArthur River and Barney Creek channel diversions, respectively.

The report identifies that, at chainage 4,350 on the McArthur River Diversion Channel, velocities are up to 50% greater and shear stresses are up to 100% greater than for 'as-designed' channel conditions (Figure 4.11). The report states this is likely due to the constructed channel having a narrower cross sectional area when compared with the 'as designed' cross section at this location. The report goes on to recommend this section of the diversion be monitored for potential signs of erosion. The report shows that, under the same scenario, chainage 2,750 experiences similarly greater velocities and shear stresses compared to that of the 'as designed' channel (Figure 4.11).

MRM has maintained and provided a photo-monitoring record for both diversions; however, there are no photographs for chainage 4,350, as recommended in the report (WRM, 2012c). In addition, as identified in the 2011 IM report (EES, 2012), some photo series appear to have been taken at inconsistent locations. The two sites either side of chainage 4,350 (4,250 and 4,410) appear to have undergone erosion as shown in Figure 4.12.

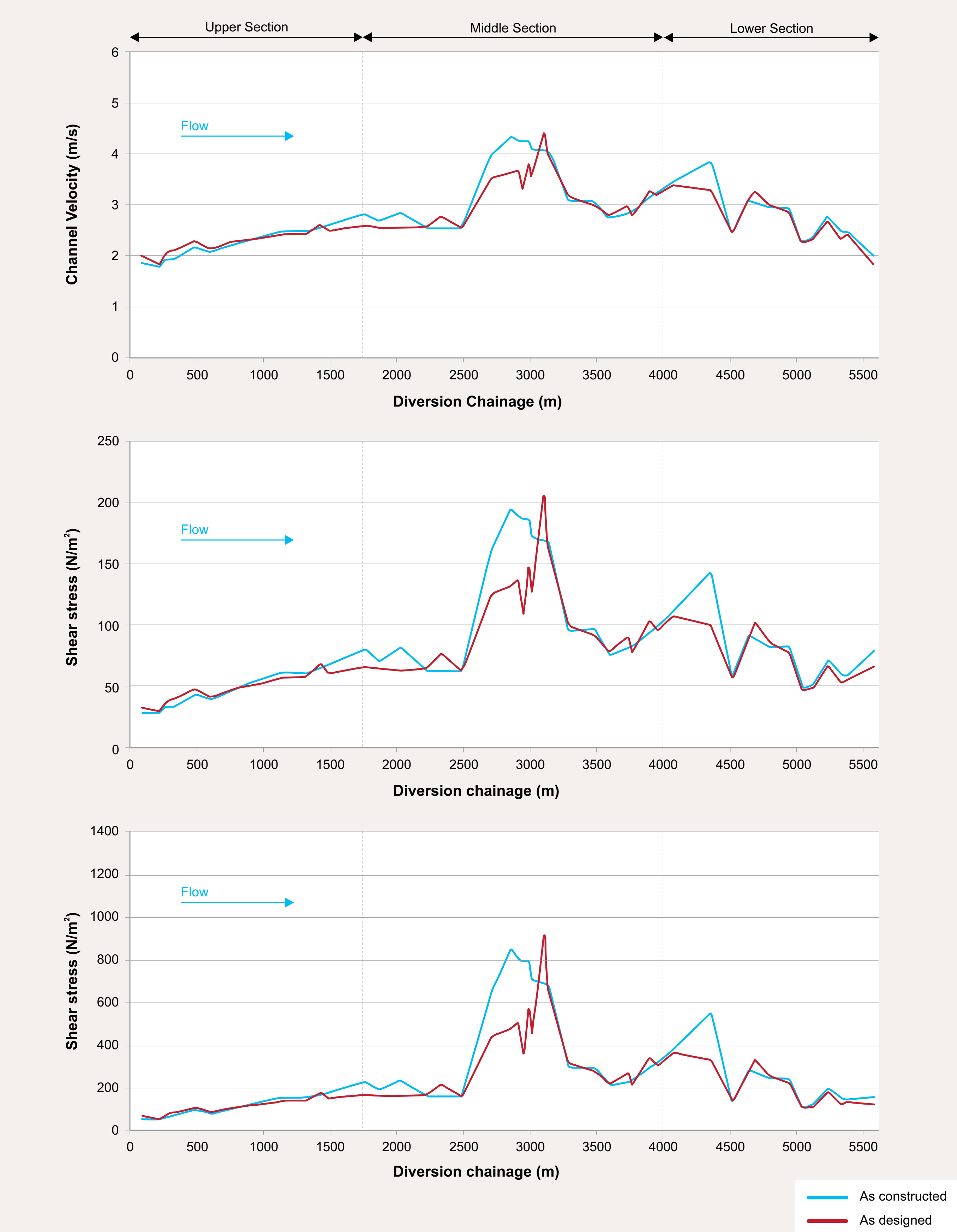
The 2014 McArthur River Diversion Erosion Mapping PowerPoint presentation provided to the IM for this assessment appears to be based on the recommendation in the 2011 IM report (EES, 2012) for the use of the ground-truthed Aerial Laser Survey (ALS) data to map changes in the diversion channel batters. The presentation lacks a legend, context, chainages, annotation or discussion and is therefore not as useful as it otherwise might be.

[9] It should be noted that the Early Flood Warning System only mitigates the impact of a >500 year average recurrence interval (ARI) flood on personnel and equipment within the pit. It does not mitigate environmental impact.

McARTHUR RIVER DIVERSION CHANNEL VELOCITIES, SHEAR STRESSES AND POWERS, 5 YEAR ARI FLOOD EVENT FOR SCENARIO 1

McArthur River Mine Project

FIGURE 4.11



Source: WRM, 2012c.
Review of the 'As-Designed' and 'As-Constructed' McArthur River and Barney Creek Diversions. August.

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PHOTOMONITORING IMAGES FOR CHAINAGES 4250 AND 4410 TAKEN IN AUGUST 2011, JULY 2012 AND MAY 2013

McArthur River Mine Project

FIGURE 4.12

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The raw ALS data was not provided to the IM. The information presented represents topographic differences (in metres) between two ALS surveys (September 2009 and July 2013), indicating erosion of up to and over 2 m on the right bank[10] for approximately 2 km of the 5.5-km-long diversion (approximately between chainages 1,000 m and 4,000 m) (Figure 4.13). Whereas this scale of erosion may be consistent with a channel attempting to reach metastable equilibrium, ongoing monitoring and cross section comparison should be conducted, assessed and reported. The IM also notes that no such comparison has been provided for Barney Creek.

The scale of erosion observed along the McArthur River diversion channel is substantial and the IM recommends it be addressed. The IM is aware of the difficulties in accessing the right bank of the diversion channel, although there appears to be significant potential for further erosion if left as it is, and the approved design included armouring until dense riparian vegetation was established over a period of >10 years (Erskine, 2006).

Surface Water Assessment

WRM Water and Environment (WRM, 2012a) conducted a Phase 3 Development Project Surface Water Assessment including flood modelling of the as-built diversion channels as recommended in the audit reports and IM reports. The report indicates very high flow velocities for significant lengths of both diversions capable of initiating substantial erosion. This will have an effect on rehabilitation efforts and may affect water quality (higher sediment loads) with subsequent impacts on aquatic ecology.

The report states that, during large floods (1% AEP), velocities of between 4 m/s and 7 m/s could be experienced on Barney Creek (with no concurrent flooding in McArthur River), between the confluence of Surprise Creek and the Barney Creek haul road bridge (Figure 4.14). This is well above the ‘as designed’ velocities of approximately 5.2 m/s (WRM, 2012c). The report also identifies the potential for velocities of between 3 m/s and 4 m/s along the McArthur River diversion channel between 'areas B and D' (Figure 4.14). Whereas this conforms to the ‘as designed’ velocities (WRM, 2012a), it also corresponds with the areas of erosion implied by the 2014 McArthur River Diversion Erosion Mapping PowerPoint presentation provided to the IM.

The report (WRM, 2012a) recommends these areas are monitored regularly and erosion protection works are undertaken if erosion is identified. It would appear that erosion has been identified, at least along McArthur River diversion channel. The IM, however, has not seen any evidence to suggest further erosion protection measures have been, or are to be, applied.

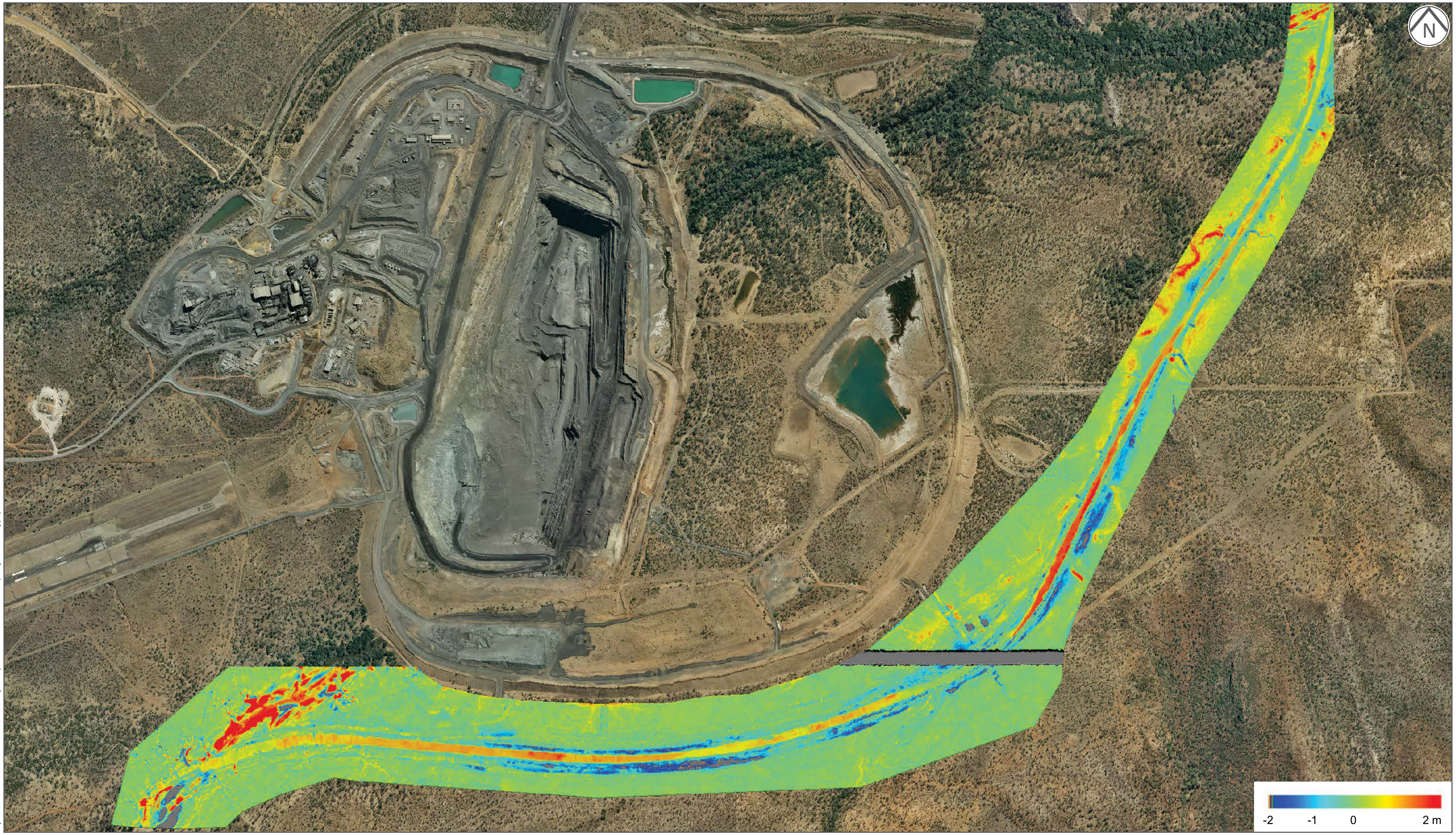
The McArthur River diversion is now over six years old and is still largely unvegetated, and substantial erosion is ongoing and unmitigated. This, along with the high velocities identified in WRM (2012c) and WRM (2012a), indicates that the diversion is unlikely to perform to the standard identified in the 2006 environmental impact statement expert report (Erskine, 2006), being: 'The banks of the diversion channel will be protected by rock-lining until dense riparian vegetation is re-established, which will take more than 10 years'. Furthermore, currently neither diversions show the large wood distribution nor geomorphic complexity (pool riffles) that were recommended in the 2006 environmental impact statement expert report (NT EPA, 2006). The lack of complexity was also identified in the 2011 IM Report (EES, 2012).

[10] Relative to an observer facing downstream.

GROUND SURFACE ELEVATION CHANGE FROM SEPTEMBER 2009 TO JUNE 2013

McArthur River Mine Project

FIGURE 4.13



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Source: MRM, 2014.

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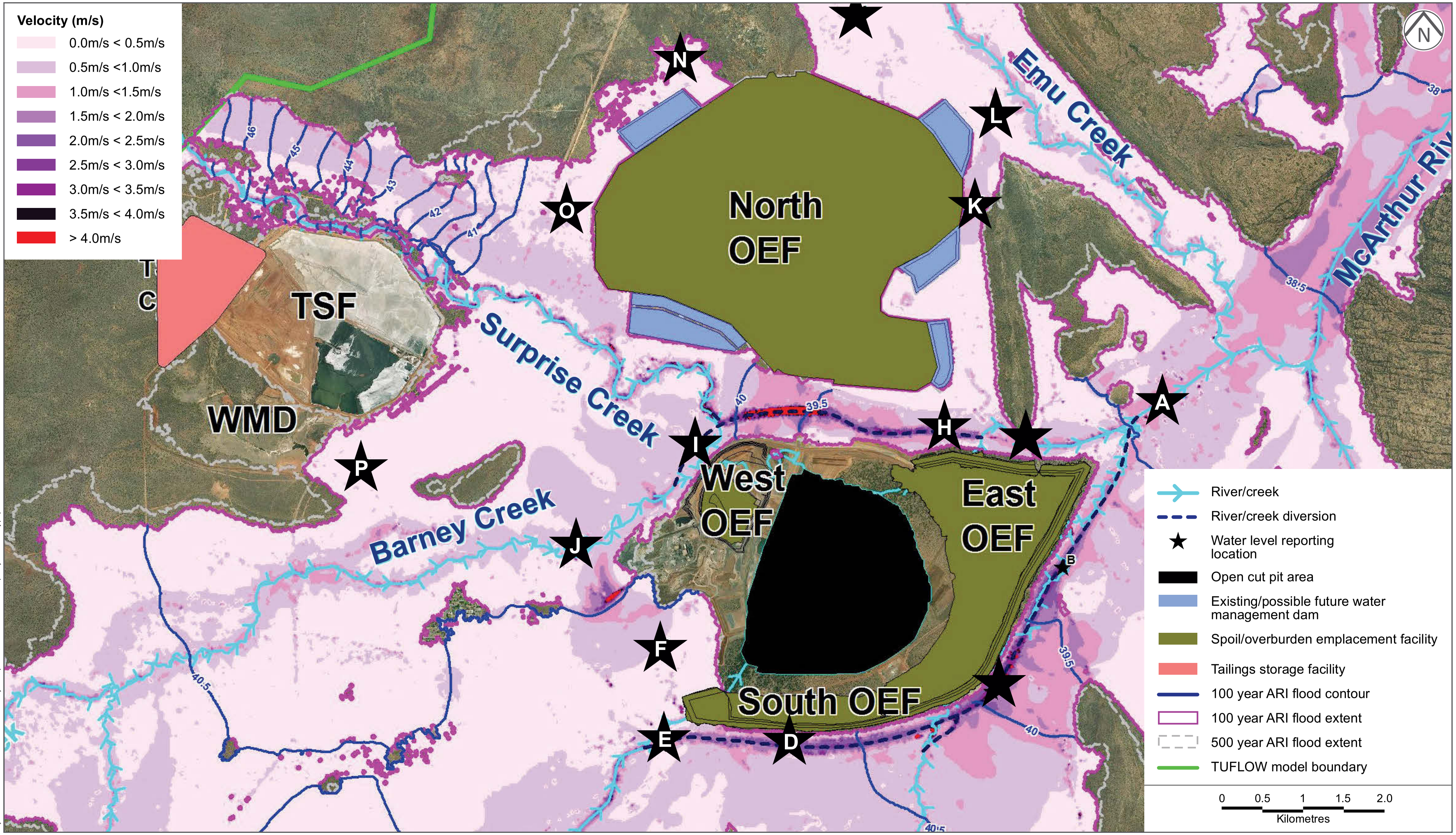
MRM PHASE 3 MAXIMUM FLOOD VELOCITIES AND VELOCITY IMPACTS, 1% AEP (100 YEAR ARI) EVENT

McArthur River Mine Project

FIGURE 4.14



Source: WRM, 2012a.

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4.1.4.5 Incidents and Non-compliances

Incidents

The IM has not identified any incidents in the 2012 and 2013 operational years relating to diversion channel hydraulics.

Non-compliances

The IM has not identified any non-compliance in the 2012 and 2013 operational years relating to diversion channel hydraulics.

4.1.4.6 Review of Progress Against Previous IM Audit Recommendations

Recommendations from the previous IM review relating to diversion channel hydraulics are presented in Table 4.13, along with comment as to whether the recommendations have been adopted by MRM.

Table 4.13 – Diversion Channel Hydraulics Recommendations from the Previous IM Review

Subject	Recommendation	IM Comment
Erosion at toe of mine level wall	Hydraulic flood modelling to be undertaken (by including this flow path explicitly in the Hydrologic Engineering Centres, River Analysis System (HEC-RAS) flood model) to quantify flow velocities over a range of flood events	The IM can find no reported evidence that this recommendation was actioned. The IM requested information and clarification on this issue from MRM; however, no response had been received at the time this report was written
Ponding of water between the channel diversion and mine bund	Additional action to re-contour the area to ensure no ponding of water occurs	The IM can find no reported evidence that this recommendation was actioned. The IM requested information and clarification on this issue from MRM; however, no response had been received at the time this report was written
Erosion of McArthur River diversion channel	Aerial photographs and annual aerial survey plans to be used to assess on-going changes in bank and bed levels	Whereas this appears to have been done informally (2014 McArthur River Diversion Erosion Mapping PowerPoint presentation provided to the IM), the IM has seen no report discussing the outcomes of this assessment

4.1.4.7 New Recommendations

New IM recommendations related to diversion channel hydraulics issues are provided in Table 4.14.

Table 4.14 – New Diversion Channel Hydraulics Recommendations

Subject	Recommendation	Priority
Geomorphology	A full geomorphic condition assessment and erosion mitigation study of both diversions is recommended as follows: ♦ The study should utilise on ground inspection in addition to recent and future ALS survey ♦ The study should be carried out for both the Barney Creek and McArthur River diversion channels with priority on McArthur River diversion channel ♦ The study should include the watercourses for at least 1 km upstream and downstream of the diversion channels ♦ The study should aim to identify areas of erosion and deposition, and the current geomorphic processes causing erosion, and to quantify the degree and rate of erosion along the entire reach ♦ The study should draw upon the results of the Phase 3 Development Project Surface Water Assessment (WRM, 2012a) and the Review of the 'As-Designed' and 'As-Constructed' McArthur River and Barney Creek Diversions (WRM, 2012C) ♦ Locations of channel constriction and/or high flow velocities should be prioritised, along with areas that have undergone erosion ♦ The study should consider previous attempts at erosion control, including revegetation attempts ♦ This study should then be used to assess the methods of erosion control that can be used and prioritise areas for corrective works	High
Erosion	Ongoing monitoring of diversion channel and bank erosion should continue utilising the ALS surveys complemented by photograph monitoring, and visual inspection. It is recommended that an annual report on observed erosion should then be completed. These reports should detail: ♦ The observed erosion ♦ The existing mitigation measure (if any) ♦ The planned mitigation measure ♦ The status of implementation of the planned mitigation measure	Medium

All mitigation measures should be aimed at establishing dense riparian revegetation for long-term stability of the diversion up to and beyond mine closure.

4.1.5 Groundwater Management

This section is based on review of:

- Various reports prepared by MRM and its consultants (as listed in Appendix 1).
- Excel spreadsheets provided by MRM that contain collated water quality data from laboratory analyses and in field testing.
- The 2012-2013 Mining Management Plan prepared by MRM and the draft 2013-2018 Mining Management Plan.

- The previous IM report for the 2011 operational year.
- Various MRM forms and documents such as incident notification forms, geophysical survey results, correspondence with regulators and other third parties, and other documents such as the DME compliance audit reports.

4.1.5.1 Key Risks

The key risks to groundwater are discussed in Appendix 2 and summarised below:

- Oxidation of ore, mine waste and concentrate resulting in release of metals following rainfall and seepage into groundwater impacting groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers or to the surface.
- Seepage of contaminated water from the TSF impacting groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers or to the surface.
- Seepage of contaminated water from water storages, including the PAF runoff dams and the dams and ponds used to manage dirty and contaminated water, impacting groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers or to the surface.
- Spills/leaks from stored hydrocarbons resulting in seepage of hydrocarbons to groundwater impacting groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers or to the surface.
- Drawdown impacts from mine dewatering and water supply activities impacting the groundwater resource in terms of both water supply and quality (mixing of different quality groundwater), lowering of groundwater levels in heritage areas (Djirrimini Waterhole (Figure 4.15)) or in areas associated with groundwater dependant ecosystems (GDEs), and interactions between groundwater and surface water.
- After mine closure, seepage of poor quality water from the pit lake to the groundwater system, impacting groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers or to the surface.
- Seepage of marine water from the dredge spoil ponds to the groundwater system, impacting groundwater quality.

4.1.5.2 Existing Controls

MRM has developed a variety of control measures to assist in managing risks. These are discussed in more detail below and include:

- Measures to assess and identify existing and future impacts (e.g., groundwater monitoring and review of monitoring data, adoption of groundwater quality trigger values, geophysical surveys, groundwater flow modelling and particle tracking).
- Measures designed to mitigate current or predicted impacts (e.g., the installation of seepage recovery systems, installation of low permeability barriers to restrict groundwater flows and lining of storages used to manage dirty or contaminated water).

COMMITTED GROUNDWATER MONITORING BORES - McARTHUR RIVER MINE

McArthur River Mine Project

FIGURE 4.15

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Groundwater Monitoring

Groundwater monitoring data is collected by MRM at both the mine site and Bing Bong Port. The locations of the monitoring bores are shown in Figure 4.15 (mine site) and Figure 4.16 (Bing Bong Port).

Monitoring bores at the mine site are divided into two groups as follows:

- Committed monitoring bores that MRM is required to monitor under the WMP.
- Non-committed monitoring bores that are used intermittently by MRM for internal assessments.

All the monitoring bores at Bing Bong Port are classified as committed monitoring bores.

The committed monitoring bores are positioned around the facilities associated with potential impacts to the groundwater environment and comprise:

- 22 bores around TSF Cells 1 and 2, and Cell 3 WMD.
- Two shallow and two deep monitoring bores south of the South PAF Runoff Dam (SPROD).
- Three shallow and three deep monitoring bores south of the South East PAF Runoff Dam (SEPROD).
- Four monitoring bores around the plant area.
- Three shallow and three deep monitoring bores, and one general monitoring bore in the vicinity of the Djirrimini Waterhole.
- Four shallow, four intermediate, one deep and one general monitoring bore around the Bing Bong dredge spoil pond.
- Three shallow, two intermediate and two deep monitoring bores around the Bing Bong Port loading facility.

Groundwater monitoring data has been assessed annually as part of the preparation of the MMP. The assessment includes both groundwater levels and quality for the committed monitoring bores.

From 2013, the DME requires MMPs to be prepared every four years rather than annually. The annual assessment of monitoring data will be provided as part of the Annual Operational Performance Report.

MRM also has reporting commitments relating to the 2011 diesel spill near the old power plant. These include quarterly progress reports on the site remediation effort and an annual report reviewing the results from the previous 12 months and recommending further development of the site remediation plan.

MRM's groundwater monitoring schedule is summarised in Table 4.15.

COMMITTED GROUNDWATER MONITORING BORES - BING BONG PORT

McArthur River Mine Project

FIGURE 4.16

Source: Google Image 2005

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Table 4.15 – Summary of the Groundwater Monitoring Schedule

Location	Frequency	Parameters
Committed monitoring bores at the mine process area, NOEF, TSF, TSF Cell 3 WMD and Bing Bong Port facility	Every second month	Groundwater level
		Field measurement of pH, temperature, electrical conductivity (EC) and oxygen-reduction potential (ORP)
		Laboratory analysis of soluble Ca, Mg, Na, K, Cl, and SO_4
		Laboratory analysis of hardness, total dissolved solids and total suspended solids
		Laboratory analysis of soluble As, Cd, Cu, Pb and Zn
	Quarterly	Laboratory analysis of total As, Cd, Cu, Pb, Zn
		Laboratory analysis of total Ca, Mg, Na and K
	Bi-annually	Laboratory mulit-element analysis
Monitoring bores at the palaeochannel and Djirrimini Waterhole	Bi-annually	Groundwater level
Committed monitor bores GW3A, GW5A, GW15, GW16, GW15 7 GW14	Bi-annually	Total petroleum hydrocarbons (TPH)
Hydrocarbon spill monitoring bores, excluding recovery bores	Initially fortnightly, reducing to monthly during pumping and for 12 months after cessation of pumping	Groundwater level and light non-aqueous phase liquid (LNAPL) thickness
Hydrocarbon spill monitoring bores, apart from bores containing free phase diesel	When sampled	Field measurement of pH, temperature, EC, dissolved oxygen and redox potential
	Initially monthly but reducing to quarterly depending on results and agreement with DoR and for a year following the cessation of pumping	pH, salinity, TPH, benzene/toluene/ ethylbenzene/xylene (BTEX) and polycyclic aromatic hydrocarbons (PAHs)
	Quarterly during pumping and for 1 year following pumping	Major anions and cations, NO_3, sulfide, ferrous iron, Mn
Discharge from the underground mine vent raise	Monthly	TPH, BTEX and PAHs

Note: the monitoring commitments were identified from Appendix 1 of the 2012 to 2013 MMP (Xstrata & MRM, 2013).

Groundwater trigger values are used at the mine site to help identify impacts to groundwater quality. The trigger values are based upon the limits for livestock identified in the ANZECC/ NHMRC guidelines (1992). The IM has been advised by MRM that limits for livestock have also been adopted for the Bing Bong Port bores. However, the presence of saline and hypersaline groundwater in a number of the bores suggests this guideline is inappropriate for the site. The IM recommends that MRM review the available monitoring data to develop site specific criteria to identify impacts upon the groundwater environment.

Sulfate concentrations in some of the TSF monitoring bores are known to be elevated due to seepage and therefore commonly exceed the livestock limits. For these bores, MRM makes an assessment using trends in sulfate concentrations rather than comparing measured values with trigger values.

A review of the monitoring data shows there have been exceedances in salinity and sulfate around the perimeter of TSF Cell 1 and on the southern and eastern side of TSF Cell 2 and Cell 3 WMD. Also exceedances were noted for fluoride in one bore southeast of TSF Cell 2, two bores southeast of TSF Cell 3 WMD and one bore south of the SPROD.

Geophysical Surveys

Surface geophysical surveys have been conducted on six occasions since 2003 to help identify areas affected by seepage. The areas surveyed comprised the TSF, TSF Cell 3 WMD, the site of the proposed TSF Cell 4, and the SPROD.

The surveys around the TSF show both shallow and deep areas of higher electrical conductivity (EC) at two locations on the northern side of Cell 1, at the southeast corner of Cell 2 and on the eastern side of Cell 3 WMD coincidental with the old Little Barney Creek channel.

The results for the SPROD show a broad front of higher EC extending south and west of the dam.

Seepage Recovery

A combination of recovery bores, sumps and trenches have been used to assist in managing seepage from the TSF and TSF Cell 3 WMD since early 2009. However, the recovery bores have not been fully operational since late 2012. The locations of the seepage recovery bores, sumps and trenches are shown in Figure 4.17.

MRM has stated that recovery bores, sumps and trenches will (where required) be used to manage seepage from the Northern Overburden Emplacement Facility (NOEF) and the associated runoff dams.

Low Permeability Barriers

Geopolymer barriers have been used at the mine site to provide a low permeability wall within the superficial deposits and weathered bedrock. Barriers have been installed around TSF Cell 1 and along the southern boundary of TSF Cell 2 and TSF Cell 3 WMD to direct groundwater flows away from these facilities. Attempts were also made to install barriers across the southern limb of a palaeochannel (which trends north-south through the pit and is thought to provide a conduit to the McArthur River) and at discrete groundwater inflow points along the southern edge of the pit.

Locations of the geopolymer barriers are shown in Figure 4.17.

TAILINGS STORAGE FACILITY GEOPOLYMER BARRIER AND TRENCH LOCATION PLAN

McArthur River Mine Project

FIGURE 4.17

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Groundwater Flow Modelling

A preliminary 3-dimensional groundwater flow model for the mine site was constructed for the Phase 3 development. A revised model is currently under development as part of ongoing studies into the groundwater system associated with the mine. The groundwater flow model includes:

- Rainfall recharge.
- Interaction with McArthur River and its tributaries.
- Variable saturated groundwater flow.

The preliminary model was loosely calibrated against the monitoring data available at the time. The new model will incorporate the information collected during recent shallow and deep drilling and testing programs and calibrated using the most recent monitoring data.

In addition to the 3-dimensional modelling, a simple 2-dimensional slice model was developed for the SPROD. The model was used to assess options for seepage mitigation measures. The slice modelling results estimate full lining of the dam will reduce the seepage rate by more than 90%.

4.1.5.3 Successes

MRM has undertaken a significant amount of work during the review period to address risks to the groundwater environment from mining and processing activities. This work includes the following:

- Assessment of the mine dewatering requirements and impacts, comprising shallow groundwater investigations (RPS, 2012a) and deep groundwater investigations (RPS, 2013a) in the vicinity of the pit.
- Development of a new 3-dimensional groundwater flow model, replacing the preliminary model developed for the Phase 3 environmental impact statement.
- Assessment of potential seepage impacts from the SEPROD, including installation of monitoring bores and seepage modelling using the preliminary 3-dimensional groundwater flow model developed for the mine site (RPS, 2012b).
- Assessment of potential seepage impacts from the EPROD, including installation of monitoring bores and seepage modelling using the preliminary 3-dimensional groundwater flow model developed for the mine site (RPS, 2013b).
- Assessment of seepage extents at the SPROD with installation of additional monitoring bores and the completion of further geophysical surveys (URS 2012a, 2012b) south and west of the dam.
- Assessment of options to mitigate seepage impacts, identified in monitoring bores around the SPROD, using a 2-dimensional slice model (ATC Williams, 2013a).
- Installation of low-permeability geopolymer barriers into palaeochannel deposits south of the pit to reduce groundwater inflows from the McArthur River (SoilCon, 2012).
- Assessment of seepage extents at the TSF with installation of additional monitoring bores and the completion of further geophysical surveys (URS 2012a, 2012b).

- Assessment of background groundwater conditions at the site of the proposed TSF Cell 4 and extension of the NOEF with installation of additional monitoring bores.
- Ongoing remediation in the area of the power station following the 2011 diesel spill.
- Assessment of groundwater conditions at Bing Bong Port.

In addition, MRM has upgraded the collection of groundwater monitoring data by equipping 38 bores across the mine site with data loggers set to collect readings at 30 minute intervals. Thirty of the loggers measure water pressure and eight measure water pressure and EC. This higher resolution data should provide opportunities to better define the groundwater dynamics at the mine site, including groundwater recharge, influence of faults, and the interaction between groundwater and surface water.

In reviewing the activities over the review period, it is apparent that MRM has increased their commitment to managing the impacts upon the groundwater environment from mining and processing activities. In particular, the development of a suitable dewatering strategy, integrated with a mine water management strategy, has assisted with reducing the requirement to manage contaminated water.

Other major improvements include the development of a site-wide 3-dimensional groundwater flow model for the MRM operation and the collection of baseline data. It is anticipated that the groundwater flow model will provide a means of predicting groundwater impacts and identifying suitable mitigation options for the various mining and processing activities. The collection of baseline data prior to further development at the MRM operation should allow any future impacts upon the groundwater environment to be better defined.

The IM commends MRM on these achievements.

Assessment of Mine Dewatering Requirements

RPS has completed two studies around the pit during the review period. These comprised shallow and deep groundwater assessments into the pit dewatering requirements and impacts from dewatering activities. As part of the dewatering assessment the following field investigations were carried out:

- Shallow groundwater field investigations:
  - Installation of 20 shallow bores along the southern and eastern sides of the pits, where most of the groundwater inflows into the pit have been observed.
  - Small-scale hydraulic testing of the newly installed bores.
  - Collection and analysis of groundwater samples from the new bores and seepage points along the pit wall.
- Deep groundwater investigations:
  - Installation of two production bores on the southern side of the pit and eight monitoring bores (including two nested bores) at locations associated with potential aquifers.

- Small-scale hydraulic testing of the newly installed deep monitoring bores.
- Test pumping of the two newly installed production bores and one pre-existing production bore.
- Collection and analysis of groundwater samples from the new production and monitoring bores.

The results from field investigations have been used to more reliably determine the groundwater conditions around the pit, including the variation in groundwater quality, the presence and properties of the aquifers associated with the mine, and the connectivity between aquifers. This understanding has enabled further development of the conceptual hydrogeological model for the MRM operation and estimation (using analytical methods) of the groundwater inflows to the pit from the shallow groundwater system.

The assessment of the mine dewatering impacts has also allowed MRM to develop a dewatering strategy for the pit going forward. The strategy identifies the dewatering requirement and method. It also recognises the importance of minimising AMD in the mine water discharge, thereby reducing the requirement to manage contaminated water. This integration of dewatering and site wide water management (discussed further in Section 4.1.2) is considered a major improvement on previous practices.

Groundwater Flow Modelling

RPS has been engaged to develop an improved 3-dimensional groundwater flow model for the MRM operation, to replace the preliminary model constructed by URS for the Phase 3 environmental impact statement. The preliminary model was developed using a key number of assumptions that included the presence of the main aquifers and their hydraulic properties, which were based upon very limited field data. There was also a paucity of information that could be used in model calibration. These shortcomings resulted in considerable uncertainty in the model predictions as illustrated by the high root-mean-square error during calibration (greater than 10%).

The revised model will incorporate the information collected during the shallow and deep groundwater investigations, along with geological and hydrogeological information collected during installation of the new monitoring bores around the EPROD, SEPROD, SPROD and TSF. MRM anticipates that the model will provide a means of assessing groundwater impacts from mining and processing activities across the MRM operation. The IM considers this a valid approach with an assessment of the adequacy of the modelling study, including the locations and number of monitoring bores extents, to be undertaken once the report is available for review.

Assessment of SEPROD Seepage Impacts

An assessment was made of the potential seepage impacts from operation of the SEPROD. This work, which was completed prior to the construction of the facility at the end of 2013, included the installation of four nested monitoring bores and one standalone monitoring bore, and groundwater flow modelling with particle tracking using the 3-dimensional groundwater flow model.

Groundwater flow modelling and particle tracking was undertaken by RPS to compare the options to restrict seepage from the SEPROD, using either a compacted clay or a synthetic HDPE liner.

The modelling results, which indicated a compacted clay liner was likely to be more effective in reducing seepage, were adopted by MRM in the construction of the facility.

The combination of field investigations and modelling in developing a suitable design for the storage is considered appropriate. However, standard parameter values have been adopted in simulation of the performance of the two liner options. The appropriateness of these values cannot be determined with the available information. This is particularly significant with respect to the clay liner, which was constructed from locally borrowed material, where effects from the impoundment of poor quality water and seasonal changes in dam water level (i.e., periodic wetting/drying) could impact upon liner integrity.

It would also have been appropriate to include sensitivity analysis to investigate possible impacts upon the modelling results from variations in the performance of the two liner options.

Assessment of EPROD Seepage Impacts

A preliminary assessment was made of the potential seepage impacts from operation of the proposed EPROD. The work included the installation of two nested monitoring bores and two standalone monitoring bores located along the eastern margin of the proposed storage, and groundwater flow modelling with particle tracking using the preliminary 3-dimensional groundwater flow model. The modelling work included the simulation of a clay liner to restrict seepage from the dam.

The model was used to estimate seepage rates from the EPROD and advective movement of contaminants over a 50-year run-time. The study outcomes were used to provide recommendations for future monitoring and mitigation methods should unacceptable impacts occur.

The approach is considered appropriate as a preliminary assessment. Any future modelling, however, should take into consideration the likely properties of materials used to line the EPROD. This is particularly relevant to the clay liner option where material will be locally sourced and may not match the standard performance criteria. Consideration should be given to the effects of poor quality water on the liner performance and seasonal variations in dam water level (wetting/drying). It would also be appropriate to include sensitivity analysis to investigate possible ranges in model outcomes.

Assessment of SPROD Seepage Impacts

Further investigations have been completed around the SPROD to identify seepage pathways and extents. This work has included the installation of four nested monitoring bores and a single standalone monitoring bore. The bores were located in areas where groundwater levels lie close to surface, likely due to seepage from the SPROD, and adjacent to Barney Creek downstream of the SPROD and NEOF.

In addition to the installation of new monitor bores, MRM has completed EM surveys around the southern extent of the SPROD, which shows areas of higher ground conductivity presumably associated with the seepage of higher salinity water from the facility.

These diagnostic tools are considered appropriate, although the information available already indicates continued seepage from the SPROD and some further actions are required to mitigate these impacts. MRM advised that the dam was constructed with a compacted clay liner. The IM was not provided the 'as built' report for the dam and has not seen any test results for the compaction of the clay liner to determine if the liner was constructed in accordance with design specifications.

Assessment of SPROD Seepage Mitigation Options

A cost benefit analysis was completed by ATC Williams to investigate seepage mitigation options for the SPROD. The assessment included the development of a generic slice model through the SPROD embankment and down-gradient groundwater system. The model was used to investigate three seepage mitigation options, comprising the installation of a cut-off trench, partial clay lining of the SPROD, and full clay lining of the SPROD. The modelling identified the full lining of the facility as the most effective option with a reduction in the seepage rate of greater than 90%. Partial lining and installation of a cut-off trench were significantly less effective, reducing seepage by about 30% and 60%, respectively.

Given the proximity of the SPROD to Barney Creek and the installation of a full liner at the SEPROD, it would seem appropriate to fully line the SPROD. Further work should be completed to confirm an appropriate liner design, which could include the option to use a synthetic liner and impacts upon liner performances from the impoundment of poor quality water and changes in dam water levels (wetting/drying). It would also be appropriate to include sensitivity analysis to investigate possible ranges in outcomes.

Pit Area Geopolymer Barrier Installation

Geopolymer barriers were installed at the southern and eastern ends of the pit in an attempt to reduce shallow groundwater inflows through palaeochannel deposits and discrete aquifers. It is understood that the barriers installed into the palaeochannel deposits had only a limited impact, but the inflows via the discrete aquifers were reduced.

Variation in the success of grouting techniques is not uncommon, but the technique is considered to have merit and provides one option for control of groundwater flows to help manage movement of seepage and dewatering requirements.

Assessment of TSF Seepage Impacts

MRM has undertaken further seepage investigations around the TSF, comprising installation of a replacement monitoring bore and installation of a new deep monitoring bore around TSF Cell 1, and repeat EM surveys around TSF Cells 1and 2, and Cell 3 WMD.

Generally, the monitoring data for the TSF shows continuing seepage impacts along the perimeter of TSF Cell 1 and on the southern and eastern side of TSF Cell 2 and Cell 3 WMD, albeit with some localised minor changes. The EM survey results appear to provide a reasonable correlation with monitoring bore data, indicating the technique provides a suitable means of identifying impacted areas.

These results suggest management of TSF Cell 1, which includes the installation of a temporary cover, has not been effective in preventing seepage from the facility.

There is also evidence of seepage from discrete points along the eastern and southern boundaries of TSF Cell 2 and Cell 3 WMD, in particular at the southeast corner of Cell 2 and where the old Little Barney Creek channel passes under the WMD embankment. These results bring into question the integrity of Cell 2 and the WMD and suggest remediation works or further seepage recovery actions are required if these facilities are to be used as storages for poor quality water.

Assessment of TSF Cell 4 and NOEF Baseline Conditions

MRM has carried out groundwater baseline assessments at the site of the proposed TSF Cell 4 and the expansion area for the NOEF. The assessment at TSF Cell 4 comprised the installation of two nested monitoring bores and the completion of an initial EM survey, and for the NOEF expansion the installation of three nested monitoring bores and two standalone monitoring bores.

The collection of baseline data is considered an important improvement in the prevention of unacceptable impacts upon the groundwater environment.

Ongoing Diesel Spill Remediation

Hydrocarbon spills have been recorded at the MRM operations on three occasions, the most recent being in 2011 when 28,000 L of diesel was released from the fuel storage near the old power plant. The largest spill occurred in 1997 when 155,800 L of diesel was released in the same area.

Since its occurrence in 2011, MRM has been engaged in the remediation of a diesel spill near the mine’s power station. This work has included installation of 25 monitoring bores, the instigation of a comprehensive monitoring program, and the assessment and reporting of results both monthly and annually. The IM concurs with the conceptual site contamination model and remedial approach presented in MRM’s remediation action plan and commends MRM on the assessments presented in the MMPs.

The results from the remediation program presented in the draft 2013-2018 MMP (MRM, 2013c) indicate both the LNAPL and dissolved contaminant plumes have extended somewhat to the northwest and west, but not to the north. The plume extents have been influenced by fracture flow rather than radial flow. Total product recovery as of 26 September 2013 was 2,542 L, which represents around 9.2% of the spill volume. Natural attenuation appears to be active in the area of contamination, although there are large temporal variations in measured concentrations of indicator parameters (e.g., sulfate, alkalinity, nitrate, ferrous Fe and Mn). Importantly, the risks to Barney Creek and the McArthur River are considered to be negligible due to the capture zone around the pit from dewatering activities.

Assessment of Groundwater Conditions at Bing Bong Port

MRM installed four nested monitoring bores to enable monitoring of the groundwater conditions down-gradient of the dredge spoil pond and plant and up-gradient of the dredge spoil pond. The bores should provide a means of identifying impacts from the concentrate storage and dredge spoil pond.

4.1.5.4 New Issues

The following issues have been identified during the IM review:

- Assessment of seepage around the NOEF.

- Management of seepage around the SPROD.
- Management of seepage from TSF Cell 1.
- Management of seepage from TSF Cell 2.
- Management of seepage from TSF Cell 3 WMD.
- Assessment of impacts from the post-closure pit void lake.
- Assessment of impacts from groundwater production (dewatering and water supply).

The seepage of contaminated water following oxidation of PAF material stored within the NOEF is seen as one of the main risks to the groundwater environment at the operation. This issue has been highlighted by the recognition that the proportion of PAF material in the overburden is significantly higher than previously estimated. This brings into question the ability of MRM to sufficiently control oxidation of the waste and generation of contaminated leachate, because of the increased volume of PAF material and the lack of NAF material for encapsulation. If any leachate generated within the NOEF seeps into the underlying groundwater then there is a high risk it will unacceptably impact upon the groundwater quality, breaching the compliance criteria for groundwater quality adopted by MRM (i.e., guideline limit for cattle) (ANZECC/ARMCANZ, 2000).

MRM currently monitors 12 bores south of the NOEF along the perimeter of the SPROD. However, there are no monitoring bores close to the northern, eastern and southern perimeters of the facility. The nearest bores (GW85S and 85D) are located about 500 m to the northeast. The lack of groundwater monitoring along much of the perimeter of the NOEF hinders identification of impacts from possible leachate seepage. Any future monitoring should take into account the planned development of the NOEF and the requirement to collect baseline data.

Monitoring results and results from geophysical surveys have identified continued impacts upon the groundwater environment from SPROD seepage. Controls are required to reduce impacts to acceptable levels, based upon the compliance criteria for groundwater quality adopted by MRM. The option to fully line the dam was investigated during the review period. This work should be progressed and should include the finalisation of a suitable design and construction of a full liner.

Monitoring results and results from geophysical surveys have identified long-term impacts upon the groundwater environment from TSF Cell 1 seepage, which is no longer in use and has been capped with a temporary cover. These results indicate that the temporary cover is ineffective in preventing unacceptable impacts. MRM should develop alternative option(s) to manage this impact and meet compliance criteria for groundwater quality. Alternative options could comprise reprocessing of the tailings or construction of a suitable interim or permanent cover.

Monitoring results and results from geophysical surveys have identified long-term impacts upon the groundwater environment due to seepage from the active TSF Cell 2 and TSF Cell 3 WMD, which is being used to store dirty water generated by the operation. The results indicate the existing controls, comprising recovery sumps, geopolymer barriers and interception trenches, are insufficient. MRM should investigate alternative option(s) to manage this impact to meet compliance criteria for groundwater quality.

Potential post-closure impacts include seepage of poor quality water from the pit lake to the groundwater system. The potential for this risk to develop should be investigated using a water and solute balance. In conjunction with this, it is recommended that suitable post-closure groundwater quality criteria are established taking into consideration potential impacts upon potential environmental receptors (e.g., the McArthur River, flora and fauna).

Groundwater production associated with dewatering activities and operation of the borefields could unacceptably impact upon the groundwater resource in terms of both quantity and quality. This is probably most relevant in the pit area where seasonal groundwater level fluctuations associated with dry season drawdowns and wet season recoveries could generate AMD below the pit floor. The impacts from dewatering activities and operation of the borefields upon the groundwater system are assessed internally by MRM and reported in the MMPs. However, a suitably qualified hydrogeologist should also complete a comprehensive assessment annually.

4.1.5.5 Incidents and Non-compliances

Non-compliances have been assessed against MRM's commitments as presented in the 2012-2013 MMP (Xstrata & MRM, 2013). The non-compliances identified for the review period are summarised in Table 4.16 (commitments presented in the 2012-2013 MMP (Xstrata & MRM, 2013) Part A, Table 3.1) and Table 4.17 (other MRM commitments).

Table 4.16 – Groundwater Related Non-Compliances, MRM Commitments 2012-2013

MMP Commitment Number	Subject	Commitment	Non-compliance
Part A - 110	Monitoring frequency	2012 & 2013 - 2 monthly field measurement of water quality in all committed monitoring bores	2012 - Minor data gaps, possibly due to either dry bores or access constraints
			2013 monitoring round 1 - minor data gaps, possibly due to either dry bores or access constraints
			2013 monitoring round 2 - significant data gaps in the TSF monitoring bore record, possibly due to flooding and access constraints
			2013 monitoring round 3 - significant data gaps in the TSF monitoring bore record and only one record for the Bing Bong monitoring bores, possibly due to flooding and access constraints
			2013 monitoring round 4 - significant data gaps in the TSF Cell 1 monitoring bore record, possibly due to access constraints
			2013 monitoring round 5 - no data provided for the monitoring bores at the MRM operation
			2013 monitoring round 6 - no data provided

Table 4.17 – Groundwater Related Non-Compliances, Other MRM Commitments

Reference	Subject	Commitment	Non-compliance
MMP 2012-2013 Part B, Section 11.1.6.2.4	Monitoring frequency	2012 - 6 monthly collection and analysis of samples for metals in all committed monitoring bores	Minor data gaps in the record, possibly due to either dry bores or access constraints
MMP 2013-18 Vol 2, Section 2.5.10.2.3		2013 - annual collection and analysis of samples for metals in all committed monitoring bores	Minor data gaps in the record, possibly due to either dry bores or access constraints
MRM remediation action plan (2011c)		2012 & 2013 - hydrocarbon monitoring associated with the 2011 diesel spill	Numerous sites have not been sampled in accordance with the action plan due to access restrictions and safety concerns associated with the Phase 3 development
MMP 2012-2013 Part B, Section 11.1.6.2.4	Measured water quality parameters	Field measurements of DO, temperature, salinity, oxygen reduction potential (ORP), turbidity, groundwater level	Minor data gaps in the recorded water quality results, generally relating to measurement of turbidity
MMP 2012-2013 Part A, Section 11.2.1	Analyte concentrations	Salinity less than 4,000 mg/L TDS (guideline limit for cattle (ANZECC/ ARMCANZ, 2000))	Exceedance in monitoring bores GW04, 12A, 14, 18, 19, 20A, 20B, 21, 42B, 43A, 43B, 45B, 48, 64D, 65D and 65S
		Sulfate concentrations less than 1,000 mg/L (guideline limit for cattle (ANZECC/ ARMCANZ, 2000)	Exceedance in monitoring bores GW03A, 04, 6, 12A, 14, 18, 19, 20A, 20B, 21, 42B, 43A, 43B, 45B, 48, 64D, 64S, 65D
		Fluoride concentrations less than 2 mg/L (guideline limit for cattle (ANZECC/ ARMCANZ, 2000)	Exceedance in monitoring bores GW04, 14, 18, 65D

The most significant exceedances relate to high salinities and high concentrations of sulfate around the TSF and SPROD, which are almost certainly associated with seepage impacts following oxidation of sulfides in the tailings and overburden material. The results are consistent with the long-term record for these sites indicating the remedial actions taken by MRM are so far inadequate.

The documentation provided indicates that there are some commitments that were not detailed in the MMP, which include the monitoring and reporting requirements associated with the diesel spill remediation near the mine site power station. It is recommended that a list of all MRM's commitments be prepared to assist operations staff and auditors/ reviewers.

No groundwater related incidents were recorded by MRM during the review period. It is noted that MRM acknowledges gaps in incident reporting of groundwater exceedances during the audit period (email response received from Mr David Browne of ERIAS Group on 8 May 2014). As a consequence, the IM recommends the following:

- Incident reporting should include all breaches of MRM's commitments.
- MRM's commitments should be reviewed and more clearly defined to assist with identification of future breaches.

4.1.5.6 Review of Progress Against Previous IM Audit Recommendations

The groundwater-related recommendations from the previous IM review are presented in Table 4.18, along with comments on whether the recommendations were adopted by MRM.

Table 4.18 – Groundwater Recommendations from the Previous IM Review

Subject	Recommendation	IM Comment
Borefields	Monitoring water levels in borefield abstraction and surrounding observation bores prior to, during, and following cessation of pumping cycles (installation of pressure transducer data-loggers in at least some wells would be advantageous)	MRM has equipped 38 bores with data loggers to collect high resolution groundwater level data and EC, which will enable data assessment over the pumping cycle
	Constructing hydrographs of pressure levels in all borefield abstraction bores and nearby observation bores, including rainfall and abstraction volumes and rates	No production or observation bore hydrographs were identified
	Assessing data such as recovery rates following cessation of pumping and drawdown rates during constant discharge	No assessment of the drawdown or recovery rates were identified
OEF	Hydrographs be constructed for monitoring bores GW64S, GW64D, GW65S and GW65D to allow assessment of changes in groundwater pressure over time	Hydrographs for the SPROD monitoring bores were provided in the draft 2013-2018 MMP as part of the assessment of the groundwater monitoring data
	Installation of nested monitoring bores (as with GW64 and GW65) be considered in the northern and eastern OEF where seepage is currently occurring	Additional monitoring bores were installed in 2013 around the SPROD in areas where seepage was suspected
	Nested monitoring bores should be installed around the NOEF in areas thought to be affected by seepage, especially where wet conditions are observed	Additional monitoring bores were installed in 2013 around the NOEF to collect background hydrogeological data in the expansion area

Table 4.18 – Groundwater Recommendations from the Previous IM Review (cont'd)

Subject	Recommendation	IM Comment
TSF	As over 500 m^3 of hydrocarbon-impacted soil has been taken to the TSF waste emplacement facility, bores GW4, GW6, GW14 and GW18 as a minimum should be monitored for TPH/BTEX/naphthalene (if not already done so)	Samples were collected from monitoring bores GW04, 06, 14 and 18 in 2013 and analysed for total petroleum pydrocarbons (TPH), benzene/toluene/ethylbenzene/xylenes and naphthalene
	Combining hydrogeological and hydrogeochemical data and development of a conceptual model for the TSF based on this data (updated annually)	No updated conceptual hydrogeological model for the TSF area was identified
	The tailings stored in TSF Cell 1 should be removed for re-processing	This option is under consideration by MRM, although a decision is not expected in the short-term
	Surprise Creek should be diverted to the northeast of the seepage recovery system and the existing channel used as an interception trench	It is understood MRM is not considering this option
	A perimeter cut-off trench should be installed around the TSF	Perimeter interception trenches have been installed north and south of TSF Cell 2. However, no trench has been installed around the perimeter of Cell 1
	A physical groundwater flow barrier should be installed around the TSF	Geopolymer barriers have been installed around TSF Cell 1 and along the southern perimeter of Cell 2. However, no barrier has been installed around the northern side of Cell 2
	A limestone or calcium-rich cover should be installed on the TSF	TSF Cell 1 has been capped with a temporary clay liner that does not include a calcium-rich component
	Kinetic tests should be carried out to estimate the attenuation characteristics of the alluvium underlying the TSF	No kinetic test data were identified
Hydrocarbon storage facilities	Actioning of the items in MRMs report of 20 October 2011	Not determined
	Installation of a high level alarm on above-ground diesel tanks	It is understood MRM has elected not to install high level alarms on their above-ground diesel storage tanks
	Sealing and integrity testing of bund walls and floors for all hydrocarbon storage facilities	Not determined
	Improvements to fencing technology to keep stock and other fauna off the mine site	Not determined
	The investigation bores installed by Golder Associates Pty Ltd (Golder) should be added to the list of committed monitoring bores	The four drill holes completed as monitoring bores by Golder GWTSF02 to GWTSF05 are included in the list of committed monitoring bores

Table 4.18 – Groundwater Recommendations from the Previous IM Review (cont'd)

Subject	Recommendation	IM Comment
QA/QC	Comparison of field to laboratory results, including TDS/EC ratio, relative differences between field and laboratory pH, relative differences for blind and duplicate samples	Comparisons were completed during the review period
	Discussion of findings of the laboratory's quality control reporting	An assessment of the laboratory's quality control reporting was completed during the review period
Analytical suite	Analysis for metals be limited to dissolved species including dissolved Al, Fe and Mn	Since mid-2013, analyses for metals have been limited to soluble species and have included Al, Fe and Mn
	A full cation and anion ionic balance be undertaken on all samples (pH, TDS, Na, Ca, Mg, K, Cl, SO_4, HCO_3, NH_3, NO_3, NO_2, PO_4 and F)	Since mid-2013, analyses has included F, but have not included NH_3, NO_3, NO_2 and PO_4
General data interpretation and reporting	Groundwater contours in each separate formation, but particularly the bedrock and the alluvium, need to be presented at least bi-annually: at the end of wet and end of dry seasons	Wet and dry season contours have been provided in the MMPs
	Comparison of the actual groundwater contours and the modelled groundwater level contours	A comparison of measured and simulated groundwater level contours has not been identified for the review period. However, a groundwater flow model is currently being developed which it is hoped will provide a more robust means of comparison
	Separate groundwater contour figures using all available bores should be provided for the TSF, the regional monitoring network and Bing Bong, as well as the OEF once further bores are installed	Wet and dry season contours were provided for Bing Bong in the MMPs. However, separate groundwater level contours for the areas around the TSF or OEFs have not been sighted
	Groundwater quality criteria should be based upon the potential environmental receptors to groundwater discharge or use	MRM has stated that the groundwater quality criteria will continue to be based upon stock water guideline limits
	Interpretation of groundwater flow direction(s) and hydraulic gradients and, in turn, provide visual representation of the significant factors in groundwater impacts from the MRM operations	No specific interpretation of hydraulic gradients and flow directions were identified
	Further assessment of the impacts from groundwater abstraction, including hydrographs for relevant bores comparing recharge influences (e.g., rainfall) and discharge influences (e.g., pumping)	No hydrographs for relevant bores comparing recharge and discharge influences were identified
	Hydrographs should be prepared for all monitoring bores where groundwater level data is collected	Hydrographs for committed bores are provided in the MMPs

Table 4.18 – Groundwater Recommendations from the Previous IM Review (cont'd)

Subject	Recommendation	IM Comment
General data interpretation and reporting (cont'd)	A more robust hydrogeological and hydrochemical model should be developed and updated annually, and the results reported annually in the MMP	A new groundwater flow model is currently being developed for the MRM operation
	Future geophysical surveys should be completed and changes in conductivity over time assessed to identify seepage impacts	Additional geophysical surveys have been completed and interpretations carried out to identify changes in ground conductivity over time

4.1.5.7 New Recommendations

New IM recommendations related to groundwater issues are provided in Table 4.19. Recommendations that are considered a priority and relate to the more significant risks to groundwater include:

- Geochemical impacts from the NOEF and associated runoff dams, and the TSF.
- Seepage of contaminated water from the TSF.
- Post-closure seepage impacts from the pit lake.

Table 4.19 – New Groundwater Recommendations for the 2012 and 2013 Review

Subject	Recommendation	Priority
OEF	Assessment of seepage impacts from the NOEF to confirm the effectiveness of the PAF containment system This should include installation of monitoring bores around the current footprint and progressive installation of monitoring bores around the expansion area and completion of EM geophysical surveys The IM recognises that MRM has commenced installation of monitoring bores in the area marked for NOEF expansion. However, there are no monitoring bores located along the northern, eastern and western perimeters of the facility, which could be used to assess the success of the PAF encapsulation system adopted by MRM In addition, a schedule should be prepared showing the progressive installation of future monitoring bores in the NOEF expansion area, which should correspond to the planned development of the facility	High
	The seepage from the SPROD needs to be addressed. MRM should commit to option(s) to prevent seepage at source. This work is likely to include a commitment to design and install a full liner at the dam The IM recognises that MRM has identified seepage from the SPROD as a major issue and during the review period has completed a cost benefit analysis on three remedial options	High
TSF	The seepage from TSF Cell 1 needs to be addressed. MRM should commit to option(s) to prevent seepage at source, e.g., installation of a permanent cover designed to limit recharge to the deposited tailings or reprocessing of the tailings MRM has installed a temporary cover, which the available monitoring data suggest is (so far) ineffective in controlling recharge to the deposited tailings. The continued exceedances in salinity and sulfate concentrations in a number of monitoring bores contravene the groundwater trigger values for the mine site	High

Table 4.19 – New Groundwater Recommendations for the 2012 and 2013 Review (cont'd)

Subject	Recommendation	Priority
TSF (cont'd)	The seepage along the southeastern perimeter of the TSF Cell 3 WMD needs to be addressed. MRM should commit to option(s) to prevent seepage under this section of the embankment which likely relates to the presence of higher permeability alluvium associated with the original Little Barney Creek channel. Preventative options include installation of an interception trench across the original channel and installation of recovery bores MRM has already installed a geopolymer barrier along the southeastern wall of the Cell 3 WMD and a recovery sump within the original Little Barney Creek channel. The continued exceedance in sulfate concentrations in bores GW04 and GW14 indicate these measures are inadequate. The importance in addressing the seepage issue is highlighted by MRM's intention to use the dam to store dirty water as part of their mine water management strategy	High
	The seepage from the southeastern corner of TSF Cell 2 needs to be addressed. MRM should identify suitable options to mitigate this seepage. Preventative options include installation of recovery bores to augment the existing interception trench and geopolymer barrier The importance of addressing this issue is highlighted by MRM's intention of using the active TSF cell to store contaminated water as part of their mine water management strategy	High
Open pit	See recommendation in Section 4.1.8.7	
General data interpretation and reporting	An annual independent review of the impacts from groundwater abstraction, including both groundwater supply from borefields and dewatering, should be undertaken by a suitably qualified hydrogeologist. The review should assess drawdown impacts on the groundwater and surface water systems and impacts on groundwater quality	Medium
	A review should be carried out on the commitments presented in the MMP to include all MRM commitments, remove any duplicates and (where required) clarify wording The commitments are currently presented over a number of sections and include repetitive comments from third parties. Clarification of MRM's commitments would assist in identifying where breaches have occurred	Low
	MRM should commit to reporting all breaches of their groundwater commitments to the DMP. In particular, there appears to be an acceptance that exceedance concentrations of sulfate and salinity in areas previously affected by seepage do not warrant reporting	Medium
Analytical suite	A comprehensive groundwater monitoring schedule should be presented in the MMP and Annual Operational Performance Report, which lists the committed monitoring bores and details the monitoring requirements, i.e., parameter/analyte, detection limit and frequency	Low
General data interpretation and reporting	The provision of water quality data should be reviewed to ensure consistency in the format and units used	Low

The IM acknowledges that MRM recognises the risk of impacts from the NOEF, associated runoff dams and the TSF, and is committed to installation of additional monitoring bores and implementation of additional preventative actions. A number of the recommendations provided in Table 4.19 are included in the draft 2013-2018 MMP and future tasks.

The recommendations outstanding from the 2011 IM review are presented in Table 4.20, along with comments from the current IM.

Table 4.20 – Groundwater Recommendations Outstanding from the 2011 IM Review

Subject	Recommendation	IM Comment
Borefields	Constructing hydrographs of pressure levels in all borefield abstraction bores and nearby observation bores, including rainfall and abstraction volumes and rates	This information would assist in assessing the characteristics of the aquifers associated with the production bores, and their long-term yields
	Assessing data such as recovery rates following cessation of pumping and drawdown rates during constant discharge	This information would assist in assessing the characteristics of the aquifers associated with the production bores
TSF	Combining hydrogeological and hydrogeochemical data and development of a conceptual model for the TSF based on this data (updated annually)	This task could be undertaken as part of the development of the new 3-D groundwater flow model for the MRM operation
	A perimeter cut-off trench should be installed around the TSF	The option to install a perimeter cut-off trench around TSF Cell 1 should be considered, along with other seepage control options, e.g., long-term capping of the cell and retreatment of the stored tailings
	A physical groundwater flow barrier should be installed around the TSF	The option to install a geopolymer barrier along the northern perimeter of TSF Cell 2 could be considered by MRM, although it is recognised that an interception trench has been installed north of the cell
Hydrocarbon infrastructure	Actioning of the items in MRM's report of 20 October 2011	Confirm with MRM whether this recommendation has been actioned
	Sealing and integrity testing of bund walls and floors for all hydrocarbon storage facilities	Confirm with MRM whether this recommendation has been actioned
	Improvements to fencing technology to keep stock and other fauna off the mine site	Confirm with MRM whether this recommendation has been actioned
Analytical suite	A full cation and anion ionic balance be undertaken on all samples (pH, TDS, Na, Ca, Mg, K, Cl, SO_4, HCO_3, NH_3, NO_3, NO_2, PO_4 and F)	Since mid-2013 analysis has included F, but has not included NH_3, NO_3, NO_2 and PO_4. The IM monitor recommends future additional analysis be limited to NO_3, i.e., exclude NH_3, NO_2 and PO_4
General data interpretation and reporting	Comparison of the actual groundwater contours and the modelled groundwater level contours	This task could be undertaken as part of the development of the new 3-D groundwater flow model for the MRM operation
	Interpretation of groundwater flow direction(s) and hydraulic gradients and, in turn, provide visual representation of the significant factors in groundwater impacts from the MRM operations	This interpretation could be presented on the plots of groundwater level contours
	A more robust hydrogeological and hydrochemical model should be developed and updated annually, and the results reported in annually in the MMP	A new groundwater flow model is currently being developed for the MRM operation

4.1.6 Geochemistry

The MRM deposit is hosted by dolomitic carbonaceous-pyritic silts and shales of the Paleoproterozoic Barney Creek Formation. Ore occurs in layers of stratiform fine-grained sulfidic shales thought to be of exhalative origin. Both dolomite and pyrite occur to some degree in all rock types (KCB, 2014a), with some strongly pyritic units (pyritic S greater than 5%). Oxidation of sulfides and the interaction of these sulpfide oxidation products with other minerals is the main potential cause of acid, metalliferous and saline drainage at MRM.

In addition to geochemical drainage issues, some materials have spontaneous combustion potential due to the fine-grained nature of the pyrite and presence of organic carbon in some units.

These geochemical issues are a consideration for waste rock dumps, tailings storage facilities, open pits, stockpiles, and site engineered structures such as roads and embankments.

4.1.6.1 Key Risks

There has been a major change in the understanding of geochemical associated risks at MRM since the last IM report, with the proportion of potentially acid-forming (PAF) waste rock material increasing from around 30% to over 50%, and the recognition that a further 30% of materials have potential for saline and metalliferous pH-neutral drainage. The waste rock and tailings at MRM are among the most strongly pyritic waste rock materials observed by the IM in its experience of over 30 years. The IM considers acid, saline and metalliferous drainage the most significant environmental issue at MRM, with potential long-term impacts on groundwater quality, and terrestrial and aquatic ecosystems.

The key geochemical risks are outlined below, split into mine components, NOEF, TSF, open pit and mine site in general. Additional detail is provided in the risk register.

NOEF

Waste rock geochemical categories at MRM have undergone major revision since the last IM report, which has greatly reduced the availability of benign materials for use in controlling acid, saline and metalliferous drainage. Previous assumptions on the proportion of waste rock geochemical types now require reassessment, as do previous overburden emplacement designs and waste rock management approaches. The redesigned NOEF dump is significantly less robust than that reviewed in the last IM report to account for the materials now available. In addition, the new waste rock geochemical categories require changes to the block model, field reconciliation, and segregation of waste rock materials, which are still in progress, and there are a number of risks associated with uncertainties in classification. The key risks/issues for the NOEF are:

- Leachate from acid/saline/metal leaching waste rock reports to groundwater and surface drainage due to inadequate management of seepage during operations and failure of cover system post closure impacting groundwater, and terrestrial and aquatic ecosystems. Note that the planned control of acid/saline/metalliferous drainage from this highly pyritic waste rock dump relies on the continued performance of a thin 0.6 m compacted clay layer. The current cover design appears inadequate, with erosion, slumping, differential movement and flood effects likely to threaten the long-term integrity of the thin clay layer.

- Misclassification or inadequate tracking of mine materials leads to misplacement of geochemical rock types and results in contaminated drainage from unexpected parts of the dump impacting groundwater, and terrestrial and aquatic ecosystems.
- Convection cells develop in end tip dump areas as a result of past and new end tipping of strongly sulfidic waste rock, promoting greater rates of sulfide oxidation and release of acid/saline/metalliferous drainage, and spontaneous combustion from reactive PAF, impacting groundwater, and terrestrial and aquatic ecosystems.
- Spontaneous combustion affects the stability of the NOEF and results in breach of the final cover due to the lack of controls for historically placed reactive materials or poor identification and/or management of newly mined materials, and potentially accelerated by the planned spraying of combusting materials with water containing hydrated lime. Breach of the cover causes release of acid/saline/metalliferous drainage and impacts groundwater, and terrestrial and aquatic ecosystems.

TSF

Testing to date indicates the tailings are highly pyritic and mainly PAF. Key risks/issues are:

- Tailings leachate reports to groundwater and ultimately to surface drainage down-gradient due to inadequate management of seepage during operations and failure of cover system post closure, impacting groundwater, and terrestrial and aquatic ecosystems.
- Rising acid and/or salts from tailings contaminate the growth horizon of the final cover, resulting in poor revegetation, greater erosion risk and failure of the cover system impacting terrestrial ecosystems and possibly groundwater.

Open Pit

The key risk/issue for the open pit is:

- The pit becomes strongly acid and/or saline and metalliferous after closure due to oxidation of exposed pyritic PAF and NAF materials in pit walls, resulting in local impacts on flora and fauna and potential impacts on surface water quality through overtopping and groundwater through seepage, impacting terrestrial and aquatic ecosystems.

Mine Site

The key risk/issue for the overall mine site is:

- Inadequate assessment of water quality and geochemical monitoring data or insufficient monitoring leads to indications of acid/saline/metal leaching issues being missed, so that management is not corrected to prevent impacts on groundwater, and terrestrial and aquatic ecosystems.

4.1.6.2 Existing Controls

The IM review of geochemical performance at MRM considered controls on acid, metalliferous and/or saline drainage in regards to the following key areas:

- Geochemical prediction and classification of mine materials.
- Materials management.
- Monitoring.

Geochemical Prediction and Classification of Mine Materials

The main mine lithological rock units at MRM are:

- Alluvium.
- Cooley Dolomite.
- Upper Breccia.
- Upper Dolomitic Shale.
- Upper Pyritic Shale.
- Black Bituminous Shale.
- Lower Pyritic Shale.
- Lower Dolomitic Shale.
- W-fold Shale.
- Teena Dolomite.

Figure 4.18 shows the main lithological units with the Phase 2 and proposed Phase 3 pit outlines.

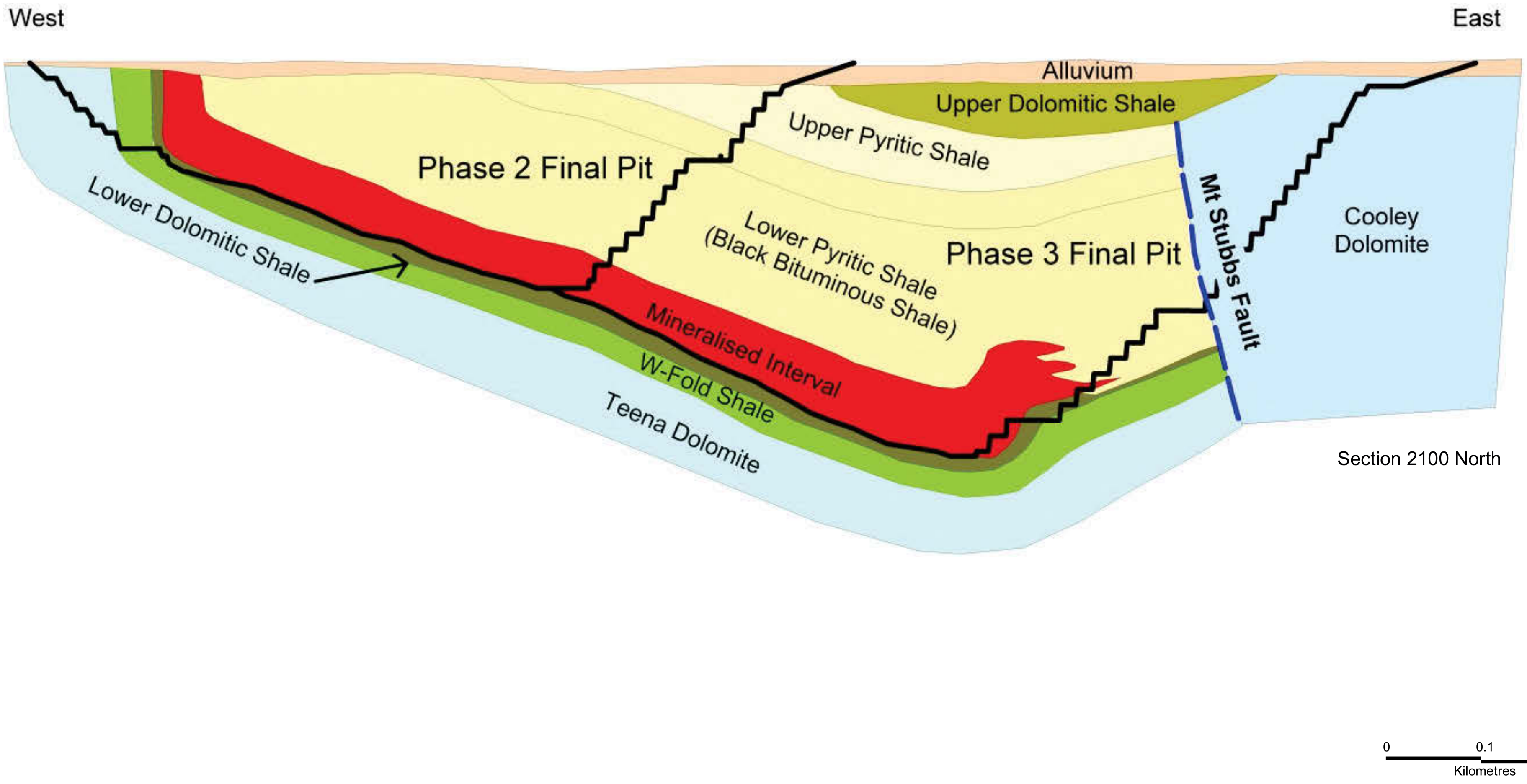
From the information provided it appears that URS carried out geochemical investigations between 2002 and 2011, which included geochemical characterisation and leach column testing (URS 2004, 2005a, 2005b, 2006, 2007, 2008, 2011a, 2011b; EES 2011). Work completed includes:

- Geochemical characterisation of 1,105 waste rock core samples from a 2002 drilling program. The samples comprised approximately 5 m depth intervals and covered the various mine waste rock lithologies. Characterisation comprised Ag, As, Cd, Cu, Mn, Tl, Fe, SO_4, Pb, S, Zn, maximum potential acidity (MPA), acid neutralising capacity (ANC), net acid production potential (NAPP) and single addition net acid generation (NAG) testing.
- Leach column testing of 20 waste rock leach columns from January 2003, with eight run at the URS laboratory with controlled watering and drying cycles and as per standard leach columns, and 12 run on site with leachate only collected during rain events. No volumes were recorded for the site leach columns making them unsuitable for calculating loadings of key constituents resulting from sulfide oxidation reactions.
- NAPP and NAG testing of tailings sent to Cell 1 by MRM each month from October 1998 to August 2003. Results of this testing indicated an average S of 10%S with the samples being strongly NAPP positive at 200 kg H_2SO_4/t.

CROSS SECTION SHOWING WASTE ROCK TYPES AND OPEN PIT LIMITS

McArthur River Mine Project

FIGURE 4.18



Source: Xstrata and MRM, 2013.

- Geochemical characterisation and leach column testing of one oxidative leach residue tailings, one concentrator sample, and a blend of the two. Column testing commenced in January 2004. Sulfur in the concentrator sample is 2.6%S and appears to be too low to be representative of typical tailings. By contrast, the oxidative leach residue tailings has around 30%S and is too high. The blend appears most representative, matching the average S and NAPP values above.
- Leach column testing of two shallow oxide waste rock samples commissioned in February 2006 and run at the URS laboratory.
- Leach column testing of 11 waste rock materials from April 2006 at the URS laboratory.
- Leach column testing of three tailings columns March-June 2007, with two run at the URS laboratory and one run on site.
- Design of a conceptual dump cover system, including encapsulation of PAF into clay cells, a 10-m compacted NAF/acid-consuming base, and a 20-m-thick outer shell of NAF/acid-consuming materials.

Waste rock results highlighted the Upper Pyritic Shale and Lower Pyritic Shale (including Bituminous Shale) as being the primary potential source of acid drainage. Leach column testing showed that PAF waste rock can become acidic after several months of exposure to atmospheric oxidation conditions, with elevated SO_4, and metals, particularly Cd, Fe, Mn, Pb and Zn. NAF materials produced pH-neutral but slightly brackish leachate, with significant SO_4 and Mn concentrations at times. Blended column results indicated that layering of PAF and high ANC NAF at a ratio of 1 or less significantly improved seepage quality.

The URS work resulted in waste rock classification criteria based on total S and NAGpH as follows:

- NAF material - Total S $< 6\%$S or NAGpH > 4.
- PAF material - Total S $\geq 6\%$S or NAGpH ≤ 4.

Sulfur was shown to strongly correlate with Fe, and because Fe was a standard parameter in the geological database, Fe was used instead of S to segregate NAF and PAF for an ARD block model. The following criteria were adopted in 2005 based on a relationship between Fe and NAGpH for use in the block model:

- NAF material - Fe $\leq 7.5\%$ and NAGpH > 4.
- PAF material - Fe $> 7.5\%$ and NAGpH ≤ 4.

Application of these criteria in 2011 indicated that PAF would make up around 15% of mine materials (KCB, 2014a). In practice, the geologists increased this to around 30% during mark up based on the understanding that uniform black shales would all be PAF. It was not clear in the documentation how samples with conflicting Fe and NAGpH values (i.e., Fe $\leq 7.5\%$S and NAGpH ≤ 4, and Fe $> 7.5\%$S and NAGpH >4) were classified in the block model.

It is understood these 2005 criteria were used up until 2013, when further geochemical investigations in collaboration with KCB identified issues in the criteria and assumptions used (MRM, 2013c). KCB geochemical investigations began in 2012 and are ongoing. Work completed to date includes (KCB 2012a, 2012b, 2013a, 2013b, 2014a, 2014b, 2014c, 2014d, 2014e, 2014f, 2014g, 2014h and 2014i):

- Geochemical characterisation of 915 core samples from a 2011 drilling program. The samples comprised approximately 5 m depth intervals and targeted the main mine lithological units. Testing included pH of water extracts, NAPP, total inorganic C, single addition NAG, multi-element scans of solids and water extracts, X-ray diffraction (XRD) and sequential NAG.
- Geochemical characterisation of 40 low-grade ore samples. Testing included pH of water extracts, NAPP, total C, single addition NAG, multi-element scans of solids and water extracts, X-ray diffraction (XRD), sulfur speciation and sequential NAG.
- Assessment of geochemical characterisation results for 55 plant feed, 55 concentrate and 55 tailings samples. Testing included NAPP, single addition NAG and metal/metalloid analysis of solids.
- Review of previous URS geochemical characterisation and kinetic testing.
- Review of geochemical classification and block modelling.
- Advice on set up of larger scale field leach tests (120 L barrels).
- Investigation of simplified field methods for geochemical classification.
- Geochemical assessment and prediction of highly reactive spontaneously combusting materials (also referred to as 'smokers').
- Review of groundwater and surface water quality.
- Assessment of TSF seepage.
- Assessment of clay for use in cover design.
- Review of cover design for the NOEF.

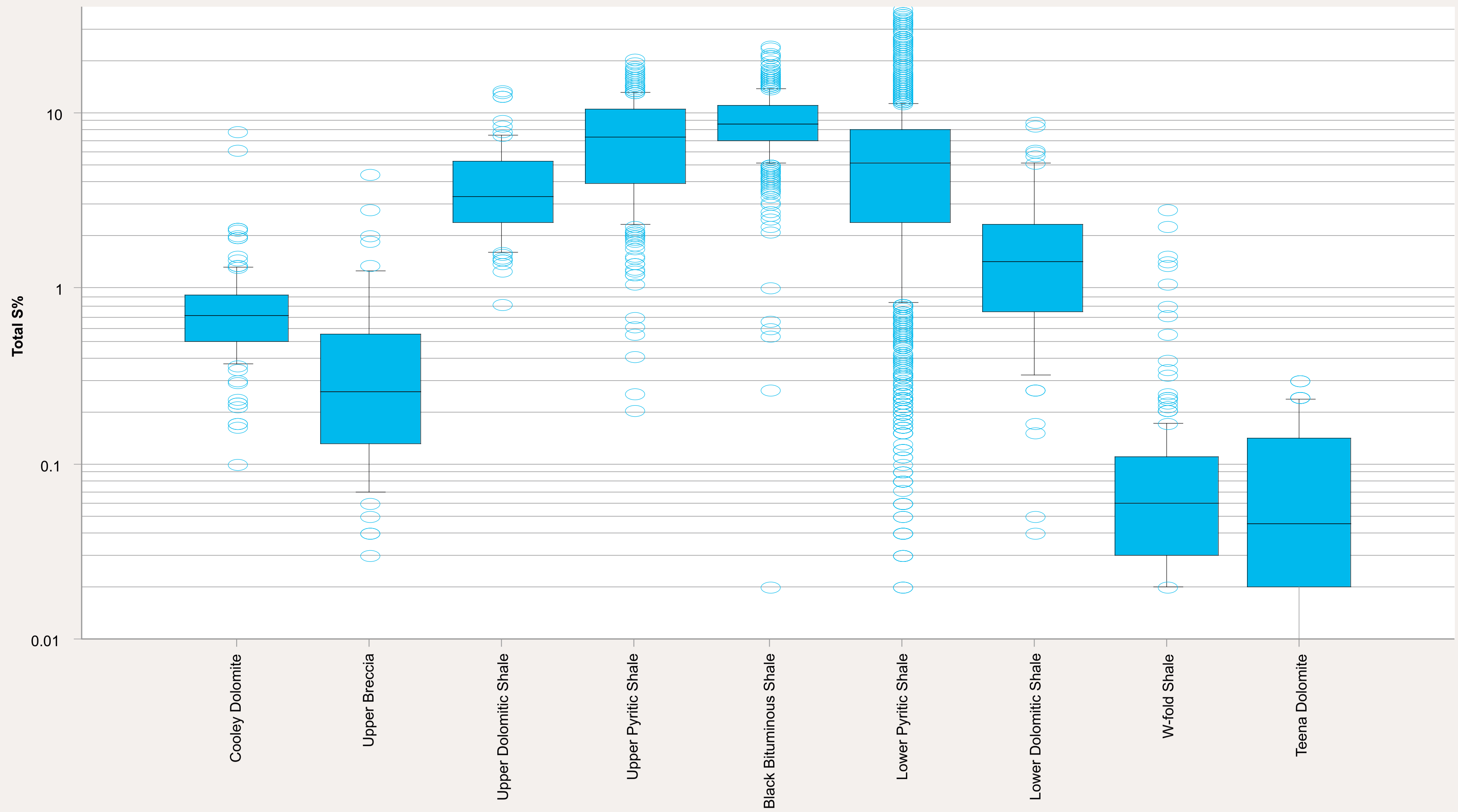
Results confirmed that the Lower Pyritic Shale, Upper Pyritic Shale and Black Bituminous Shale had the highest acid potential, and that the Cooley Dolomite, Upper Stylolitic Marker and Upper Breccia had relatively low S (generally less than 1%S) and were likely to be mainly NAF. Most Upper Dolomitic Shale samples were also NAF but also pyritic. ANC was high in all lithologies and often variable. Specialised testing confirmed that the majority (>90%) of the total S in the various lithologies is likely to be present as pyrite, and that dolomite is the dominant carbonate.

MRM provided the IM with a geochemical characterisation database of approximately 3,000 records, with most sampling focused on the Lower Pyritic Shale, Upper Pyritic Shale and Black Bituminous Shale. Figures 4.19 and 4.20 are box plots showing the distribution of total S and ANC, respectively, by lithological unit. The distributions shown in the figures are consistent with observations by KCB, with the Upper Dolomitic Shale, Lower Pyritic Shale, Upper Pyritic Shale and Black Bituminous Shale clearly higher in S than other lithologies. The ANC is generally high but variable across the lithologies, with most median ANC values greater than 200 kg H_2SO_4/t. The median S of the Lower Pyritic Shale, Upper Pyritic Shale and Black Bituminous Shale are greater than 5%S, and are among the most strongly pyritic waste rock materials observed by the IM in its experience of over 30 years and more than 250 mining projects.

BOX PLOT SHOWING THE DISTRIBUTION OF SULFUR BY LITHOLOGICAL UNIT FROM THE MRM WASTE ROCK GEOCHEMICAL DATABASE

McArthur River Mine Project

FIGURE 4.19



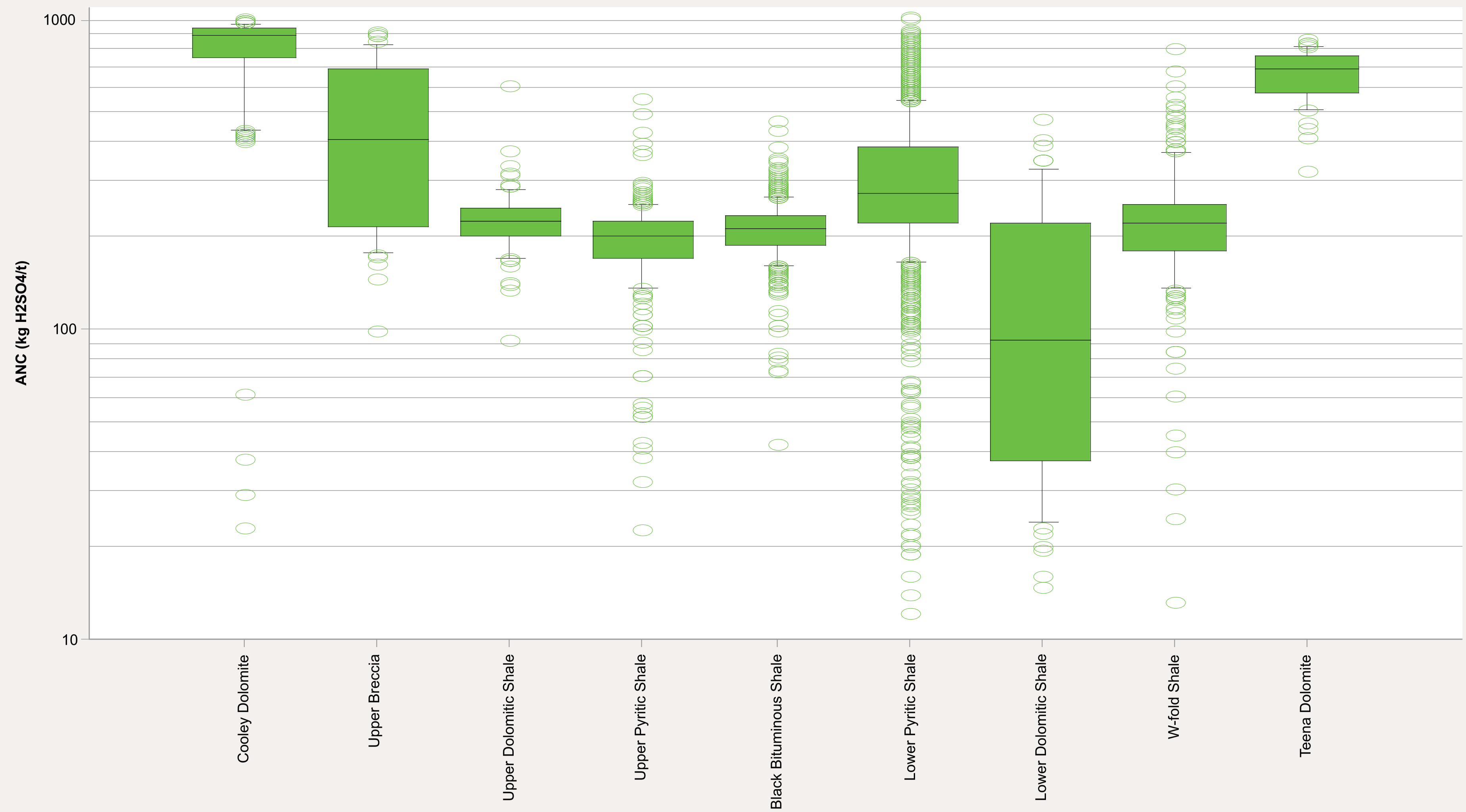
 030985 - v01 - 16 October 2014

Note: Box plots have 10th, 25th, 50th (median), 75th and 90th percentiles marked

BOX PLOT SHOWING THE DISTRIBUTION OF ACID NEUTRALISING CAPACITY BY LITHOLOGICAL UNIT FROM THE MRM WASTE ROCK GEOCHEMICAL DATABASE

McArthur River Mine Project

FIGURE 4.20



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Note: Box plots have 10th, 25th, 50th (median), 75th and 90th percentiles marked

The low-grade samples generally had high S (greater than 5%S) and most samples were NAPP positive, suggesting that most low-grade samples are likely to be PAF.

The review of geochemical classification by KCB identified additional geochemical categories that required consideration, and highlighted some issues with the way the block model predicted the proportion of NAF and PAF, resulting in a major revision of the geochemical classification criteria. The 2005 criteria only considered the acid rock drainage (ARD) potential, and split materials into NAF or PAF categories. The revised criteria recognise that NAF materials may be pyritic and reactive and may leach salinity and dissolved metals, and also considers the magnitude of the acid potential. Six new categories were proposed to cover ARD, saline drainage (SD) and neutral metalliferous drainage (NMD) potential of materials:

- High capacity NAF (NAF-HC).
- Saline/metalliferous NAF (NAF-SM).
- Low capacity NAF (NAF-LC).
- Low capacity PAF (PAF-LC).
- High capacity PAF (PAF-HC).
- Reactive PAF (PAF-RE).

The criteria for these categories are reproduced in Table 4.21, based on a naturalisation potential ratio (NPR = ANC/MPA), S% and metal content.

Table 4.21 – Revised waste rock classification criteria (MRM 2014b)

#	Criteria	Class	Description
1	NPR > 2:1 AND S ≤ 0.5% AND Zn ≤ 4000 ppm AND Pb ≤ 400 ppm AND Cu ≤ 700 ppm	High Capacity NAF (NAF-HC) Clean NAF	Considered environmentally low risk of AMD, NMD and SD. Has the geochemical properties to consume acid
2	NPR > 2:1 AND S > 1% and < 5% AND/OR Zn > 4000 ppm OR Pb > 400 ppm OR Cu > 700 ppm	Saline/metalliferous NAF (NAF-SM) Dirty NAF	Considered at low risk of AMD, but likely to generate NMD and/or SD over time
3	NPR > 2:1 AND S ≤ 5% AND Zn ≤ 4000 ppm AND Pb ≤ 400 ppm AND Cu ≤ 700 ppm	Low Capacity NAF (NAF-LC) Clean NAF	Considered environmentally lower risk of AMD, NMD and SD. May provide some acid consumption capacity, but not to the extent of being considered acid consuming
4	NPR > 1:1 AND S > 0.5%	Low Capacity PAF (PAF-LC) Low PAF	Considered to have a low to moderate probability of AMD and can be associated with NMD and SD

Table 4.21 – Revised waste rock classification criteria (MRM 2014b) (cont'd)

#	Criteria	Class	Description
5	NPR < 1:1 AND S > 0.5%	High Capacity PAF (PAF-HC) High PAF	Considered to have a high probability of generating AMD
6	Under investigation	Reactive PAF (PAF-RE)	Characterised by rapid oxidation and generation of SO_2 gas

Application of the above criteria has increased the estimated proportion of PAF materials to 54% of materials to be mined, with saline/metalliferous (or 'dirty') NAF accounting for a further 29% (MRM, 2014b). Results indicate that PAF materials mainly occur in the Lower Pyritic Shale, Upper Pyritic Shale and Black Bituminous Shale (KCB, 2014a). There may be opportunities to increase the proportion of NAF materials within the main lithological units through more detailed sampling based on geology. For example, the Lower Pyritic Shale comprises pyritic shales interbedded with thick dolomitic debris flow breccias, with the pyritic shales generally PAF and the dolomitic breccias NAF. The previous sampling of these units for geochemical assessment did not target individual interbeds, so that the samples represent mixtures of the two materials. More detailed sampling taking into account lithological differences may better define zones of NAF and PAF, and possibly result in more opportunities to selectively mine and increase the proportion of NAF.

MRM geologists advised that reactive PAF (i.e., spontaneously combusting) materials were mainly associated with the Black Bituminous Shale, particularly in the northeast corner of the pit. Work is in progress to better identify materials with the potential for spontaneous combustion ahead of mining.

It is understood that incorporation of the new geochemical criteria into the block model is still in progress, with some difficulty in estimating the NPR from available parameters in the geological database (in particular poor correlation of Ca, Mg and C with ANC).

Development of field classification/reconciliation methods is also still in progress, and could include a combination of field oxidation tests, geological observation, handheld XRF and thermal gun.

Field barrels have been set up on site for kinetic testing, and 11 of the total of 16 have been loaded with materials. Each barrel represents a particular material type, with one barrel comprising barren quartz as a blank. Most barrels are filled with materials less than 15 cm, but some material types also have a barrel loaded with coarser material greater than 15 cm to assess the effects of clast size on leachate quality. These tests will provide more information on the quality and loadings from the various waste rock mine materials.

Tailings test work indicated that these materials would tend to have very high S with a median of 13%S, most of which can be attributed to pyrite. Median ANC was around 180 kg H_2SO_4/t. All NAPP values were positive, with a median of 230 kg H_2SO_4/t, and the results suggest that the tailings are PAF with high capacity.

Geochemical assessment work to date indicates that the majority of waste rock and tailings at MRM is strongly pyritic. The presence of variable buffering (ANC) in the waste rock means that a significant proportion of pyritic waste rock is likely to be NAF or low capacity PAF, but can still potentially generate saline and metalliferous drainage. Tailings materials appear to be high capacity PAF, but are likely to show a lag of greater than 15 years before generating ARD.

Management

Historically, waste rock materials have been mainly placed in the NOEF. The original NOEF design assumed only small volumes of PAF (10%) and incorporated encapsulated PAF cells (URS, 2008). Geological interpretation during materials mark up increased this to around 30%, and the encapsulation cells were not implemented due to the higher proportion of PAF and consequent issues with scheduling and clay availability. Site personnel advised that the materials previously identified as PAF were end tipped and the PAF cells overlapped and joined, with some gravelly clay in between to assist control of seepage during the wet season. The height of end tipped PAF lifts is not clear from the documents viewed, but appears to be generally greater than 10 m. End tipping can encourage convective oxidation and more rapid rates of acid generation, and should be avoided for the strongly pyritic materials common at MRM.

The revision of waste rock classification and identification of additional geochemical hazards has required a significant redesign of the waste rock dump. The IM was advised during the site visit that waste rock materials will be placed only in the NOEF, with segregation and selective placement of materials according to the waste rock categories listed in Table 4.21. The IM's understanding of the current dump design is based on the MRM MMP 2013-2018 (MRM, 2013c), a supporting MRM presentation to the EPA (MRM, 2014c), and discussions with site personnel. The NOEF design is still to be finalised, but the main components are as follows (from base to top):

- Compacted in situ clay foundation.
- Base layer comprising NAF-SM or PAF-LC placed in 5 m layers.
- Placement of PAF in a number of 15 m lifts – end tipped except for reactive PAF.
- Possible interim clay layers to be placed on PAF to help control transport of sulfide oxidation products during the wet season.
- 8 m halo zone of NAF-SM or PAF-LC, placed internally between PAF zones within the dump and as a layer over all PAF material.
- 0.6 m compacted clay layer to control seepage and oxygen flux.
- Clean NAF protection layer, 1.4 m on the dump top and a concave profile of 7 to 20 m on batter slopes.
- Topsoil.

Due to a shortage of clean NAF materials, it is planned that higher risk NAF-SM or PAF-LC materials be used in the base and halo zone, preserving the clean NAF for the final protective outer layer and key drainage zones. The minimum 7 m depth of cover on the batters is based on erosion modelling, which suggests gullies of up to 6 m over 1,000 years (MRM, 2014c).

Average annual rainfall is 785 mm compared to an estimated evaporation of 2,700 mm (WRM, 2012d). In general, oxygen diffusion control is not effective under these conditions since it relies on continued maintenance of water saturation in the cover. Water flux modelling by KCB (2014i) suggests the clay layer would maintain a saturation of 80%, and modelling by O'Kane Consultants Pty Ltd referred to in an MRM presentation (MRM, 2014c) suggested saturation of greater than 85% could be maintained. Further modelling by KCB in conjunction with assessment of clay suitability for cover construction (KCB, 2014c) did not assume significant control of oxygen diffusion and confirmed that infiltration through the cover system would result in saline, metalliferous and acid drainage from PAF materials, and saline drainage from pyritic NAF. It is not clear from the documents reviewed exactly which set of models best represents the likely performance of the cover system. However, it is clear that the only layer significantly controlling infiltration and/or oxidation is the 0.6 m compacted clay layer. If the clay layer fails, the halo zone is unlikely to be effective in controlling long term ARD from PAF materials.

The current NOEF design places the materials with the highest geochemical hazard towards the centre of the dump, with lower hazard material forming a halo, followed by a NAF cover system. This approach of focusing most effort on managing the worst materials is appropriate, and appears to be achievable with the estimated volumes of geochemical rock types available. However, performance of the dump design to control acid/saline/metal leaching ultimately relies on the perpetual integrity of a relatively thin 0.6 m clay layer.

Spontaneous combustion occurs on site in the NOEF and pit, and the occurrence, management and prediction of spontaneous combustion was reviewed by KCB (2013a). KCB recommended that known areas of spontaneous combustion be primarily managed by reshaping or rehandling combusting materials and spreading them into thin layers to dissipate heat, followed by capping/encapsulation. Application of a gel sealant was suggested for pit areas where reshaping was not practical. It is not known how MRM has progressed with these recommendations, but areas of spontaneous combustion were still observed on the NOEF during the March site inspection.

It is understood that MRM plans to spray combusting materials with water containing hydrated lime. Although the lime will help neutralise some of the acid being generated during oxidation it wont stop combustion, and the addition of water will increase the humidity and the transfer of heat, which may actually promote spontaneous combustion. Watering combusting materials is generally not recommended.

In addition to the NOEF, waste rock has been used for various construction purposes around the site, such as rock lining diversion channels, tailings and ROM pad. It appears these materials are assumed to be NAF by MRM, but this may need to be reviewed given the recent change in geochemical classes and hazards at MRM. For example, some pyritic waste rock was observed among the rock lining of the Barney Creek diversion during the IM inspection. The amount observed did not appear likely to produce significant acid or saline loadings into the creek, but it could have an impact on revegetation success.

The tailings storage facility (TSF) is currently split into 3 cells. Cell 1 is filled and inactive, Cell 2 is active, and Cell 3 is used as a water management dam.

From information provided, it appears that there was little foundation preparation prior to deposition into Cell 1. Vertical seepage occurs from the tailings into underlying transmissive alluvium and weathered bedrock, in addition to lateral migration through the embankment (Golder, 2011). This seepage has resulted in elevated SO_4, Ca and Mg reporting to Surprise Creek on the north side of Cell 1 (KCB, 2013b), caused by pyrite oxidation and buffering reactions in the tailings. The seepage is currently managed through an interception sump located at a key drainage point close to Surprise Creek. It was previously managed using recovery bores, but these were discontinued in 2013 due to fire and not re-established as they were deemed ineffective. Instead, decant towers are planned at key locations around the embankment toe, specifically targeting seepage points rather than natural groundwater (MRM, 2014d). A clay capping has been applied to the top of Cell 1 mainly for dust control, but also to help reduce infiltration and seepage volume, but wash outs during the wet season cause partial erosion and the cap is only partly effective (MRM, 2014d). A cut-off polymer barrier was also injected along the embankment perimeter in 2006 to help reduce seepage (ATC, 2013b). There are plans to implement a more robust and effective interim cover, which has been designed by O'Kane Consultants (2013). Ultimately, MRM plans to re-process the tailings, and the cover has a design life of 5 to 10 years. The reprocessing of the tailings, however, is dependent upon improvements in technology.

It is understood from discussions on site that the foundations of Cell 2 comprise a compacted clay base with a rock lining, and any seepage would follow natural drainage lines. Shallow seepage is collected in an interception drain and sump on the eastern and western sides of Cell 2 (ATC, 2013b). A review of groundwater data by KCB (2014b) shows elevated SO_4 (>600 mg/L) on the eastern side of Cell 2, suggesting that deeper TSF seepage (not intercepted by the eastern drain) is reporting to groundwater.

The IM was not provided with a final cover design for the TSF, but a conceptual design is mentioned in MRM 2013c involving a 500 mm compacted clay layer, a 1.5 m of protective NAF layer and topsoil.

The occurrence of spontaneous combustion in the tailings was referred to in the TSF operating guidelines (MRM, 2014d), which appeared to be related to paddock dumping of tailings for use in internal walls of the embankment. Personnel on site mentioned the possible use of tailings in embankment construction (presumably inside the clay core). Under normal deposition, tailings would not be expected to spontaneously combust since convection cells have little chance of forming. However, when paddock dumped it appears that the strongly pyritic nature of the tailings is sufficient to cause local spontaneous combustion, and additional management would be required.

Pit water is currently managed by pumping and evaporation. At closure it is understood the pit will remain open but stabilised, and modelling indicates it will not overtop and drain to surface water (MRM, 2013c). Modelling of water quality was apparently carried out in 2005, and predicted increasing salinity in the pit water due to evaporative concentration. Pit water quality modelling has not yet been carried out using the updated geochemical classification criteria, but was recommended by KCB (2014b).

Monitoring

The site surface water and groundwater monitoring network covers the main mine components and appears to be generally adequate for detection of acid, saline and metalliferous drainage. Surface water and groundwater monitoring is reviewed in more detail elsewhere in this report (sections 4.1.3 and 4.1.5). Results of this monitoring were reviewed by KCB in the context of mine geochemistry (KCB, 2014b). Results indicated some impacts by the mining operation on local downstream surface water quality, but this was restricted to SO_4 and associated salinity, with metal/metalloid concentrations generally low. Elevated SO_4 was evident in groundwater on the north and eastern side of the TSF, and higher than anywhere else on site. Dissolved metal/ metalloid concentrations were generally low in groundwater except for elevated Pb, Cd and Zn within the TSF. KCB recommended additional surface water and groundwater monitoring for the northern and eastern edge of the NOEF.

Check sampling is carried out on areas placed as NAF according to procedures outlined in MRM (2013d). Results for 2012 and 2013 check sampling (310 samples) were provided by MRM, and show that under the 2005 URS classification system 92% of samples collected were classified NAF. Under the updated classification only 15% were classified NAF-HC, with 52% NAF-MS, 27% PAF-LC (which appears incorrectly labelled NAF-LCS in the results) and 6% PAF-HC. These monitoring results highlight the differences between the classification systems and the potential for NAF materials already placed to be misclassified. During the site visit it was noted that some materials previously classified NAF were being removed due to reclassification. It is not known whether checks of dumped materials previously classified NAF has been completed.

Tracking of waste rock geochemical and lithological types placed in the NOEF is not carried out, but was recommended by KCB (2014a). This would assist later geochemical modelling of the dump and serve as a basis for assessing impacts on water or ground water quality.

Tailings monitoring is outlined in the operating guidelines (MRM, 2014d), and geochemical-related monitoring includes groundwater, electromagnetic surveys (for detection of saline plumes) and surface water in Surprise Creek. Routine sampling of tailings materials is not specifically mentioned.

4.1.6.3 Successes

MRM has initiated comprehensive programs and investigations to address mine materials identification and management issues following changes in the understanding of geochemical risks on site. There appears to be a high level of awareness of geochemical issues among relevant personnel, and MRM shows a strong commitment to resolving the issues.

4.1.6.4 New issues

Due to the major changes in understanding of geochemical associated risks at MRM, it was decided to incorporate the residual geochemical issues from the previous IM report into the one list for clarity.

The main geochemical issues are as follows:

- NOEF cover design relies on the perpetual integrity and performance of a 0.6 m compacted clay layer to control acid/saline/metal leaching, which appears relatively thin and sensitive to erosion, slumping, differential movement and flood effects.

- End dumping of PAF materials is still planned, which encourages rapid convective oxidation and acid/saline/metal release.
- The estimated available volumes of NAF waste rock are insufficient to implement the previous NOEF cover system and the revised cover system relies on using higher risk NAF-SM or PAF-LC materials in the base and halo zone.
- New geochemical classification criteria have been developed, but are not fully integrated into the geochemical distribution model or field reconciliation, compromising mine materials identification and segregation.
- Historic areas of the NOEF were used according to the old classification system, and material placement may not be in accordance with the new system.
- There does not appear to be a system for tracking of waste rock geochemical and lithological types placed in the NOEF.
- There does not appear to be a system of interim capping of PAF materials for operational control of acid/saline/metal leaching.
- Spontaneous combustion is occurring on site, methods for identifying materials with spontaneous combustion potential are not available, and management approaches are still being developed.
- Seepage from TSF Cell 1 has not yet been adequately controlled, requiring the planned installation of the interim cover and decant towers.
- Seepage from Cell 2 is reporting to groundwater.
- Designs for the TSF cover system are not finalised.
- Planned use of tailings in embankment construction could result in spontaneous combustion.
- The previous post closure pit water quality modelling did not include consideration of the new geochemical rock types.
- The acid/saline/metal leaching potential of waste rock materials used in construction outside of the NOEF has not been documented.
- The acid sulfate soil potential of the spoon drain at Bing Bong has not been determined.

4.1.6.5 Incidents and Non-compliances

Table 4.22 below lists the geochemical environmental incidents reported to the DME during the 2012-2013 operational period. Table 4.23 includes geochemical environmental incidents reported internally. Table 4.24 reviews the level of compliance for geochemically-related commitments by MRM.

Table 4.22 – Environmental Incidents Reported to the Department of Mines and Energy

Date of Incident	Incident Notification Details	IM Comment
9/08/13	Concentrate carrying road train bound for Bing Bong had 2 trailers overturn spreading concentrate over an area of 120 m x 6 m. 40-50 tonnes of product spilt. Clean up carried out the following day	No evidence of residual concentrate was observed during the IM site visit, and MRM advised that extra material was removed to ensure no residue. Any geochemical leaching aspects of this incident appear to have been resolved

Table 4.23 – Environmental Incidents Reported Internally at MRM

Date of Incident	Incident Notification Details	IM Comment
29/03/12	While undertaking EOM sampling on the NOEF, we noticed a truck load dumped on the NOEF that looked like it could have been PAF. We sampled that load specifically (sample no 33377A) along with the other general area samples, on 29/03/12. We taped the load off, in case it turned out to be PAF, to ensure it wasn't touched in the meantime. Sampling results were returned on 30/04/12 indicating sample no 33377A was PAF. RANK - Minor	It is assumed that this material was relocated but no confirmation was provided, and no feedback given on follow up of the cause. The incident was ranked as a near-miss severity and a low potential. While the potential issue from one truck load of mis-placed PAF may be minor, there are stronger implications for the failure of the waste rock segregation and tracking systems used at MRM. The IM has made recommendations on these aspects in 4.1.6.5

Table 4.24 – Compliance Review of MMP Commitments

Number	Subject/Area	Commitment in Context	Compliance Rating
Part A 27	TSF	Studies will be completed and construction will commence on Cell 1 for interim closure options	Partial compliance Design produced but construction not significantly advanced
Part A 60	NOEF	The management of AMD at MRM will involve extensive geochemical testing to identify all PAF material and to ensure it is encapsulated with clay at the OEF	Partial compliance Additional geochemical testing carried out but integration of the new classification criteria into a distribution model and adaption for field checks/reconciliation has not been finalised
Part B 22	NOEF	Results from the ongoing MRM geochemical investigative work being undertaken by consultancy firm Klohn Crippen Berger, together with analysis results from the 2012 drilling program will act to further enhance the robustness of the MRM ore and waste block model	Partial compliance Geochemical work is in progress but the distribution model is not yet robust, pending integration of the new classification criteria
Part B 24	NOEF	The active NAF dumping areas on the NOEF are physically inspected by the geology staff to ensure that materials are dumped in the appropriate areas	Partial compliance Inspection carried out but field check methods have not been finalised to reflect the new criteria

Table 4.24 – Compliance Review of MMP Commitments (cont'd)

Number	Subject/Area	Commitment in Context	Compliance Rating
Part B 81	NOEF	Waste rock material is separated into two categories based on its geochemical characteristics and managed accordingly: ♦ Non–acid-forming rock (NAF) ♦ Potentially acid-forming rock (PAF)	Non-compliant The criteria have changed
		Waste rock material is separated into two categories based on its geochemical characteristics and managed accordingly: ♦ Non–acid-forming rock (NAF) ♦ Potentially acid-forming rock (PAF)	Non-compliant The criteria have changed
Part B 83	NOEF	All available geochemical data is logged in a database, enabling NAF and PAF to be modelled in the geological block model	Partial compliance New criteria not fully integrated into distribution model
Part B 88	NOEF	Following recommendations by the IM, MRM has started investigating over the current review period the possibility of establishing an in-situ large-scale lysimeter on the Northern Overburden Emplacement Facility	Non-compliant No mention of lysimeter construction was made during the site visit

4.1.6.6 Review of progress against completion of previous IM audit recommendations

Recommendations in relation to geochemistry from the last IM audit (EES, 2011) focused on the NOEF and TSF.

The 2011 IM audit highlighted the high S in much of the NAF waste (as classified using the 2005 criteria) and a key recommendation was to review the classification and carry out additional test work. The review has been completed resulting in the revised 2014 geochemical criteria.

A summary of geochemistry recommendations and status is shown in Table 4.25.

Table 4.25 – IM 2011 Geochemistry Recommendations and Status

Area/Subject	Recommendation	IM Comment
Waste rock	Review NAF and classification criteria	Review completed by KCB and new criteria established
	Carry out mineralogy and additional testing to determine the main sulfides and carbonates present	Completed as part of review above
	Commission larger scale kinetic tests on site	Large-scale field barrel kinetic tests set up and 11 are operating
NOEF	Install lysimeters in NOEF to collect leachate from water percolating through the entire dump	Not installed, but setting up of leach column and field barrel testing has a higher priority
	Install piezometers to north and east of the NOEF	Not installed
TSF	Seepage from TSF Cell 1 should be mitigated through reprocessing of tailings and creating a liner to intercept seepage	Interim cover and decant towers planned, which should resolve the issue if implemented as designed

Table 4.25 – IM 2011 Geochemistry Recommendations and Status (cont'd)

Area/Subject	Recommendation	IM Comment
TSF (cont'd)	Correct permeability assumption in conceptual seepage modelling from TSF Cell 1	No longer relevant with updated recommendations
	Carry out leaching trials on current tailings to determine lag times before acid generation	Tailings kinetic tests not yet carried out
	Evaluate and design a tailings seepage and closure management system	Interim tailings cover and decant towers planned. Reprocessing of Cell 1 tailings ultimately planned but not scheduled. A conceptual cover design for TSF closure is referred to in MRM (2013a), but a review of performance and cover trials not yet carried out
	Investigate seepage associated with TSF Cell 2 and assess impacts	Shallow seepage from TSF Cell 2 intercepted but deeper seepage reports to groundwater, and an assessment of impacts has not been viewed

4.1.6.7 New Recommendations

The recent recognition of additional geochemically hazardous materials at MRM has major implications for the identification, segregation and management of mine materials, and is the prime focus of the new recommendations, which are provided in Table 4.26 below and replace the previous IM recommendations.

Table 4.26 – New Geochemical Recommendations

Subject	Recommendation	Priority
NOEF	See also recommendation in Section 4.1.8.7	
	Establish instrumented trial dump cover areas to confirm performance and construction methods	Medium
	Ensure that PAF-HC and PAF-RE materials are excluded from below batter zones (which have higher erosion risk) and set back 100 m from the outer face to control convective oxidation	High
	Review geochemical classification criteria with the objective of potentially identifying opportunities to increase the amount of lower acid/salinity/metal leaching material to increase flexibility in scheduling and allow opportunities to improve the robustness of the dump cover	High
	Review opportunities to further segregate mine materials during mining based on more detailed geological differentiation	High
	Continue development of geochemical classification criteria to progress full incorporation into the geochemical rock type distribution model	High
	Develop field reconciliation and NOEF field checks to reflect new geochemical criteria	High

Table 4.26 – New Geochemical Recommendations (cont'd)

Subject	Recommendation	Priority
NOEF (cont'd)	Continue barrel testing and set up leach column testing of a variety of waste rock materials to assist interpretation of leaching characteristics and assessment of leach barrel test results	Medium
	Implement a system for tracking of waste rock geochemical and lithological types placed in the NOEF	High
	Review old dump areas and potential issues associated with mis-classification	Medium
	Extend paddock dumping to PAF-HC in addition to PAF-RE materials, or devise an equivalent construction method that prevents development of coarse chimney structures and convective oxidation	High
	Control convection in old dump areas by placement of paddock dumped (or equivalent) materials on the outer face with (ideally) a minimum 100 m horizontal thickness	Medium
	Continue investigations to develop criteria to identify materials with spontaneous combustion potential	Medium
	Avoid the planned application of water and lime on spontaneously combusting materials, or trial on a small area before widespread use	High
	Progressively place cover as soon as completed waste dump areas become available, and interim caps should be placed over active PAF dump areas prior to each wet season	High
	Carry out additional surface water and ground water monitoring along the northern and eastern edge of the NOEF as recommended by KCB (2014b)	Medium
TSF	See also recommendation in Section 4.1.8.7	
	Install planned decant towers	Medium
	Carry out further geochemical characterisation and kinetic testing of tailings to better understand acid, saline and metal/metalloid leaching potential and variation. Include routine testing of discharged tailings and historical (deposited) tailings	Medium
	Review the need for tailings in TSF embankment construction to avoid spontaneous combustion or develop methods of placement that control it	Medium
Open pit	See also recommendation in Section 4.1.8.7	
Mine site	Build on KCB (2014) work with a specific monitoring review to feed back into leaching materials management. Surface water monitoring, groundwater monitoring and field checks of dump materials should be included in the review and assessed for any indications of geochemical impacts. The need to modify monitoring locations and frequency should also be assessed	Medium

Table 4.26 – New Geochemical Recommendations (cont'd)

Subject	Recommendation	Priority
Mine site (cont'd)	Prepare an inventory of waste rock placement areas across site outside of the NOEF and review material classification. Carry out further geochemical testing as required to assess the acid, saline and metal leaching potential of each area	Medium
Bing Bong dredge spoil	Carry out acid sulfate soil assessment of spoon drain and other potential sources at Bing Bong	Low

4.1.7 Geotechnical

4.1.7.1 Tailings Storage Facility

TSF Cell 1 was constructed in 1995 and was initially a 2 to 3 m-high perimeter bund designed to retain tailings and liquor when the former central thickened discharge system was in operation. This stage is referred to as Cell 1 Stage 1. In 2000, Cell 1 was raised to RL 54.5 m using centreline construction whereby the lift was constructed partially downstream and partially upstream on deposited tailings. The western, northern and eastern Cell 1 embankments were constructed to about 29 m AHD. This stage is referred to as Cell 1 Stage 2. An upstream core, strip and wick drains and a shallow cut-off key were included in Stage 2. Discharge to Cell 1 occurred from 1996 to 2007. Between 2010 and 2011, Cell 1 was capped with 500 mm of clay materials excavated from Cell 2 and borrow material west of Cell 1 and 2. Cell 1 has a total surface area of 78 ha.

TSF Cell 2 was initially a 2 to 3 m-high perimeter bund constructed at the same time as Cell 1. Cell 2 was raised to RL 49.0 m in 2006 using downstream construction such that the embankment lies downstream of the tailings on natural in situ material. This stage is referred to as Cell 2 Stage 1. Between August 2012 and April 2013, Cell 2 was raised to RL 53 m using upstream construction such that the embankment is situated partly on tailings. This stage is referred to as Cell 2 Stage 2. Cell 2 has a total surface area of 112 ha.

The Cell 3 Water Management Dam (Cell 3 WMD) lies immediately south of Cell 2 and was constructed in 1995 as part of the original works. It comprises a 3 to 4 m-high embankment designed to retain any overflow from the Cell 2 spillway and directly intercepted rainfall and to store excess water from the mine. Water from Cell 3 WMD is periodically pumped back to the mine for reuse. The embankment additionally helps to divert external water around the perimeter of Cell 3 WMD and into Little Barney Creek immediately to the south. Cell 3 WMD has a total surface area of 124 ha.

An additional cell, Cell 4, is proposed to the west of Cell 1 and 2. The construction program for Cell 4 is not yet available.

Based on this timeline, this IM report covers the following TSF operations:

- The care and management of Cell 1 including surface water management, mitigation of seepage through the embankment, embankment stability, embankment erosion and management of the interim cap.

- The operation of Cell 2 Stages 1 and 2 from October 2011 to October 2013.
- The construction Cell 2 Stage 2.

This assessment of the TSF is based on a site inspection and documents provided to the IM as outlined in Appendix A.

Key Risks

The key risk associated with the TSF is release of tailings and/or water to the surrounding environment. The key hazards that have been identified by the IM that may lead to this risk are:

- Embankment failure (loss of containment) – embankment slope failure or excessive deformation due to static, seismic or pore pressure loading resulting in tailings and tailings water being discharged into Surprise Creek, impacting terrestrial and aquatic flora and fauna and causing sedimentation of Surprise Creek and other downstream creeks and rivers.
- Embankment failure (overtopping) – embankment overtopping due to storm events leading to loss of water and tailings (due to subsequent scour) from the storage resulting in tailings and tailings water being discharged into Surprise Creek, impacting terrestrial and aquatic flora and fauna and causing sedimentation of Surprise Creek and other downstream creeks and rivers.
- Piping (Internal embankment erosion) – internal erosion within the embankment or foundation leading to loss of water and tailings from the storage resulting in tailings and tailings water being discharged into Surprise Creek, impacting terrestrial and aquatic flora and fauna and causing sedimentation of Surprise Creek and other downstream creeks and rivers.
- Foundation failure – embankment failure due to sliding resulting in loss of water and tailings from the storage resulting in tailings and tailings water being discharged into Surprise Creek, impacting terrestrial and aquatic flora and fauna and causing sedimentation of Surprise Creek and other downstream creeks and rivers.
- Tailings line failure – erosion leading to embankment failure, and loss of water and tailings from the storage resulting in tailings and tailings water being discharged into Surprise Creek, impacting terrestrial and aquatic flora and fauna and causing sedimentation of Surprise Creek and other downstream creeks and rivers.
- Seepage – seepage from TSF polluting groundwater and surface water, impacting terrestrial and aquatic flora and fauna.
- Operation failure – operation of the tailings dam outside of its intended design, such as a water holding dam, leading to one of more of the above risks resulting in tailings and tailings water being discharged into Surprise Creek, impacting terrestrial and aquatic flora and fauna and causing sedimentation of Surprise Creek and other downstream creeks and rivers.
- Combination failure – a combination of more than one of the above at the same time resulting in embankment failure, and loss of water and tailings from the storage.

Key Commitments

MRM have given a number of commitments that are designed to minimise the likelihood of hazards occurring. For this reporting period, these commitments are divided principally between the 2006 Phase 2 EIS, the 2012 Phase 3 EIS (Metserv, 2012), the 2011-2012 MMP (MRM, 2011b), the 2012-2013 MMP (Xstrata & MRM, 2013), and their respective amendments. In principle EIS commitments are captured within MMPs.

The Phase 2 EIS commitment relating to the TSF is essentially that the ANCOLD 1999 Guidelines on Tailings Dam Design Construction and Operation (ANCOLD, 1999) have been incorporated into the designs of the TSF embankments under the 'High Hazard' category. An assessment of the Phase 2 EIS (2006) undertaken by the Northern Territory EPA (NT EPA, 2006) noted that:

- The existing and proposed TSF designs at that time contain no seepage limiting/containment layer beneath the facility.
- Seepage from the TSF was identified as an issue and various controls, such as a geopolymer barrier and a seepage recovery bore network, were proposed.
- An 'observational approach' was advocated for the management of seepage, which required ongoing refinement so that new areas of groundwater contamination can be detected, regular redesign of the bore network, and regulatory review and management.

The Phase 3 EIS TSF Management Plan states that:

- The predicted long-term seepage volumes are generally low because of the relatively low permeability of the embankment core, the tailings and the underlying dolomite siltstone material.
- Decant water will be stored at the centre of the TSF rather than on the periphery thereby reducing the potential for seepage under the embankment.
- The tailings will be deposited subsequently in thin layers, maximising the density of the tailings beach against the embankment, thus providing a low permeability layer between the decent water pond and the perimeter embankment.
- Any seepage that does occur will be contained by a combination of measures including the low permeability clay core and cut-off key in the TSF embankment, the geopolymer cut-off barrier, the network of recovery bores and surface perimeter drains, and underliner drainage to designed collection zones.
- A comprehensive monitoring program will be maintained over the life of the TSF and will include the following components:
  - Piezometric levels within the embankment.
  - Surface water monitoring.
  - Groundwater monitoring.
  - Water quality.

  - Decant pond water levels.
  - Embankment condition.

Specific commitments provided in the Phase 3 EIS TSF Management Plan are:

- For surface water management:
  - Runoff and decant water to flow to Cell 3 WMD.
  - Cell 3 WMD designed to be above the 1 in 500 year flood level.
  - Maintain a suitable freeboard before each wet season.
  - All runoff and decant water in the Cell 3 WMD to be reused in the processing plant, evaporated or discharged as per the discharge licence.
  - Regular updating of the water balance modelling of the site water management system, to minimise overflow risk.
  - Regular inspection of the decant system, to ensure efficient operation.
  - Pump water from Cell 3 WMD to other storages.
  - Increase the capacity of the Cell 3 WMD.
  - Discharge as per approved discharge licences.
- For embankment stability:
  - Design in accordance with ANCOLD guidelines[11] for high hazard dams.
  - Engineering analysis of embankment stability has confirmed a factor of safety well in excess of minimum requirements.
  - Regular inspection of embankment integrity to be undertaken.
  - Monthly piezometric monitoring of phreatic surface levels within embankment.
  - Independent annual inspections.
  - Engineered remediation measures in accordance with ANCOLD guidelines[11].
- For erosion protection stability:
  - Only hard durable NAF rock that is resistant to erosion is to be used on outer face.
  - Regular inspection of rock face integrity to be undertaken.
  - Replace any rocks showing signs of erosion with more competent material.

[11] The edition of the ANCOLD tailings guidelines (ANCOLD (1999) or ANCOLD (2012)) is not stipulated in the EIS but it is assumed the commitment is to whichever guidelines are current at the time of design.

- For seepage protection:
  - Embankment has clay core with cut-off key.
  - Ponded water in TSF to be kept away from perimeter embankment.
  - Geopolymer barrier installed around eastern embankment.
  - Network of recovery bores installed in identified seepage areas.
  - TSF to be capped with low permeability layer, to prevent ongoing entry of water at closure.
  - Maintain recovery bores post closure (if required), until seepage head in TSF reaches design level.
  - Ongoing monitoring of seepage rates through recovery bores and observation bores.
  - Monthly inspection of embankment for evidence of seepage.
  - Increase the number or pumping rate of recovery bores.
  - Install seepage collection trenches.

The Phase 3 EIS TSF Management Plan does not provide any specific details on design, method of operation or monitoring schedule information for Cell 2 Stage 2.

The key commitments provided in the 2011-2012 and 2012-2013 MMP are summarised in Table 4.27. Reference is also given to the Phase 3 EIS (Metserv, 2012) where relevant. These are organised according to design, construction, operations, monitoring and rehabilitation commitments.

Table 4.27 – Summary of TSF Commitments from 2011-2012 and 2012-2013 MMPs

Commitment	MMP Section/Other
Full lining of the floor and walls of Cell 4 with HDPE to specifically address the issues arising from the performance experience of TSF Cells 1 and 2 not to be used as a TSF till 2036 Cell 4 will be designed to store contaminated water from the pit	MMP 2012-2013 Amendment 1 (MDOC20130170, 2013)
The TSF embankment will be designed as a water retention structure in a similar manner to the flood protection bund It will consist of: ♦ Low permeability clay core which will be keyed into the underlying foundation material ♦ The clay core will be covered with a rock-fill embankment to enhance its structural integrity and to provide erosion protection ♦ Only competent NAF rock will be used	MMP 2011-2012 §7.1.2.15
To capture seepage in future the design relies on the establishment of a seepage recovery bore network to capture all groundwater below the TSF. This groundwater is to be pumped to the water management dam during operations and to the open pit after mining ceases If further seepage of the existing TSF occurs, a groundwater recovery bore network will be established	MMP 2012-2013 §8
A seepage monitoring system is already in place around the TSF, so any excess seepage from Cell 4 would be recorded	MMP 2011-2012 §4.2.7.3.5

Table 4.27 – Summary of TSF Commitments from 2011-2012 and 2012-2013 MMPs (cont'd)

Commitment	MMP Section/Other
A program of QA/QC during Cell 4 construction to minimise seepage from the dam	MMP 2012-2013 Amendment 1 (MDOC20130170, 2013)
Tailings will be placed using a spigotted discharge system around the cell perimeter, which will minimise the risk of seepage from the TSF The material parameter that has greatest control on seepage rate is tailings permeability, recognising that tailings permeability is influenced predominantly by beaching practices (attempting to maintain effective subaerial deposition techniques) An appropriate water management plan [will] be implemented for Cell 2 to minimise the decant pond, with specific issues to be addressed including prioritising the recovery of decant water from Cell 2 and the development of a perimeter tailings deposition regime to effectively push the decant pond away from the external Cell 2 embankment (Cell 2 Stage 2 design 2012)	Phase 3 EIS §4.2.7.1 MMP 2011-2012 Amendment 3 (MDOC20126276 2012) MMP 2011-2012 §4.2.7.1
Based on this (seepage) analysis, estimated seepage rates appear to be most sensitive to minimising the decant pond/free water on the tailings beach and, to a lesser extent, installation of a perimeter seepage recovery system	MMP 2011-2012 Amendment 3 (MDOC20126276 2012)
A TSF seepage review will be conducted	Phase 3 EIS §5.5
The performance of Cell 2 in the context of a tailings storage facility has been monitored on a routine (daily) basis by MRM with annual inspections provided by Allan Watson Associates An annual professional dam engineering inspection and review of monitoring data prior to the onset of each wet season Documented weekly inspection of the full length of the crest and downstream (mine side) toe by experienced mine engineering personnel Documented daily inspection of the full length of the crest and downstream (mine side) toe by experienced mine engineering personnel during actual flood events that exceed a pre-determined trigger level Structural surveillance of the TSF and associated infrastructure is conducted in accordance with site procedure MET-GEN-GDL-2800-0001 (the 2011 to 2013 version of this document was not provided to the IM)	MMP 2011-2012 Amendment 3 (MDOC20126276 2012) MMP 2012-2013 §4.5.15 MMP 2011-2012 §5.2.11
Document evidence of failure or instability on rehabilitated slopes Monitor rainfall and climatic conditions Report erosion results in annual environmental report Regular inspection of the decant system, to ensure efficient operation Monthly piezometric monitoring of phreatic surface levels within embankment Monthly monitoring of sediment in sediment ponds Ongoing monitoring of seepage rates through recovery bores and observation bores Audit of monitoring results and reporting The foundation and embankment pore water pressure will be monitored to check actual values against design expectations. Three embankment sections comprising a total of 25 piezometers tips will be data logged at six-hourly intervals	Phase 3 EIS §6.1, §7.2.1,§7 and §8 MRM 2012-2013 §4.5.14 MRM 2012-2013 §4.5.15
Measured phreatic surface within the embankment as monitored as part of the 2010 inspection indicated that the phreatic surface/groundwater mound at the time of the inspection nominally at existing ground level on the eastern and southern embankments, indicating that the seepage control measures within the embankment (clay core and cut-off key) were performing to expectation	MMP 2011-2012 Amendment 3 (MDOC20126276 2012)

Table 4.27 – Summary of TSF Commitments from 2011-2012 and 2012-2013 MMPs (cont'd)

Commitment	MMP Section/Other
Optimise groundwater monitoring bore locations	MMP 2012-2013 §8
A geopolymer cut-off barrier was constructed as a trial around the existing cell [assumed to be Cell 1] in 2005. Further monitoring is proposed to confirm that the work has been effective in the longer term	MMP 2012-2013 §8
Groundwater recovery bores used to prevent seepage from the TSF into Surprise Creek will continue for an indefinite period following mine closure (>30 years) Power for bore pump operation, personnel for monitoring, maintenance and repairs, and security to protect the bore array from vandalism will continue for as long as necessary Costs of further monitoring and maintenance until such time as seepage ceases or seepage water satisfies agreed criteria, will be secured through agreement with the appropriate NT Government authority, currently Minerals and Energy Division of DPIFM	MMP 2012-2013 §8
Best- and worst-case scenarios into the long-term (>30 years) management of the tailings storage facility will be undertaken and management options for minimisation of the risks of these adverse environmental impacts prepared	MMP 2012-2013 §7

Existing Controls

The controls that exist at MRM to minimise the likelihood of these hazards are:

- Design of the TSF to safely contain water and tailings for the intended life of the structure taking into account available materials, climate, embankment stability, expected inflows, pore pressure and surface water flows.
- Supervision and record keeping ensuring that the TSF has been constructed in accordance with design and is fit for purpose under the expected operating conditions.
- An operating manual prepared by the designer or suitable delegate that prescribes the correct operational parameters such that the TSF is operated within acceptable design limits.
- A monitoring scheme to demonstrate that the TSF is being operated within the prescribed operating limits and is performing in accordance to, or exceeds, the design.
- A rehabilitation plan that clearly documents the objectives, strategy and monitoring requirements. The plan should outline what additional studies are required such that the plan can be implemented efficiently into the intended long-term use.

The IM has been provided with some of these control documents with respect to the current reporting period, namely:

- Design. Stability analyses of Cell 2 Stage 1 southern embankment and the interim cover design for Cell 1.
- Construction. The Cell 2 Stage 2 construction report and the associated clay borrow investigation.

- Monitoring. Survey data of TSF crest wall RLs at up to 11 locations (MRM, 2013e) undertaken 22/09/2011, 9/02/2012, 14/08/2012, 24/09/2013 and 7/01/2014, electromagnetic survey of the ground immediately surrounding the TSF and Cell 3 WMD undertaken late October/early November 2012 (URS, 2012b), annual regulated TSF safety reports for 2012 and 2013, groundwater levels and tailings pipe wear testing.
- Rehabilitation. Phase 3 EIS TSF Management plan outlining the rehabilitation objectives, strategy, monitoring requirements, the Phase 3 Mine Closure Plan and future land use and the interim cover design for Cell 1.

The IM has not been provided with the Cell 1 Stage 1 design report or TSF operating manuals for the reporting period. The IM has not been provided with Cell 1 Stage 2 design report except for Appendix A, which contains a description of some of the investigations works undertaken.

Successes

Construction, Operation and Management

A number of activities are understood to have been carried out to provide input to the Cell 2 Stage 2 lift design. The 4 m Stage 2 lift of Cell 2 was completed in April 2013 using upstream construction methods (ATC Williams, 2013a)).

Appendix A of the Cell 2 Stage 2 design report has been provided to the IM and states that 15 Cone Penetrometer Test with pore pressure capability (CPTu) tests have been undertaken including six pore pressure dissipation tests (AWA, 2011). The CPTu results have been used to infer the thickness of desiccated tailings and saturated tailings, and the depth to the natural foundation.

Based on the information provided and the IM site inspection, there are no indications that this lift is not performing as intended in terms of stability or preventing release. Stage 2 included a new concrete spillway to convey overflow into the Cell 3 WMD.

The Cell 2 Stage 2 construction report assessed that no specific changes were made to storage layout, embankment alignment or construction approach. This report also assessed that:

- The average compaction testing frequency met the specification and quality control requirements.
- Compaction specification was initially achieved for 89% of all tests undertaken and rectification actions undertaken in areas for which failures were recorded.
- Actions taken to achieve the compaction specification on areas which failed the compaction test include moisture conditioning without additional compaction, additional compaction without moisture conditioning, and moisture conditioning with additional compaction.

The Cell 2 Stage 2 construction report also provided 'as constructed' drawings, construction specifications, testing results and certificates, inspection plans and construction inspection reports.

MRM commissioned Allan Watson Associates to undertake a stability review of the southern wall of Cell 2 Stage 1 in response to a previous IM recommendation (AWA, 2012). This review considered short- and long-term stability with and without seismic load. Calculated Factors of Safety (FoS) were in alignment with ANCOLD 2012 Tailings Guidelines (ANCOLD, 2012).

MRM provided monthly operating reports for the entire 2011 to 2013 reporting period. These reports contain climatic data, cell water levels, any safety incidents and hazards (including environmental) that occurred during the month, use of recovery bores, water reclamation activities, tailings deposition activities, earthworks undertaken and seepage.

MRM commissioned ATC Williams to undertake an Annual Regulated Dam Safety Review for 2012 and 2013 to satisfy a directive by DME (ATC Williams, 2013b; ATC Williams, 2014). The ATC Williams 2012 and 2013 reviews presented a number of positive outcomes, these being:

- Embankment erosion appears to have lessened, presumably by the use of well-graded rockfill on the downstream batters.
- The diversion channel appears to be operating adequately but should be reviewed with the proposed Cell 4 development works.
- Design storage allowance was maintained over a critical 2-month period in the wet season.
- Cell 2 spillway meets design guidelines and current dam engineering practise, sized to pass a peak flow of some 80 m^3/s.

The IM generally agrees with these statements.

Seepage

Various seepage preventions have been undertaken or planned to prevent further seepage from Cell 2 occurring based on Cell 1 experience. The measures include:

- Extension of the geopolymer cut-off wall along the entire length of the eastern embankment of the TSF.
- Installation of a clay core cut-off key that was extended downward until it intercepted suitable impermeable clays during the Cell 2 embankment raise.
- Installation of shallow seepage cut-off spoon drain on the eastern side of Cell 2.
- Implementing recovery systems utilising decant towers and clay direction wings.
- Installation of recovery sump and pump for newly evolved seepage points adjacent to the contaminated waste dump on the eastern side of WMD.
- Placing additional clay on Cell 1 to decrease further infiltration through to the tailings.

Monitoring

Monitoring activities undertaken during the monitoring period include:

- Six monthly surveys at up to 11 locations around the entire TSF perimeter to capture settlement along the top of the embankment.

- Six new groundwater monitoring bores with four installed at the proposed Cell 4 location and the remaining two installed in Cell 1.
- Groundwater level monitoring of 23 bores in the vicinity of the TSF.
- Tailings water levels and tailings deposition as part of the monthly reports.
- Pipeline integrity reports indicating the amount of wear that has occurred.

A (September 2012 to September 2014) water balance model covering a 2-year period was updated by WRM to ensure that sufficient capacity is available within the facility to store all tailings and water.

New Issues

There are several new issues identified by the IM review, these being:

- Elevated water levels in Cell 2.
- Construction quality control.
- Embankment piping potential.
- Monitoring elements and frequency.

Elevated Water Levels in TSF Cell 2

The ATC Williams 2012 and 2013 Annual Regulated Dam Safety reviews found that for TSF Cell 2:

- Piezometers should be installed or reinstalled and monitoring of water levels undertaken as part of a regular surveillance program (a minimum of monthly measurements) to assess actual embankment performance against design expectations.
- Seepage systems appear to be operating adequately with respect to the dam safety/stability.
- TSF operations appear to be operating 'effectively' and deposition within Cell 2 was deemed in 'general accordance' with the strategy as outlined in the design documentation.

ATC Williams found in their 2012 review that:

> MRM advised that during 2009 and early 2010, significant accumulation of tailings liquor has occurred within the TSF primarily due to the dewatering of mine workings associated with the mining operation with the water from the dewatering used in processing thereby **negating the need** to recover liberated tailings water within Cell 2

Elevated surface pond levels were not identified in the 2013 ATC Williams review. However, a drawing of the surface water pond was shown to extend nearly over the entire Cell 2 area and be virtually identical to that reported in 2012. The pond extent was roughly similar to that observed by the IM during the March 2014 inspection as shown in Figure 4.21. During this inspection, the depth of water was at least 2 m above the tailings surface along a substantial section of the Cell 2 southern embankment.

OVERVIEW OF TSF SHOWING SETTLEMENT MONITORING LOCATIONS AND AREAS OF CONCERN

McArthur River Mine Project

FIGURE 4.21

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Discussions with MRM staff during the site inspection revealed that the tailings discharge system at that time could not access the entire perimeter of Cell 2. This will further promote the issue of ponding against embankment walls due to the limited ability to control the location and extent of the surface water pond.

Not removing liberated water in Cell 2 directly affects these commitments:

- Decant water will be stored at the centre of the TSF rather than on the periphery.
- Tailings will be deposited using subaerial deposition to maximise density and limit seepage.

It is acknowledged by ANCOLD (1999, 2012), ICOLD (2011) and the industry in general that elevated water levels in tailings dams can potentially lead to:

- Increased likelihood of instability due to elevated pore pressures within the embankment.
- Increased likelihood of seepage through the embankment walls and therefore release of tailings water.
- Increased likelihood of piping due to increased seepage that may lead to breach.
- Increased likelihood of upstream batter erosion due to material softening and wave action.
- Increased likelihood for overtopping due to reduced stormwater capacity.

The IM notes that seepage from Cell 2 has been observed in several monthly reports.

The extensive and consistent accumulation of water in Cell 2 appears to be current MRM practice, based on primary concern for water storage, separation of contaminated water and dust mitigation. This approach is in direct conflict with EIS commitments, MMP commitments and ANCOLD guidelines for subaerial deposition. At the same time, installation of piezometers, which would provide the ability to assess the implications of these elevated water levels, does not appear to have been implemented despite repeated recommendations by the designer, MRM-appointed independent assessor and the IM. It appears that MRM is primarily concerned with use of Cell 2 as a water storage while stability, seepage and other performance requirements are of secondary concern.

The high levels of water storage in Cell 2 increase the likelihood of the risks outlined in this section and therefore the risk of water and tailings release.

TSF stability assessments by ATC Williams and Allan Watson Associates assume that water levels within the TSF were at or below the tailings surface (MRM, 2012d; AWA, 2012). This assumption suggests that the current high piezometric levels may not be foreseen and therefore may exceed design and safe operating conditions. On this basis, stability of the TSF under the current water storage levels may be significantly increasing the risk of embankment instability and internal erosion leading to piping, and other key risks.

Given the current and ongoing high water levels in Cell 2, it is evident that these stability assessments are currently not relevant for the current conditions. Further comment further on design assumptions cannot be given, as these have not been provided to the IM.

It is also important to note that operating the TSF in this manner may reduce the ability to undertake further upstream lifts in future due to the inability for tailings to densify by consolidation and desiccation while under water.

Construction Quality Control

The IM's review of individual Cell 2 Stage 2 construction test reports found 25 tests had failed rather than 15 as reported in the construction report summary (ATC Williams, 2013a). This equates to a failure rate of 18% instead of 11% as reported. These are possibly borderline results that have been accepted without proper clarification and discussion. The IM also notes that while remedial action was attempted to rectify those test failures identified, there are no clear records to document what specific remedial action was taken. It is also apparent that in most cases subsequent retesting was not undertaken to confirm that such remedial actions were successful. This is contrary to standard industry practice and a significant failing in construction quality control.

Embankment Piping Potential

It is unclear from the documentation provided whether the potential for piping has been properly considered in the design of Cell 2 and Cell 2 Stage 2 in particular. The IM considers piping to be potentially an issue as:

- The Cell 2 Stage 2 construction report noted that the potential for internal erosion and piping through the embankment could not be considered as part of their construction review due to the visual method used to assess soil dispersivity.
- Chimney drains and filters installed in Cell 1 to help minimise piping potential do not appear to have been employed in Cell 2.
- The use of a rock platform to facilitate construction on tailings may have significantly shortened the flow path through dispersion sensitive materials in the embankment increasing the potential for initiation and progression of backward erosion.

The IM notes that the use of upstream construction is generally undertaken with caution given the limited control of the deposited properties. In addition, the performance of desiccated tailings upon rewetting needs to be carefully considered in the design process. The IM also notes the reported seepage from Cell 2.

The IM is unable to make further comment on increased risk, the potential for piping, embankment stability, the potential for overtopping, the ramifications of upstream construction or other related issues as the Cell 2 Stage 2 design documents have not been provided.

Other residual issues related to commitments are presented below.

Monitoring Elements and Frequency

The 2012 and 2013 Annual Regulated Dam Safety Review reports made a number of monitoring recommendations for the TSF including ATC Williams (2013b, 2014):

- Ongoing monitoring of the embankment erosion and selective removal of large trees.
- Reinstatement of Cell 2 piezometers, presumably within the embankment.

There is no evidence within the documents provided to the IM that these recommendations have been acted upon.

There is a key commitment to monitor the tailings on a daily basis at least visually. However, there is only evidence of monthly reporting.

Reference has been made to monitoring the TSF in accordance with procedure MET-GEN-GDL-2800-0001. This document has not been provided to the IM for this reporting period and therefore adherence to this procedure cannot be assessed.

Erosion reporting is required on an annual basis by ATC Williams. No clear evidence of this assessment has been provided to the IM. This also applies to the decant system and levels of sediment in surface water sumps.

The use of survey prisms is limited to the 11 sites where monuments have been installed. This survey should be supplemented by more global methods including visual surveys, photographs and the use of site-wide survey techniques.

The most significant issue with respect to TSF monitoring is the lack of piezometers within the tailings embankment such that piezometric levels may be assessed and checked against design. This has not occurred despite repeated requests to so by the IM, DME and the designer ATC Williams.

Incidents and Non-compliances

Incidents

A major reported incident was recorded on 27 November 2013 involving a release from Cell 1 into the adjacent borrow pit to the northwest. The incident occurred during a 82.8-mm rainfall event, which resulted in an unspecified volume of surface water from Cell 1 overtopping the western sump. Several actions were undertaken as a consequence of this breach including water sampling to confirm source water quality and potential impacts to Surprise Creek, design and construction of a new bunding system, and ongoing actions related to Cell 1 rehabilitation. This incident is outside of this IM reporting period.

Other incidents captured within the monthly operating reports include:

- A trapped wallaby was recovered from the tailings drainage pond and released (May 2012).
- Tails return water line leaked when a joint separated; the line was shutdown while it was repaired, only affecting a few square metres (Incident #29535 5/6/12).
- A mining truck damaged a return water line with released water being returned to the pond after repairs (Incident #29567 19/6/12).
- Tailings line flushing resulted in process water escaping past the catchment pond (Incident #29669 24/7/12).
- A deliberately lit fire that started on the highway on the ridge on the dam side of Barney Creek burnt through and along the eastern and southern walls of the WMD resulting in the siphon lines, seepage recovery line and power cable being lost and damage to several

sections of the 280-mm poly line that is used to pump water from the front of the WMD to the back (Incident #29735 28/8/12).

- A deliberately lit fire that started on the highway near Surprise Creek burned through cables and pipes from the seepage recovery bores along Surprise Creek (Incident #29772 17/9/12).
- Split water pipe from APP to CRP (29/11/2012).
- A fusion patch on section of the tails pipe failed, allowing overspray to blow onto the wall top and outer side (20/09/2013).
- Embers from the rubbish disposal area carried on the wind and burnt out a small patch of scrub (23/09/2013).
- Heavy rainfall (over 100 mm in one hour) caused the western catchment of Cell 1 to overtop into the proposed Cell 4 area. The water was pumped back into Cell 2.
- Seepage from the toe of the WMD (location unknown) was reported in all TSF monitoring reports from January 2012 to October 2012 inclusive.
- Seepage from the Cell 2 southern wall near the spillway was reported in all TSF monitoring reports from April to December 2013 inclusive.
- The September 2012 TSF monthly report states that 'water from cell 2 is no longer able to be pumped to the mill'. It is unclear as to the cause or duration of condition.

There are no documented actions for the seepage observations reported in the monthly reports.

It is noted that some of these incidents are outside this IM reporting period.

Non-compliances

It is clear that during the reporting period Cell 2 has been used to store excess water in contradiction to MRM commitments. We consider this to be a significant non-compliance.

The construction specification for the Stage 2 raising of Cell 2 specified that relative compaction of not less than 98% of standard maximum dry density and moisture content within the range of -3% to +2% of optimum moisture content be achieved for the embankment fill (ATC Williams, 2013a). However, as discussed in this section, there were a number of tests that failed these criteria where 25 tests had failed rather than 15 as reported in the construction report summary. This equates to a failure rate of 18% instead of 11% as reported. No information on retesting requirements is given in the specification.

Review of the ATC Williams 2013 report shows that the contractor reworked but did not retest the locations where moisture content or density ratio was not within the required range. In addition, no rework was undertaken for one location where the moisture content and density ratio from the compaction test were not within the required range. There was no evidence of retesting being undertaken at any locations.

It is the opinion of the IM that following a failure from either moisture content or relative compaction testing the location should be reworked and retested.

A summary of the compliance or noncompliance of TSF-related commitments is provided in Table 4.28.

Table 4.28 – Summary of TSF Commitment Compliance

MMP Commitment Number	Area	Commitment	Compliance
Part A 54	TSF	Tailings from the processing plant are pumped to the TSF via a rubber lined steel 300 mm tailings line	Compliant
Part A 55	TSF	The proposed Cell 4 stormwater containment is to be designed in accordance with the current Cell 2 criteria being based on Queensland guidelines (DME (QLD) 1995)	Compliant
Part A 56	TSF	A low permeability HDPE liner with a network of under storage drains will be included in the final design for Cell 4 and Cell 3	Compliant
Part A 57	TSF	The proposed design for Cell 4 embankment construction is for use of clay fill and general construction fill with rock armouring of the downstream batters	Compliant
Part A 58	TSF	The emergency spillway for Cell 4 is to be designed in accordance with ANCOLD guidelines	Compliant – but should be checked against 2012 guidelines, not 1999
Part B 59	TSF	Tailings will be placed using a spigotted discharge system around the cell perimeter, which will minimise the risk of seepage from the TSF	Non-compliant – there are elevated water levels which exacerbate seepage and the system is unable to circumnavigate the TSF at present
Part B 60	TSF	TSF cover work (for Cell 1) is being conducted for short- and long-term designs	Compliant – there is some activity in this area
Part B 61	TSF	The perimeter embankments of TSF Cell 2 have been designed by Alan Watson Associates in general accordance with the ANCOLD Guidelines (ANCOLD 2012)	Not verified – the IM has not been provided with the design
Part B 111	TSF	Following an electromagnetic (EM) survey carried out during 2003, which confirmed shallow seepage (between 3-8 m deep) from the NE perimeter of Cell 1 of the TSF, a geopolymer liner was installed in 2006 and 2007. EM surveys were subsequently undertaken in February 2007, December 2009, October 2010 and November 2011	Compliant

Review of Progress Against Previous IM Audit Recommendations

Table 4.29 provides recommendations provided in the previous IM audits relating to the TSF and comment with respect to the current reporting period.

Table 4.29 – Updated Response to Previous IM Recommendations

Previous Recommendation	IM Comment
Install additional monitoring bores around the perimeter of both Cell 1 and Cell 2 ascertain to the level of phreatic surface within the embankments	Six additional monitoring bores have been installed at the proposed Cell 4 location and the remaining 2 installed in Cell 1. No new or reinstated bores (piezometers) appear to have been installed in Cell 2
Monitor monitoring bores along Surprise Creek to include an interpretive assessment of the seepage to investigate the likely source	Additional monitoring bores have been installed
Install at least six lines of piezometers in Cell 1 and Cell 2 with vibrating wire piezometers installed within the foundation material and tailings within three boreholes in each line, so as to gain adequate understanding of the hydrogeological conditions present within the embankment	Only six piezometers have been installed – there are no new piezometers with the TSF embankments
Investigate the origin of seepage at locations south of WMD and towards Surprise Creek which include assessment of presence and likely effect of a paleochannel on the seepage as well as the source of the seepage and seepage flow direction	A TSF seepage review conducted by Golder (2011) found the tailings to be source of mobile contaminants that there was evidence to support a paleochannel. A review of this report by KCB (2013b) found there was a poor match between measured and modelled water tables. The IM agrees with the KCB (2013b) finding
Additional seepage control measures for seepage from Cell 1 to Surprise Creek which include lowering the phreatic surface in the TSF to reduce seepage escaping to the environment. The system should be designed to allow seepage recovery to occur year round and consideration of a subsurface seepage recovery system with submersible pumps should be made	It is unclear whether lowering of the phreatic surface has occurred in Cell 1 given that collected seepage to the north is reportedly being resprayed onto the tailings surface. In addition the MMPs have included RL values in their water level graphs The current practice in Cell 2 of not removing supernatant is likely to increase seepage
A seepage recovery system is recommended downstream of the WMD embankment at the intersection between the WMD and Cell 2 to recover seepage in this area. The seepage system should be design to allow subsurface collection of seepage year round	It is understood some seepage recovery in this area is being undertaken
Installation of piezometers along the southern Cell 2 embankment to fully define the location of piezometric surface within the embankments	No new or reinstated piezometers appear to have been installed in Cell 2
A full design and stability review of the southern Cell 2 embankment	A stability of review of Cell 2 Stage 1 has been provided to the IM. A stability review of Cell 2 Stage 2 has not been provided to the IM. The findings of this stability review are no longer valid as MRM appears to be operating the TSF primarily as a water storage
Relocating the decant pond to the common embankment between Cell 1 and Cell 2	This has not occurred
Undertake a full review of the water balance model and storage capacity of the TSF	A review of the water balance has occurred

A significant number of previous recommendations relating to the TSF focus on preventing or limiting seepage from Cell 1 into Surprise Creek. The 2012 and 2013 Annual Regulated Dam Safety reviews by ATC William claim that:

> Anecdotally the geopolymer barrier in combination with the cessation of discharge into Cell 1 had 'significantly' reduced seepage towards Surprise Creek.

The IM finds there is little evidence to demonstrate that seepage has changed and, to some extent, there is evidence to the contrary. This issue is expected to be ongoing with further consideration required as to the efficacy of intervention efforts to date, their longevity and long-term closure and water management of Cell 1.

New Recommendations

New recommendations are provided in Table 4.30. Reference is made to outstanding recommendations from the previous IM reports that are still considered relevant.

Table 4.30 – New TSF Recommendations

Area	Recommendation	Priority
TSF	For MRM and TSF designer to provide design evidence and clear operating guidelines under which the TSF embankments are proven to be effective with respect to stability, seepage, erosion control, piping and any other action that may lead to an uncontrolled release of tailings or water. This should include limits on the depth and extent of the surface water pond A related recommendation was made in the previous IM report relating to removal of excess water from Cell 2. This was rated as a high priority	High
	For MRM to fulfil their commitments with respect to monitoring piezometric levels within the Cell 2 embankments so that design factors of safety can be confirmed that the dam is being operated safely. This recommendation was made in the last two IM reports. The last IM report also requested that detailed stability analyses need to include monitored (as opposed to estimated) phreatic surfaces in the tailings and embankments. These items remain outstanding and were rated previously as high priority	High
	MRM to provide a better assessment of their TSF risk of release by estimating the rainfall return periods that would result in: ♦ Exceeding the Cell 1 stormwater capacity resulting in overtopping and potentially catastrophic failure of the embankment ♦ Exceeding the Cell 2 stormwater capacity (including spillway capacity) resulting in overtopping and potentially catastrophic failure of the embankment ♦ Exceeding the Cell 3 WMD stormwater capacity resulting in overtopping and potentially catastrophic failure of the embankment	Medium
	Provide graphs in the MMP, which clearly show groundwater levels (in RL), tailings pond surface water levels and maximum pond depth. These plots should also clearly show the monitoring locations in plan	Medium
	Expand existing settlement assessment to utilise more global information such as visual surveys, photographic records and site-wide survey techniques. The IM understands that airborne laser scanning is routinely used to survey. Differential analysis of this data would provide a more comprehensive assessment of settlement and horizontal movement to supplement the more accurate but sparse prism data	Medium
	For MRM to confirm if the concrete works on the downstream channel of the emergency spillway have been completed	Medium

Table 4.30 – New TSF Recommendations (cont'd)

Area	Recommendation	Priority
TSF (cont'd)	MRM to review the current strategy for preventing seepage to Surprise Creek in light of recent groundwater monitoring, EM remote sensing and any other relevant data. This review should present evidence as to the effect of existing mitigation strategies, their longevity and long-term feasibility in consideration with other mitigation works such as final capping of Cell 1	Medium
	MRM to consider discharge of collected seepage north of Cell 1 to other areas of the TSF and not back onto the Cell 1 surface	Medium
	MRM to update existing monitoring reporting to include piezometric levels, embankment settlements, pipeline wear, pond levels, deposited tailings, water reclamation and any other TSF monitoring data with respect to design. This assessment should also set safe operating limits for these parameters and triggers and actions as advised by the designer. If any of these triggers or limits are exceeded then the action taken needs to be documented in the monitoring report	High
	All future civil works should provide evidence of the designer's allowable frequency or distribution of compaction test failures, or evidence of what specific action and retesting has been undertaken to rectify areas where tests have failed	High
	The discharge lines should be extended to facilitate deposition around the entire Cell 2 perimeter. This will significantly improve control of the location and extent of the surface water pond	High

4.1.7.2 Overburden Emplacement Facilities

Waste materials produced during mine operation include tailings and overburden. The overburden is classified as either NAF (non–acid-forming) or PAF (potentially acid-forming). The overburden is managed by placement in OEFs (overburden emplacement facilities), of which there are currently two:

- Northern OEF (NOEF).
- Western OEF (WOEF).

The WOEF was formed as part of the original operations and lies immediately west of the pit and within the flood protection bund. The northern part of the WOEF was completed during the 2010-2011 reporting period. It is understood that extension of the WOEF to the south as identified in the Phase 3 EIS is under review. It is also understood that materials in the existing WOEF will require a long-term containment strategy, which may include partial or complete relocation to a future OEF.

The South OEF (SOEF) and East OEF (EOEF) are planned as part of future waste storages. If approved they will become part of the existing flood protection bund (Bund OEF) for the Project as proposed by the Phase 3 EIS.

This geotechnical assessment focuses on active waste emplacement during the reporting periods, i.e., the NOEF.

Design of the original NOEF was carried out in 2008 and the details of the concept, specifications, staging and capacity are contained in URS (2008). Design for the extension of the NOEF is detailed in the Phase 3 EIS (Metserv, 2012), which outlined minor changes to the geometry of the NOEF while still honouring the original design principles. Further expansion of the NOEF was carried out in the 2013 operational year, details of which are contained in the 2012-2013 MMP (Xstrata & MRM, 2013).

This review of the NOEF and WOEF has been prepared following review of documentation provided by MRM and DME as outlined in Appendix A.

From the review of the supplied documentation, the IM understands that the strategy for managing PAF is as follows:

- The NOEF is designed as an encapsulation cell to store the PAF material that is a by-product of the mining process.
- The cells are designed with a clay liner at the base to prevent migration of seepage water through the PAF material into the groundwater and/or surface water.
- The NOEF also requires placement of a clay liner above the PAF material prior to the wet season to minimise surface water infiltrating the PAF materials.
- Surface runoff and seepage is further managed by a series of dams to prevent contaminated water from flowing into the environment.
- The clay liners also provide a barrier to oxygen migration into the PAF materials leading to oxidation.

The 2013 to 2018 MMP details the separation of the mine waste material into subcategories of NAF and PAF. The encapsulation concept originally designed by URS is still in use, although the geometry of the NOEF had significantly increased and an additional compacted clay layer has been included. At the time of the site inspection the design concept was being reviewed following the revision of mine waste materials classifications which has resulted in a significantly higher percentage of potentially acid-forming, neutral metal drainage and saline drainage materials.

Key statements in relation to the management of the PAF within the NOEF include (Metserv, 2012):

- The strategy for managing PAF overburden was established by URS (2008), with the same concept employed with the larger revised NOEF. This strategy is one of 'multiple lines of defence' against the ingress of oxygen and water into the PAF materials, thereby minimising and managing leachate.

This is achieved by constructing the NOEF according to approved designs contained in the MMPs of the previous and current operational periods. MRM has commissioned the development of specifications for the construction of the NOEF, which are:

- Specification for Clay Liner, MIN-TEC-PRO-1000-0026 (MRM, 2012e).
- Sampling Procedure, MIN-TEC-PRO-1000-0015 (MRM, 2012f).
- As-built Review and Signoff Procedure, MIN-TEC-PRO-1000-0025 (MRM, 2011d).

Key Risks

The following risks have been identified for the NOEF:

- Failure of the clay liner material to provide a barrier against water ingress into the PAF material and hence the formation of leachate and/or ingress of oxygen leading to oxidation of the PAF material. This may be caused by:
  - Erosion of the clay liner due to exposure resulting in its failure.
  - Failure of the liner to form a continuous barrier due to slope instability under static or seismic loading exposing PAF materials.
  - Desiccation of the liner due to drying and hence cracking of the liner and a resulting increase in its permeability to air and water.
  - Construction control issues with liner placement leading to it not achieving the required permeability.
  - Differential settlement of the waste rock leading to excessive strain and cracking of the cover system.
- Slope instability or excessive displacement of the PAF management dams resulting in loss of fluids or excessive seepage.

All of the OEFs have a risk of slope instability if their construction is not managed such that dumping occurs as designed.

Geochemical risks to the integrity are dealt with in Section 4.1.6.

Existing Controls

The following controls are in place for management of the OEFs geotechnical risks:

- URS (2008) Northern OEF design report including specifications for clay liner.
- Sustainable Development Mine Management Plan 2011/2012 (MRM, 2011b).
- Sustainable Development Mine Management Plan 2012 – 2013, Parts A & B (Xstrata & MRM, 2013).
- MRM (2013) - Sustainable Development Mine Management Plan 2013 – 2018 (MRM, 2013c) (following the IM site visit this MMP was withdrawn).
- OEF Management Plan (MRM, 2012g).
- Specification for Clay Liner, MIN-TEC-PRO-1000-0026 (MRM, 2012e).
- Sampling Procedure, MIN-TEC-PRO-1000-0015 (MRM, 2012f).
- As-built Review and Signoff Procedure, MIN-TEC-PRO-1000-0025 (MRM, 2011d).
- MRM is constructing the OEFs as designed by URS (2008) with minor amendments with respect to the height and footprint of the facility.

Successes

MRM provided the results of quality assurance (QA) and quality control (QC) testing for construction of the NOEF. This data included test results for material compliance, compaction testing for material placement assessment and a series of memos to address occasions where placed material does not meet the specification.

Previous audits have recommended construction of a top cover over the OEF prior to the wet season. Evidence of a top cover over some of the OEF was observed during the March 2014 site inspection.

Analyses employed in the URS (2008) design are considered to be reasonable and based on typical parameters for these applications. Only Spencer's method was employed for all analysis whereas common practice is to compare several methods. However, Spencer's method is considered to be a rigorous method and generally more accurate than others. Therefore, the approach taken is considered acceptable.

New Issues

Specifications

The IM has been provided with three sources for clay liner specification: URS (2008) main report, the URS (2008) technical specification (TS 02240) and MRM's own specification MIN-TEC-PRO-1000-0026 (MRM, 2012d). For the most part these specifications are in agreement, with the following exceptions:

- The specified compaction moisture content varies from 0% to +2% in URS (2008) and MIN-TEC-PRO-1000-0026 Section 6.1, -2% to +2% in TS 02240 and 0% to +5% in MIN-TEC-PRO-1000-0026 Section 6.5.
- The specified dry density ratio varies from 98% in USR (2008), TS 02240 and MIN-TEC-PRO-1000-0026 Section 6.1 and 95% in MIN-TEC-PRO-1000-0026 Section 6.5.
- The specified particle size less than 0.075 mm of at least 20% for TS 02240 compared to at least 50% for MIN-TEC-PRO-1000-0026.
- The specified minimum plasticity index of 15% for TS 02240 compared to 10% for MIN-TEC-PRO-1000-0026.
- The specified hydraulic conductivity varies from $1x10^{-8}$ m/s in TS 02240 and $1x10^{-9}$ m/s in MIN-TEC-PRO-1000-0026. Additionally, MIN-TEC-PRO-1000-0026 calls for in situ or undisturbed testing.
- The specified testing frequency for density and moisture is 1 in 3,000 m^3 in TS 02240 and 1 in 5000 m^3 in MIN-TEC-PRO-1000-0026.
- The specified testing frequency for particle size and Atterberg limits is 1 in 20,000 m^3 in TS 02240 and 1 in 5000 m^3 in MIN-TEC-PRO-1000-0026.
- There is no specified testing frequency for hydraulic conductivity for TS 02240 compared to 1 in 5,000 m^3 in MIN-TEC-PRO-1000-0026.

It is logical to assume that the current specification is MIN-TEC-PRO-1000-0026, which is dated April 2012 with a scheduled review on 4 April 2014. However, examination of the test data reveals that the adopted acceptance criteria for clay liner compaction is (MRM, 2013f):

- In situ dry density ratio is 98% or greater.
- In situ moisture content is +2% or less (no lower limit).
- Plasticity index of at least 15%.
- Particle size less than 0.075 mm of at least 20%.
- Permeability is taken as acceptable as long as the particle size distribution indicates that the material is either silt or clay or where the laboratory-based permeability on a remoulded sample is less than 10^{-8} m/s.

On average, the testing frequency is reported as being exactly 1 in 5000 m^3, this apparently matching the specification to the nearest m^3. Note that this has only been provided in three test summary reports and these reports show permeability 'testing', where what is actually presented is an assumed permeability based on soil type.

It is evident from the above that the actual acceptance criteria as provided in the NOEF testing database does not conform to known specifications but is a hybrid of the specifications provided to the IM. The IM recommends that MRM provides an up to date specification that properly details the current acceptance criteria and testing frequency.

Testing

In addition to specification inconsistencies there are serious flaws in the testing acceptance process, these being:

- No lower limit on in situ moisture content.
- An assumption that all material denoted as being clay or silt automatically achieves the specified permeability (assumed to be the case in 89% of cases) except where permeability testing is available (11% of cases).

Further discussion on the implications of these flaws follows.

The IM review found that the current spreadsheet-based system incorrectly accepts any testing whereby the in situ moisture content is +2% or less. This will promote the use of dry conditions for compaction. The IM review found that 61 tests had been accepted with a moisture condition of 2% below optimum and 36 with a moisture below -2% of optimum. The average moisture content of accepted tests is -2.7% below optimum. It is well known that compacting dry of optimum and less than -2% of optimum in particular results in much higher permeability than compacting wet of optimum. Therefore, the assumption that these samples pass the permeability without testing may be completely false for many tests.

Permeability testing has been provided for 26 out of the 233 tests provided in (MRM, 2013f).

The IM has been provided with 12 of these test results. In all cases these were remoulded samples compacted at optimum or wetter than optimum conditions. Five tests were undertaken with moisture contents 16% wet of optimum and three tests undertaken at 100% dry density ratio. Testing under these conditions is likely to produce the lowest possible permeability values, particularly for small-scale testing on remoulded samples. These test results are likely to bear little resemblance to actual permeability in the field, particularly since the majority of the field condition during compaction was dry of optimum. Frequency of permeability testing also falls significantly short of the specification. It is the view of the IM that all permeability testing is flawed and should be discarded.

Permeability testing aside, there is also a significant number of tests failing the compaction criteria. In the database as supplied, 108 tests are shown as having failed the compaction criteria out of 126. However, further examination revealed an error in the way dry density ratio was being compared to that measured and a number of missing results. The dataset as corrected by the IM shows 21 out of 95 failures, still a significant number. At the same time, compaction test results were not provided for 138 of reported tests, or about 59%.

The IM has been provided with 12 instances where compaction was undertaken to correct test failures. In all cases compaction occurred under significantly dry conditions (around 5% below optimum) and therefore is likely to result in relatively high in situ permeability.

As-built Records

The data provided to the IM was not sufficient to develop an understanding of the 'as constructed' layout of the OEFs and three-dimensional form. Only data from the NOEF was supplied.

The URS (2008) NOEF design requires foundation preparation that includes stripping, proof-rolling and placement of NAF to RL40 m. It is standard practice that such procedures be recorded so that adherence to design is documented. The IM has not been provided with any construction records or reports that substantiate the required foundation preparation.

A review of the supplied test location data in Maptek Vulcan format shows broad coverage of the NOEF area. However, there appears to be a significant gap in the data where the early stages of the NOEF construction are understood to have occurred (i.e., in the centre of the facility).

No 'as built' records of the PAF management dams have been found in the supplied documentation. The PAF dam designs are contained in the URS (2008) design report.

Incidents and Non-compliances

Many non-compliances during placement of the clay liner have been identified in the supplied QA/QC records for the operational periods 2011 to 2013. A total of three testing reports were supplied in the documentation. Table 4.31 below lists where the IM has found that testing has not satisfied either the URS specification or the MRM specification or both. Table 4.32 lists the IM's assessment of compliance to all relevant commitments in the 2012-2013 MMP (MRM, 2013c).

No QA/QC reports have been supplied for construction of the PAF management dams.

Although outside the reporting period, the QA/QC records from October 2013 onwards also show a very high proportion of failures, mainly related to moisture content at compaction being less than -2% of optimum.

Table 4.31 – Summary of Compaction Test Compliance

Report Date	Compliance with URS 2008 Specification		Compliance with MRM 2012 Specification		Comments on Testing Memo
	Material Classification	Compaction and Moisture	Material Classification	Compaction and Moisture	
10/10/2012	Complies	No data	Does not comply	No data	It was recommended that 10 cm of sandy material be removed and the whole of the lot be re-compacted. Test results following the reworking of the lot could not be located
4/09/2013	Does not comply	Does not comply	Complies	Does not comply	The lot is partially accepted despite 10 of 13 tests failing moisture criteria and one of 13 tests failing compaction criteria. Only part of the lot is recommended for rewetting and re-compaction despite these results
19/09/2013	Does not Complies	Does not Complies	Complies	Does not Complies	This memo details the reworking of a section of the lot discussed in the memo from 4/9/2013. The area is approved for dumping despite all of the test results not meeting the moisture criteria

Table 4.32 – Compliance with 2012-2013 MMP Commitments

MMP Commitment Number	Area	Commitment	Compliance
Part B 14	3.2.1	Currently MRM has in place a compliance register, which highlights all legislative requirements, applicable codes of practice, standards and guidelines	IM understands a register has been created but a copy has not been provided
Part B 25	4.1.6.3	Mining above, around and through these voids is managed by the Voids Management Plan and associated procedures	Not verified
Part B 28	4.1.7.1.1	The Stores complex will be removed before the West OEF can be expanded	Compliant
Part B 31	4.1.7.2.1.3	Topsoil, growth media and NAF rock will need to be stockpiled through the life of the dump so that the availability of these materials will match their demand	Compliant based on verbal information provided during the March 2014 site inspection

Table 4.32 – Compliance with 2012-2013 MMP Commitments (cont'd)

MMP Commitment Number	Area	Commitment	Compliance
Part B 32	4.1.8.2	The West OEF ROM pad will be constructed throughout 2013, and will be ready to hold ore late in this reporting period	The West OEF ROM pad has been constructed but the IM is unsure if this was completed during this reporting period
Part B 33	4.1.8.3	Low-grade ore has been tipped in the NOEF PAF cell area for the past two years, and will continue through the oncoming reporting period	Compliant based on verbal information provided during the March 2014 site inspection
Part B 43	4.1.12.4	The West OEF will transform from an OEF to a ROM pad throughout 2013	The West OEF ROM pad has been constructed but the IM is unsure if this was completed during this reporting period
Part B 45	4.1.12.5	A new emergency access road will be constructed to link the west side of the NOEF with the Carpentaria Highway	Compliant
Part B 46	4.1.1.6	Soil profile testing on the future footprint for the East OEF using a vehicle mounted auger, with associated tracks to access the areas will occur	Compliant (137632036-007-R-Rev0)
Part B 49	4.1.12.10	Several new roads will be required in this reporting period	Not verified
Part B 50	4.1.12.11	Construction of the dewatering pipes between Pete's Pond and the TSF area (as per the MMP Amendment submitted on 7 August 2012) would occur in this reporting period	Completed but date of completion is not known
Part B 52	4.1.12.13	After receiving approval on 25 September 2012 to conduct drilling on the Coxco leases it is envisaged that this will be completed by the end of November 2012	Not verified
Part B 55	4.2.2.9	Flotation tailings are combined in the final tails hopper, which is then pumped to the tailings thickener	Compliant

Review of Progress Against Previous IM Audit Recommendations

Table 4.33 presents an update for the 2012 and 2013 operating periods in relation to comments made in the last audit.

Table 4.33 – Update on Previous IM Comments Relating to OEF Geotechnical Issues

Comment from 2011 Audit	Update for 2013 Audit
A layer of PAF waste should be immediately paddock dumped over the completed basal clay liner, as specified in the design report, to prevent desiccation of the basal clay liner. As confirmed through verbal communications with Karissa Grenfell, Mining Manager, the allowed exposed area of clay is now minimised	No specific records of covering of completed clay liner layers have been provided. This commented is reiterated for the 2012 and 2013 audits
Exposure of the completed clay cover on the batters to the elements should not be allowed, as this has the potential to desiccate the clay leading to cracking which increases the permeability of the clay. Furthermore the exposed clay on the batter is susceptible to erosion during rainfall events. A layer of NAF waste should be immediately dumped over the completed clay cover on the batter to protect the cover	No records or evidence of this specific activity have been provided. This is reiterated for the 2012 and 2013 audits
Although not directly a geotechnical issue, a cover should be constructed on the top surface of the OEF when it reaches design height and prior to each wet season to minimise infiltration of rainfall and runoff into the waste	Covering the OEF prior to rain events is one of the criteria contained in the URS design report. This is reiterated in the 2012 and 2013 audit with additional comments in Section 4.1.6.2.7 below
Implement and report on the QA/QC procedures for testing the clay liner as drafted and approved by MRM, and ensure the level of QA/QC in the MRM procedures is on par or better than the suggested URS procedures, so that the clay liner is being constructed in accordance with the design	Additional QA/QC testing has been carried out in subsequent operational periods. The IM was not able to verify if testing has been carried out at the frequency required by the MRM specification based on the documentation provided. Identified non-compliances are discussed in Table 4.31 above
For all future cell constructions, ensure that the clay liner is placed under Level 1 supervision, or apply the specifications as drafted by MRM, if required in conjunction with URS	This is reiterated in 2013 with additional comments in Section 4.1.6.2.7 below

New Recommendations

Table 4.34 contains recommendations for the future management of OEFs, while Table 4.35 contains an update on recommendations from the previous audit.

Table 4.34 – Recommendations for Future Management of OEFs

Area	Recommendation	Priority
Specification	The IM has found some significant inconsistencies within the MRM specification, the application of the specification and assessment of test data. The IM also understands that the current specification is likely to be revised. The IM accordingly recommends that MRM conducts an immediate review of the specification to correct and clarify inconsistencies with specific attention to the placement moisture content range and the type and frequency of hydraulic conductivity testing Any revised specification will need to be reviewed and agreed by the OEF designer	High

Table 4.34 – Recommendations for Future Management of OEFs (cont'd)

Area	Recommendation	Priority
QA/QC assessment	The IM has found many instances where material in violation of the construction specification is being accepted for dumping of PAF waste (e.g., memo dated 19/9/2013). The IM has also found that the specification pass/fail criteria are being incorrectly applied. In light of these the IM recommends: ♦ MRM review all test data to properly assess locations and approximate volumes of placed materials that have not met the reviewed specification including testing frequency ♦ The OEF designer(s) conduct a review of the above to ascertain whether the placed materials meet design requirements. If not, the OEF designer(s) should recommend remedial action that would be required such that OEF can function as per the approved design and therefore its intended purpose A revised encapsulation design may be required to accommodate these shortcomings depending on the severity and extent of test failures	High
	Full-time inspection and testing service on all earthworks (Level 1) to AS3798 should be carried out with the additional requirement that the testing authority (GITA) is independent of MRM (i.e., a Geotechnical Independent Testing Authority or GITA) and provides certificates verifying that the liner has been constructed in line with the specification and satisfies the nominated testing criteria as required by the Standard (AS3798) Future testing should comprise lot testing with *a none to fail* criteria	High
PAF cap	A clay cap should be constructed above PAF material prior to the wet season to minimise infiltration during this period. This action should be documented	High
Foundation treatment	The foundation treatment should be documented and reviewed against the design (currently URS (2008)). Construction records and reports on foundation treatment should be kept and made available to the IM	High
General	Detailed plans and cross sections of the OEFs should be prepared and made available to the IM such that the construction of the OEF can be verified. This should include, where relevant, a system to identify the QA/QC testing lots for the relevant materials	Medium

Table 4.35 – Update on Recommendations from Previous Audit

Area	Recommendation	IM comment
OEF geotechnical monitoring	Technical specification for clay placement required and higher level of supervision for clay placement	More work is required on the specification as highlighted above
	Application of the MRM standards and correlation of those standards to the original URS design requirements. Confirmation that the testing density and sample density is adequate and in line with best practice and standards	More work is required on the specification as highlighted above. The testing frequency relates to accepted variation in the design and must be considered, therefore, in conjunction with the design
	Inclusion of liner testing in the geotechnical reporting	This has been implemented
	Construction of top cover over OEF prior to wet season	Evidence of a top cover over some of the OEF was observed during the March 2014 site inspection
	Consideration of placement of nested piezometers along the northern and eastern edges of the facility where seepage from the NOEF has been observed	The IM is not aware of any existing or additional nested piezometers in this area

4.1.7.3 Bing Bong Dredge Spoil Area

The Bing Bong dredge spoil area is located to the northeast of Bing Bong Port. The facility is used to dispose dredge spoil recovered during periodic channel dredging operations at Bing Bong Port.

The spoil is divided into five cells, each separated by a series of bunds built on natural ground or built later on dried dredge spoil. The bulk of material currently within the cells was placed during the initial dredging operation. Additional smaller quantities of material are placed infrequently during maintenance dredging operations.

Key Risks

The main risk associated with the Bing Bong spoil area is potential failure of the external cell walls leading to inundation of adjacent areas with saline material and dredged material. There are additional risks associated with excessive seepage of saline water. The risk of wall failure is related to:

- The minimalist approach to engineering due to lesser containment requirements when compared to the TSF.
- The rapid flooding of the ponds when dredge operations are being undertaken.

The IM recognises that the approach taken to date at Bing Bong is minimal design requirements given the height of embankments, the more benign nature of materials and water being contained, and that dredge operations are of short duration and relatively infrequent. The IM also recognises the difficulties in maintaining well-engineered embankments at the site where inundation by flooding or seawater ingress is a regular occurrence.

However, this approach must be compensated through effective monitoring, rapid response to repairs and rebuilding prior to major impact cycles such as dredging activities or the wet season.

Existing Controls

The following controls are in place for managing geotechnical risks at the Bing Bong spoil area:

- Bing Bong Dredging and Spoil Disposal Management Plan (EcOz, 2012b).
- Hazardous Dam Stability Assessment TSF and BB Dredge Spoil (AWA, 2012).
- Monthly visual inspections.
- Water quality, dust and other chemical monitoring.

Successes

A geotechnical assessment of the stability and seepage characteristics of the cell walls has been undertaken by Allan Watson and Associates (AWA, 2012)) in response to previous IM recommendations. This work included a geotechnical investigation of the materials contained within the Bing Bong cell walls, measurement of piezometric levels, internal erosion (piping) potential and stability analyses that broadly conform to ANCOLD guidelines (ANCOLD, 2012).

The ponds are being regularly inspected visually using a generally effective checklist and pro-forma. Inspections are understood to be monthly although some of these reports were not provided to the IM.

A Cardno, Ullman & Nolan report undertaken in December 2012 was provided to the IM on the construction of an internal wall within the ponds. This report contained some limited but useful data on dynamic cone penetrometer investigations, foundation preparation and achieved compaction densities.

New Issues

The Bing Bong Port monthly reports require the inspector to comment on whether cell freeboard is sufficient. However, there is no guide within the reporting pro-forma as to what the freeboard requirements are. Additionally, the required response is a simple numerical rating of yes, no or unknown and in some reports a 'yes' there is sufficient freeboard available is negated by comments like 'pretty much full' or similar. There is no recorded action against this statement. Furthermore, these reports do not require assessment of visible settlement, slumping or slope failure.

The IM considers available freeboard and the general stability of cell walls to be of primary concern for the safe storage of dredged material at Bing Bong.

There is no known geotechnical design of the Bing Bong cells. Consequently, the geotechnical stability assessment was based on assumptions. It is also evident that further modifications and repairs will be required to accommodate existing and additional dredged material. It would be prudent, therefore, to prepare an embankment design that ensures embankment integrity and freeboard is maintained and the assumptions made in the stability analysis are not compromised.

Incidents and Non-compliances

There are no known non-compliance issues within the reporting period other than conflicting reporting within the monthly reports. Additionally, there are no outstanding geotechnical commitments for Bing Bong Port as none were included in the previous MMP.

Review of Progress Against Previous IM Audit Recommendations

The IM in its review of the 2011 operational year made a number of comments in addition to recommendations regarding geotechnical issues at Bing Bong. As part of this review the IM has provided an update (Table 4.36).

Table 4.36 – Update on Previous IM Comments Relating to Bing Bong Geotechnical Issues

Comment from 2011 Audit	2013 Audit Comments
Over the 2011 operational period, no geotechnical monitoring such as piezometers within the spoil dump embankment or survey prisms were installed within the embankment and no monitoring was conducted in 2011	As of the 2013 audit limited geotechnical monitoring has been undertaken for the specific purpose of new wall construction or stability assessment only
Following from the 2012 audit, it was noted that, at the time of audit, a CPT (Cone Penetration Test) investigation was ongoing and test pitting had been carried out. It is assumed that these works are in support of the recommended geotechnical review	CPT test results were supplied to the IM as part of the geotechnical stability assessment. No test pit results were supplied
No dredging has been conducted since the previous audit however this recommendation is still valid should future dredging be required	MRM has commissioned and provided the results of a Hazardous Dam Stability Assessment for Cell 1 of the Bing Bong dredge dump

Recommendations from the previous IM review that relate to geotechnical issues at Bing Bong are presented in Table 4.37.

Table 4.37 – Outstanding Recommendations from the 2011 IM review

Area	Recommendation	IM Comment
Bing Bong Dredge Spoil – geotechnical monitoring	Geotechnical review of embankment stability required prior to wet season (this is assumed to be taking place in the latter half of 2012)	A geotechnical review of stability has been undertaken by Allan Watson and Associates dated September 2012. This review included Cone Penetrometer Testing (CPT) and piezometric investigation of Bing Bong embankments and some consideration of piping potential. Additionally, the IM observed some remedial and cleaning works of the existing drain
	Installation of piezometers and survey monument and a geotechnical monitoring program to be instigated	From the documents provided the IM understands that embankment levels have only been measured for the purposes of construction and piezometric levels have not been remeasured since the stability assessments were undertaken
	Installation of engineered spillway required before wet season	There is also no documented evidence of a spillway and none was observed during the IM March 2014 site inspection

New Recommendations

New IM recommendations relevant to Bing Bong geotechnical issues are provided in Table 4.38.

Table 4.38 – New Bing Bong Geotechnical Recommendations

Area	Recommendation	Priority
Bing Bong Dredge Spoil – geotechnical monitoring	A design should be prepared that outlines the geometry and method construction of embankments up to the anticipated maximum RL. This design should incorporate expected piezometric levels based on measurements taken to date and other assessments and freeboard requirements. This design does not need to be overly complicated given the nature of materials being stored and the observed performance of the embankments to date	Medium
	It is recommended that the inspection regime include a more comprehensive assessment of key parameters and that action is taken when there is non-conformance. These parameters include: ♦ A numerical assessment of available freeboard and a comparison to design freeboard ♦ A visual assessment of slumping or excessive settlement	Medium

These new recommendations should be combined with related recommendations still outstanding, these being:

- Measurement of piezometric levels at key points within the embankments such as areas of known high water levels and the extremities of the site.
- Measurement of the embankment crest RL, again at known areas of movement or likely instability and at the extremities.

These parameters should be measured against safe values defined by the design. In addition, actions undertaken in response to exceedance of these safe limits needs to be documented.

4.1.8 Closure Planning

4.1.8.1 Key Risks

The management of mine wastes (tailings and waste rock) and the final void water quality are the key risks relating to mine closure. Closure of the Bing Bong dredge spoil area is not considered to be a key risk (although it remains a risk) as evidence to date indicates that vegetation can be established in the dredge spoil. The aspects associated with the key risks relating to mine closure are outlined in Appendix 2 and are summarised as follows:

- Integrity of the cover placed over the NOEF fails to meet design specifications either in the short- or long-term resulting in increased seepage of water through the cover into waste rock, which has the potential to generate acid, saline or neutral metalliferous drainage. The resulting impact of the full or partial failure of the cover is the discharge of runoff which would fail to meet discharge criteria with impacts to terrestrial and aquatic ecosystems, together with the bioaccumulation of metals.
- Availability of suitable NAF materials to construct the cover for the NOEF. The recent reclassification of waste rock into six separate classes has highlighted that the availability of NAF material may be insufficient to implement the original NOEF cover design. Subsequently, should MRM be able to demonstrate that a revised cover design can be placed over the NOEF which would provide long term (1,000 years) stability, the availability of suitable materials to build this cover is a key risk in implementation of the strategy. Insufficient material or use of materials with soil properties that do not align with modelled assumptions may result in the cover not performing as predicted with the consequence being the discharge of acid, saline or neutral metalliferous drainage impacting terrestrial and aquatic ecosystems, together with the bioaccumulation of metals.
- Long-term stability of the NOEF landform. The current proposed landform for the NOEF is to construct (during building of the NOEF) a series of benches at intervals on the side of the NOEF with runoff water being transported via contour drains to drop structures. This engineered approach to landform design requires long-term monitoring and maintenance and has had mixed success within the Australian mining industry. Failure of these structures (i.e., overtopping of contour drain due to silting or erosion of drop structure) may result in exposure of waste rock below the cover, which has the potential to generate acid, saline or neutral metalliferous drainage. The consequence of exposing the waste rock is impacts to terrestrial and aquatic ecosystems together with the bioaccumulation of metals. The IM is aware that MRM is currently reconsidering the landform design of the NOEF.

- Long-term stability of the TSF landform. The current proposed landform for the TSF is to retain the existing series of benches and batters. No drainage is provided to safely remove surface water from the outer surface of the TSF. There is a risk to the long-term stability (1,000 years) of the TSF as a result of surface water ponding on a bench and then overtopping resulting in concentrated flow eroding the batter, which if left unchecked will develop a gully and potentially result in the exposure of tailings. As the tailings are PAF, exposure of the tailings to oxygen and water will/may result in acid drainage and discharge of salts (sulfates) and trace metals (Pb, Zn, As, Cd and Cu) to the terrestrial and aquatic environments.
- Since the approval of the initial open pit operations, there has been a change in the closure strategy for the pit lake from an accelerated filling using flood waters from McArthur River to no accelerated filling and the pit being allowed to fill naturally through groundwater inflow and rainfall. Under this revised scenario, the pit water quality will be poor; however, there remains some uncertainty regarding potential for water within the pit to drain to McArthur River with consequent impact on aquatic ecosystems.
- Post-closure monitoring and maintenance period funding. A post-closure monitoring and maintenance period of eight years is currently assumed by MRM, at which time the lease will be relinquished to the NT Government. History indicates that very few (if any) mines on the scale of MRM achieve lease relinquishment within this timeframe and therefore there is a risk that the current mine closure provision underestimates the cost for this post-closure monitoring and maintenance period. The potential impact is a financial cost to MRM or the NT Government in the event that MRM failed to meet its obligations. In this instance the bond held by the NT Government would be insufficient to meet all post-closure monitoring and maintenance costs.
- Closure criteria are the measures by which MRM will demonstrate that they have met their commitments and request the mine lease to be relinquished. The current closure criteria do not have specific performance indicators by which MRM can demonstrate the orderly progression of outcomes to achieve closure success. If closure criteria cannot be timed and measured it will be very difficult for MRM to demonstrate success and therefore have evidence to request relinquishment of the lease.

For the first five risks above, the potential bioaccumulation of metals may have impacts on human and animals that consume the biota.

4.1.8.2 Existing Controls

Planning for mine closure begins at project feasibility and continues through until lease relinquishment. As further information is obtained plans are revised and adjusted. The current phase of open pit mining commenced in 2006 and is to be expanded, hence there have been few opportunities for MRM to implement closure strategies with the exception of rehabilitation of McArthur River and Barney Creek diversion channels. Some other minor rehabilitation has been undertaken but closure of either OEF or the TSF has not been scheduled at this time. Only TSF Cell 1 could possibly be rehabilitated with TSF Cell 2 and the OEFs all active.

Existing controls are therefore limited to studies undertaken to develop closure strategies, including:

- Geochemical investigations of waste rock.
- Overburden emplacement facility management plan.
- Investigations into the availability and properties of clay for lining or cover.
- Mine closure plan.
- Preliminary pit void water quality modelling.
- Interim cover design for TSF Cell 1.
- Rehabilitation monitoring of McArthur River and Barney creek diversions and Bing Bong Port dredge spoil ponds.

4.1.8.3 Successes

The current predicted mine life is 2036 and subsequently there has been limited opportunity to undertake mine closure activities, with the majority of the disturbed areas being operational. The construction of the McArthur River and Barney Creek diversion channels is one area where MRM has a final landform. Revegetation of both diversion channels commenced immediately following construction with the establishment of vegetation on the Barney Creek diversion channel being more successful than the McArthur River diversion channel, which continues to have large areas which remain without vegetation cover. Issues associated with the McArthur River diversion channel are reported in sections 4.2.1 and 4.1.2.

4.1.8.4 New Issues

The reclassification of waste rock into six categories from the previous two has increased the volume of problematic waste material, which may generate acid, saline, or neutral metalliferous drainage (see Section 4.1.5). The adoption of the new classification commenced in 2014 and while outside of the IM reporting period it has important considerations for mine closure planning and, in particular, the assumptions upon which the current mine closure plan has been developed.

New issues that have been identified as a result of the review of information and the site visit are outlined below.

Northern Overburden Emplacement Facility

Cover Design

In Section 3.4.9 of Metserv (2012), the technique proposed to encapsulate the PAF material involved a series of clay-lined cells, covered by up to 20 m of NAF material. The technique was considered advantageous as it reduced the cost of final rehabilitation given that a low permeability cover would not be required across the surface of the OEF[12]. The proposed cell encapsulation strategy was also considered to 'eliminate the long-term cover failure risks associated with traditional PAF OEF design: cover erosion, surface run-off ingress, localised cover failure through deep rooted trees, burrowing animals and uprooting of trees in storm events' (Metserv, 2012).

[12] Note that this statement is inconsistent with the 2012-13 MMP, which indicates that a compacted clay layer encapsulating the entire NOEF would be undertaken.

The previous cover design (Figure 4.22) involved:

- 0.2-m-thick topsoil layer.
- 1-m-thick NAF rock layer for erosion protection and storage of rainfall during the wet season.
- 0.6-m-thick compacted clay layer.
- 18.8-m-thick NAF material.
- Encapsulation of PAF material in 0.6-m-thick compacted clay cells.
- Base layer of NAF.

As a result of the change in the volume of NAF material available for construction of the NOEF, MRM has developed an alternative plan and is now proposing the following cover design as per Figure 4.23 that involves:

- 0.1-m-thick topsoil layer.
- 1-m-thick clean NAF rock for erosion protection and storage of rainfall during the wet season.
- 0.6-m-thick compacted clay layer.
- 7.7-m-thick low PAF 'halo' material.
- Encapsulation of PAF material in 0.6-m-thick compacted clay cells.
- Base layer of NAF material.

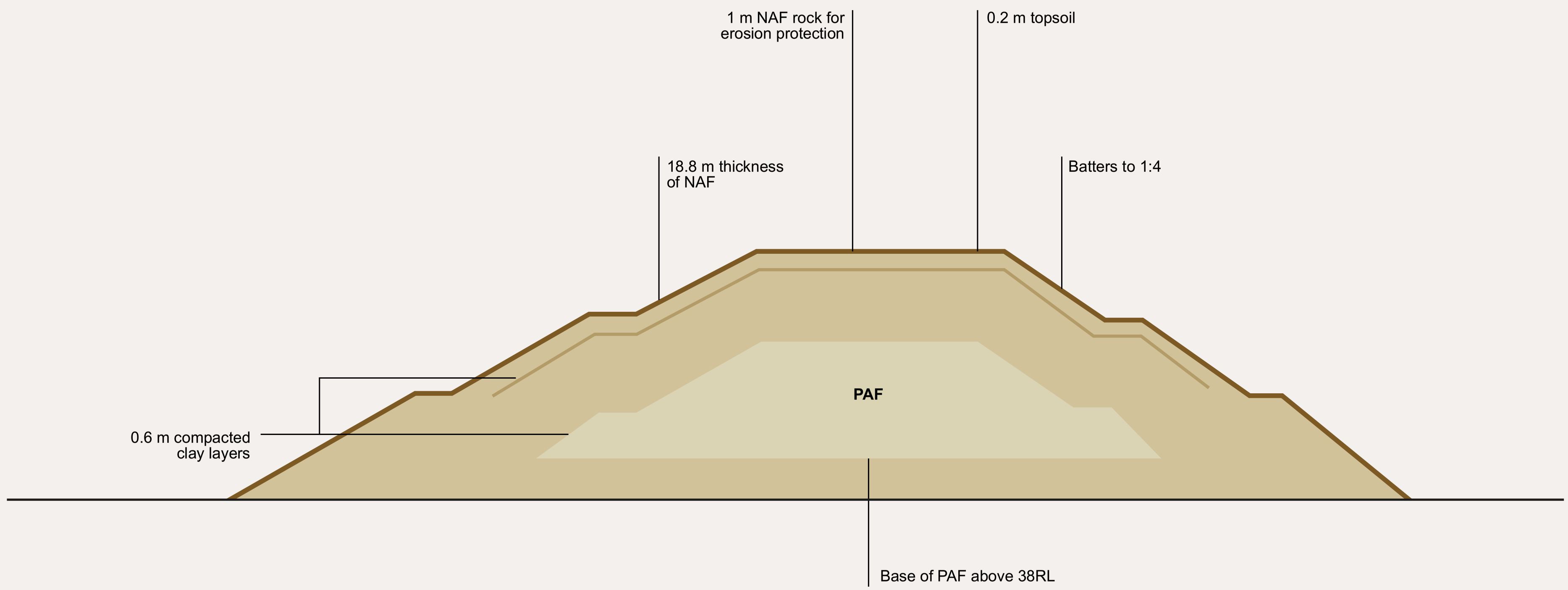
Both the former and proposed cover designs rely on the perpetual integrity and performance of a 0.6-m-thick compacted clay layer to control acid, saline or neutral metalliferous drainage. The cover design is sensitive to:

- Erosion of the cover layer (see Landform Stability below).
- Differential settlement as a result of the waste rock settling at different rates. This may be particularly relevant in areas where PAF-RE and PAF-HC are located, with high temperatures breaking down the rock resulting in a faster rate of settlement compared to less reactive rock types.
- Variability in the properties of the compacted clay. KCB (2014j) undertook an assessment of geochemical properties of the clay materials available for capping and found that the clay is potentially susceptible to volume changes, i.e., cracking from wetting and drying processes, particularly from heating by PAF waste rock.
- Construction quality control. This issue has been discussed in sections 4.1.6.2.4 and 4.1.6.2.5 and was also highlighted by KCB (2014j), particularly the difficulties of replicating laboratory tests such as hydraulic conductivities in the field. KCB (2014j) highlighted that the required hydraulic conductivities would be difficult to achieve when the moisture content was below optimal without over compaction which will likely result in a brittle fill prone to cracking. KCB (2014j) also noted the difficulty in achieving the minimum thickness of compacted clay and referred to the USEPA practice of specifying a minimum thickness of 0.9 m for landfill liners that are intended to be 0.6 m thick. Specifying an increased thickness to ensure the design specifications are achieved has implications on material availability and cost.

ORIGINAL CONCEPTUAL COVER DESIGN

McArthur River Mine Project

FIGURE 4.22



030985 - v02 - 16 October 2014

Source: MRM, 2013c.

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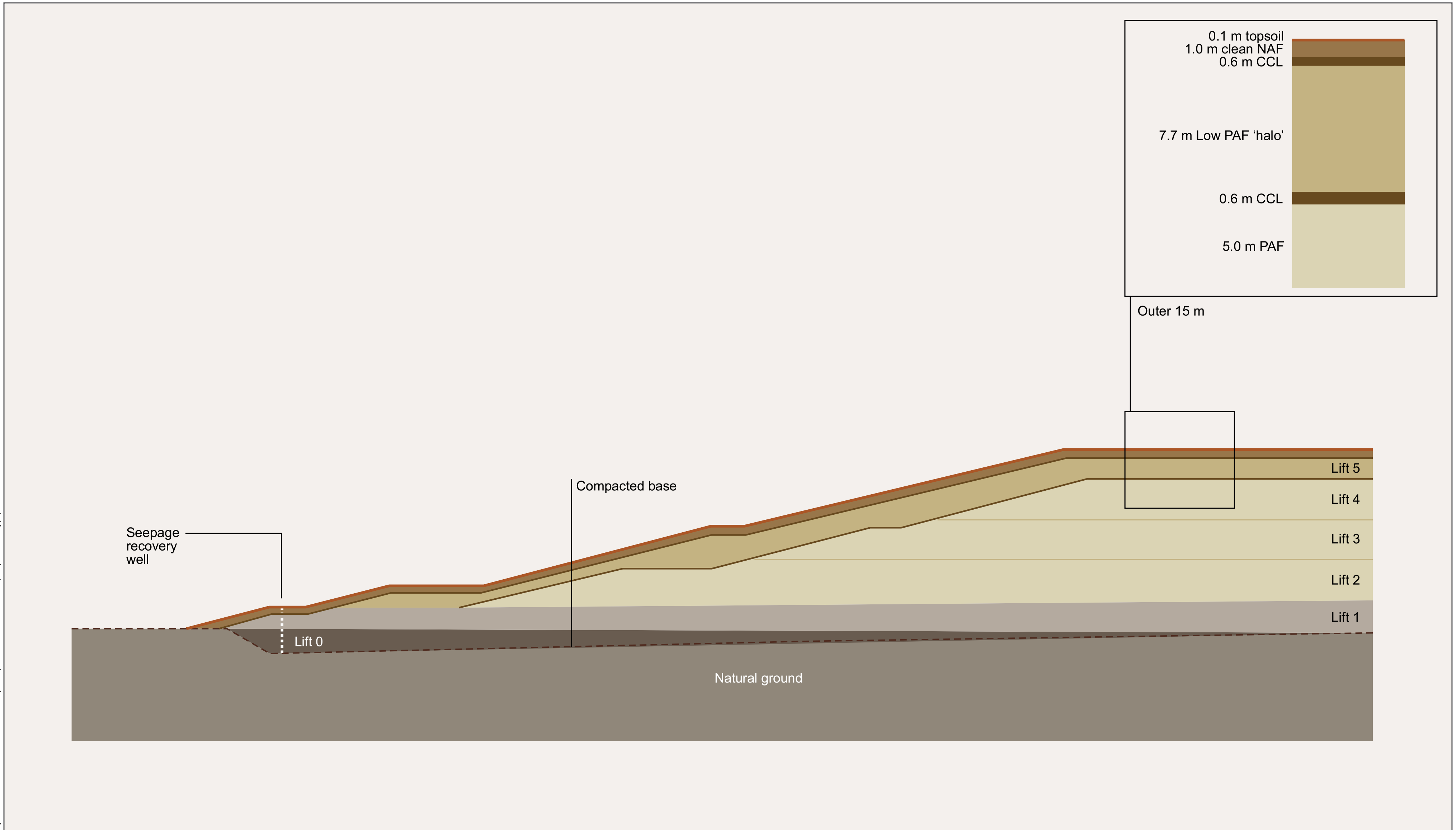
REVISED CONCEPTUAL COVER DESIGN

McArthur River Mine Project

FIGURE 4.23



030985 - v02 - 16 October 2014

Source: MRM, 2013c.

- Establishment of a sustainable vegetation cover and its ability to withstand fire and grazing. There is some contradiction regarding the proposed vegetation cover, with Table 5.1 of MRM (2012h) proposing that only grass species will be used to revegetate OEFs while other documents, e.g., Xstrata & MRM (2013)), refer to the use of an evapotranspiration cover involving trees, shrub and grasses. As the mine currently has difficulties in excluding cattle from the operational areas, it is unlikely that cattle can be excluded from grazing on the NOEF post closure.
- Climate change and indications that the rainfall in the region is increasing during the wet season (see Section 4.1.2.4) with subsequent potential impacts on assumptions made in the cover design model.

Landform Stability

The current proposed landform design for the NOEF is outlined in Appendix E2 of the Overburden Emplacement Facility Management Plan (MRM, 2012g). The proposed design involves:

- Outer slopes of the NOEF no greater than 1(V):4(H) overall slope.
- Contour drains on benches to direct runoff to drop chutes.
- Shaping the surface of the NOEF to a gentle slope of 1(V):100(H) with runoff directed towards drop chutes to transport water down to ground level.

Detailed design of the current proposal has not been undertaken. The IM is aware that MRM is reconsidering the proposed landform design and investigating the incorporation of a concave design, which would eliminate the need for contour drains and drop chutes. The IM supports this change in approach, as the current proposed landform design could never be considered maintenance free.

No erosion and sediment transport modeling has been undertaken on the current design. This information is essential to demonstrate the long-term integrity of the cover system and particularly whether the proposed 1 m thickness of NAF material is sufficient to maintain long-term integrity of the compacted clay layer to continue to achieve the level of performance modeled.

Pit Void Water Balance and Quality

A study by URS (2005c) into final pit void water quality evaluated four possible scenarios regarding options for the open pit. The four options assessed included:

- Do nothing – let the pit fill naturally from groundwater inflows and direct rainfall together with TSF seepage pumped to the pit. It was estimated that it would take approximately 70 years for the pit water level to stabilise at about 20 m below the rim of the pit.
- Breach the diversion bunds to facilitate filling the pit quickly from the surface water inflows, and then re-establish the bund permanently. It was estimated that it would require 15 months of inflows to fill the pit.
- Breach the bund permanently and allow surface water to flow through the pit area.

- Do nothing but allow the overtopping of the diversion channel to enter the pit – stream flow overtopping the McArthur River diversion channel would be allowed to enter the pit and overflow downstream.

Option 4 was proposed as preferred in 2005.

At some stage since the 2005 EIS, the preferred strategy for the open pit has been changed to allow the pit to fill naturally with groundwater inflows, direct rainfall and seepage from the TSF pumped to the pit. It is unclear why this change in strategy occurred.

It was observed by URS (2005c) that the main McArthur River channel contained up to 30 m of saturated alluvial sediments, which would be exposed in the uppermost wall of the pit. It was highlighted that these alluvial sediments may have higher permeability due to the presence of sand and gravels.

URS (2012a) remodeled the filling of the pit lake as part of the Stage 3 EIS, which indicated it would take between 300 and 400 years for the pit water level to stabilise within the expanded pit with the water level reaching 50 m below the pit rim. With the recent changes in the reclassification of mine waste materials, earlier predictions of pit water quality are now likely to be redundant (KCB, 2014b). Improving the confidence in the final pit water level is also critical to determining the most appropriate strategy. The presence of the alluvial sediments up to 30 m below the pit rim indicates that there is a possibility of water from the pit discharging into the old McArthur River and subsequently off site.

Tailings Storage Facility

Cell 1 Interim Cover Design

Previous IM reports commented on the need to cover the tailings in Cell 1, particularly as the tailings represented a source of contamination via dust emissions. MRM has placed a layer of silty soil over the tailings to prevent dust emissions, although subsequent erosion of the silty soil cover has exposed some tailings. MRM commissioned O'Kane Consultants (OKC, 2013) to develop an interim cover design. An interim cover was preferred by MRM due to the potential for future reprocessing of the tailings, although the IM notes that retreatment is not in the current mine plan and Strohmayr (pers. com., 26 March 2014) indicated that further technological advances would be required before retreatment of the tailings would be considered.

A weighted multi-criteria options assessment was undertaken by O'Kane Consultants to determine the preferred design alternative. The option of constructing a sustainable long-term (i.e., final cover) was also included in the assessment for comparison purposes only. Interestingly, the long-term cover option was ranked first or second in the assessment. The preferred interim cover design option involved the following:

- Grading and compacting the existing surface.
- Constructing a series of on-contour concentric waste rock filter bunds.
- Constructing two spine drains to transport surface water runoff to collection ponds to the east and west of Cell 1.

The uncertainty regarding if or when Cell 1 is retreated is of concern to the IM. An opportunity exists for MRM to either fully or partially complete the rehabilitation of Cell 1 and begin the process of gathering information on cover performance. This information would be invaluable in finalising the cover design for Cell 2 and any future TSF cells and provide confidence in closure costs and likely timeframe of the post-closure monitoring and maintenance period for TSFs.

Landform Stability

The current proposed final landform for the TSF is for the sides to remain as constructed for operations, i.e., a series of lifts with a bench separating each lift of the tailings facility.

No erosion and sediment transport modeling has been undertaken on the current design. This information is critical in being able to demonstrate the long-term integrity of the cover system and particularly that tailings will not be exposed and the long-term integrity of the compacted clay layer will continue to achieve the level of performance modeled.

Closure Criteria

As part of the site mine closure plan, MRM has developed mine closure objectives, criteria and measurement tools. Seven specific areas have been identified ranging from compliance to landforms and public safety, from which 27 broad objectives have been developed. Table 4.39 outlines a selection of mine closure objectives and criteria that have been developed by MRM (MRM, 2012h). There are some objectives where the IM believes that MRM will/may not be able to demonstrate achievement. An example relating to ‘Low risk to Biota’ (see Table 4.39) is where a closure objective has been developed which states ‘Production of polluted surface water (e.g., metals, acid or caustic runoff from pits, stockpiles, waste rock or tailings) should be minimised and controlled and trends should indicate improvement’ (MRM, 2012h). It has been recognised by MRM that the current final pit void strategy of allowing the pit to fill by groundwater inflows, rainfall and seepage from the TSF pumped to be pit will result in a continued decline in pit water quality. Subsequently, this objective could not be achieved.

Table 4.39 – MRM Mine Closure Objectives, Criteria and Measurement Tools

Objectives	MRM Proposed Criteria	Measurement Tools
Landforms and Rechannels		
Channel – construct a stable landform and host native vegetation	♦ Engineering design promoting stability, minimal erosion, minimal downstream impact and sustaining native vegetation	♦ Erosion reports ♦ Annual monitoring vegetation structure, richness and cover via aerial photographic data and field work in June ♦ Factors to be assessed include the condition of the plot: rock movement, erosion and the presence of debris numbers and species of tube stock and measures of survival and growth extent of seed regeneration vegetation growth and weed composition

Table 4.39 – MRM Mine Closure Objectives, Criteria and Measurement Tools (cont'd)

Landforms and Rechannels (cont'd)		
TSF – construct a stable landform and host native vegetation	♦ Engineering and capping designs promoting stability, minimal erosion and seepage with acceptable run-off quality	♦ As built design reports ♦ Survey plans ♦ Stability/erosion monitoring reports ♦ Regular monitoring of performance of capping materials and depth topsoil cover (i.e., evidence of topsoil erosion and loss) vegetation cover species and resilience integrity of constructed drainage, erosion and silt accumulation in constructed drainages, net sediment loss rates (tonnes/ha/year), sediment quality and runoff quality
OEF – construct a stable landform and host native vegetation	♦ Maximum height 80 m ♦ Engineering and capping designs promoting stability, minimal erosion, and seepage with acceptable run-off quality. The design will ensure that limited rainfall and oxygen infiltrate the facility ♦ Block modelling of waste rock will ensure that AMD material are encapsulated	♦ Cover trial reports ♦ Annual monitoring ♦ Material movement schedule with matching OEF placement schedule
Low Risk to Biota		
The quality of water leaving the site should be such as to cause no significant deterioration of water quality to the downstream beneficial use(s) of water quality objectives of the receiving waters declared under Section 73 of the *Water Act 1992*	♦ Surface water will be monitored until relinquishment (eight years after proposed closure) ♦ Contaminated areas will be capped with a capillary layer and erosion resistant material or disposed of in the TSF or placed in the open pit, with clean material replaced and rehabilitated ♦ Trials will be undertaken to confirm capillary layer, surface cover material and revegetation requirements ♦ The refuse facility will be capped and revegetated ♦ No contaminated areas will be left uncovered ♦ Sediment traps will be utilised to minimise off-site suspended solids being discharged off-site where appropriate	♦ A risk assessment ♦ Management plans ♦ Audits ♦ Inspections ♦ Post closure water and rehabilitation monitoring records ♦ Trial results and reports
Production of groundwater should be minimised, and water quality trends should indicate improvement	♦ Groundwater quality will improve within specified guidelines (long-term results) ♦ An approved groundwater monitoring program for mine relinquishment will be implemented	♦ Groundwater monitoring program ♦ Monitoring results

Table 4.39 – MRM Mine Closure Objectives, Criteria and Measurement Tools (cont'd)

Low Risk to Biota (cont'd)		
Production of polluted surface water (e.g., metals, acid or caustic runoff from pits, stockpiles, waste rock or tailings) should be minimised and controlled and trends should indicate improvement	♦ Mine surface water quality will improve within specified guidelines (long-term results) ♦ An approved surface monitoring program for mine relinquishment will be implemented ♦ All sources of low quality water will be capped with an appropriate mitigating capillary layer, and erosion reducing material, and revegetated	♦ Surface water monitoring program ♦ Monitoring results ♦ NAF, PAF and capping scheduling for the OEFs ♦ Inspections ♦ Rehabilitation monitoring results
TSF seepage post closure will have no environmental impact on water quality or biota	♦ Designed to ANCOLD criteria ♦ Capped and rehabilitated ♦ Install clay liner in Cell 3 ♦ Install engineered liner in Cell 4	♦ As built design reports ♦ Rehabilitation monitoring reports
Continuing active intervention should not be required for site water management	♦ Ongoing site water management not required allowing for full availability of water for local values ♦ Groundwater contamination will not impact on the potential post-mining land use and will pose no risk to biota following rehabilitation	♦ Groundwater monitoring

Other objectives require the construction of a stable landform and native vegetation. The measurement criteria to demonstrate achievement of these objectives are 'Engineering and capping designs promoting stability, minimal erosion and seepage with acceptable run-off quality' (MRM, 2012h). The measurement criteria are vague with no definition of what constitutes minimal erosion or what is acceptable runoff water quality nor over what period stability is being measured, i.e., 100, 500 or 1,000 years. Subsequently there is no ability for either MRM or DME to determine if the criteria have been achieved.

The Western Australian Government (2011) has prepared guidelines for preparing mine closure plans, which outline expectations regarding closure objectives, criteria and performance indicators. The IM recognises that the current life of the operation is until 2036; however, developing clear/measureable mine closure objectives, criteria and performance indicators will assist MRM to progressively achieve closure goals over the life of the operation, i.e., they will guide the development of closure strategies and the operation of the mine.

Mine Closure Costs

The mine closure plan prepared for the McArthur River Mine Phase 3 Development Project EIS (Metserv, 2012) estimates the mine closure costs after the cessation of mining to be $170 million. The cost estimate was prepared using the security calculation spreadsheet provided by DME to calculate closure provisioning. The amount estimated for post-closure monitoring and reporting is $1.6 million and there appears to be no allowance for post-closure maintenance. MRM has estimated a period of 8 years of post-closure monitoring which equates to $0.2 million per year.

4.1.8.5 Incidents and Non-compliances

No incidents relating to mine closure were reported during the period.

Table 4.40 summarises the MRM rehabilitation and closure commitments from the McArthur River Mine Closure Plan.

Table 4.40 – MRM Rehabilitation and Closure Commitments

Source/ Reference	Commitment	IM Comment
Mineral Lease N1121-5 Condition 10	No contaminated (contact with broken ore, waste rock, concentrate or tailings) water is permitted to leave the lease (no release system). Controlled release may occur under extreme conditions and in consultation with the Department of Resources (DOR). Such as severe rainfall events, where water quality is unlikely to be impacted given the high dilution factor	Some exceedances of water quality guidelines have been observed
Lease 1126 Section 11	No contaminated water is permitted to leave the lease or enter the sea	Some exceedances of water quality guidelines have been observed
Lease 112 1-5 Condition 7	MRM must lodge a guarantee and keep such a guarantee current for the term of MRM Leases. The guarantee is a security for compliance by the company with its obligations as to rehabilitation of the Mineral Lease Areas pursuant to the Mining Act 1982 or the Mineral Lease terms	A bond has been lodged with DME for rehabilitation costs. The IM believes that costs associated with post-closure monitoring are inadequate and that costs should be included for post closure maintenance
Lease 1121-5 Condition 12	Prior to decommissioning the Tailings Storage Facility (TSF), a complete rehabilitation proposal must be submitted	Final decommissioning of the TSF has not commenced. An interim capping strategy has been developed for Cell 1
	A Life of Mine Closure Plan will be prepared. Life of mine rehabilitation costs and associated decommissioning activities will be reviewed annually and will be provided in annual Mining Management Plan (MMP) updates	Mine closure plan has been prepared
1992 Draft EIS pp.181	The goal for rehabilitation is to return the disturbed areas to stable landforms to minimise off-site deleterious effects. The fundamental aims may therefore be summarised as follows: ♦ The surface of the rehabilitated ground is to be stabilised against the forces of erosion and the rehabilitated landform is to be non-polluting to contiguous properties ♦ The vegetation cover is to be capable of recovering from natural disturbance, such as drought and fire, and man-made disturbances (such as overgrazing) likely to occur for a selected land use sufficiently quickly such that the land is not prone to erosion	With the exception of the McArthur River and Barney Creek diversion channels no significant areas of rehabilitation have commenced
1992 Draft EIS pp.181-182	Options are presented for TSF rehabilitation as being covering with a Non-Acid Forming (NAF) rock mulch, capping with an impermeable layer. Overlaying this layer is potentially a number of layers for stability and plant growth. Vegetation may be using natural colonisation or active revegetation	Final closure of TSF Cell 1 has not been advanced with MRM preferring an interim option. MRM proposes to retreat Cell 1 however no timeframe has been set on when this will occur
1992 Draft EIS pp.181-182	Options are presented for waste rock at the end of mine life as being left as is, backfilling underground, capping, with or without vegetative material.	This commitment was made during underground operations. Options for capping of NOEF are currently being reconsidered

Table 4.40 – MRM Rehabilitation and Closure Commitments (cont'd)

Source/ Reference	Commitment	IM Comment
1992 Draft EIS pp. 183	Topsoil is to be salvaged in all areas which are to be disturbed and which contain suitable topsoil (nominally 10 to 15 cm)	Topsoil is being salvaged and stockpiled
1992 Draft EIS pp. 185	Revegetation of topsoil stockpiles will be undertaken manually if not naturally attained.	Revegetation of topsoil stockpiled is evident
1992 Draft EIS pp. 186	Trials during the mine life will be undertaken as required but will investigate the following landform options, soil cover options, vegetation options, rock mulch options	No trials commenced at this time. Options are currently being reconsidered
1992 Draft EIS pp. 185	A selection of suitable native species and proven pasture species will be trialled during the life of the operation. A range of species and post-mining use aspects will be considered for the final seed list	Various species are being trialled for revegetation of the McArthur River diversion channel
1992 Draft EIS pp. 187	A monitoring program will be used to assess rehabilitation success	Revegetation monitoring has commenced
1992 Draft EIS pp. 187	More advanced trials will be designed after the initial vegetation screening process include man induced plant successions, irrigation for plant establishment, land preparation and seeding techniques, mulch covers and seeding techniques	Trails on vegetation establishment have been undertaken on the McArthur River Diversion. See Section 4.2.1
1992 Draft EIS pp. 187	Soil erosion will be scored by visual assessments with identified poor areas remediated prior to the next wet season. A regular photographic record will be maintained over time	Soil erosion is measured but with no criteria the IM is unable to comment on whether erosion rates are acceptable
1992 Draft EIS pp. 187	The success of tailings or acid generating mine waste rock capping will be assessed using strategic ground water monitoring	No capping of TSF or waste rock has commenced
1992 Draft EIS pp. 188	Revegetation will be assessed using transects for 6 years after establishment. Success will be determined through plant population estimations from plantings and topsoil. Growth rates and biomass surveys will be undertaken	Revegetation monitoring has commenced
1992 Draft EIS pp. 188	The decommissioning strategy for rehabilitating contaminated sites will be to stabilise and cover exposed surfaces. Groundwater and surface material will be isolated from the noxious material. The waste rock dump will either be used as backfill or rehabilitated. Should the waste rock remain above ground, its surface will be isolated from water runoff and stabilised (either rock mulch or vegetation)	Commitment relates to final closure, which are not applicable at this time

Table 4.40 – MRM Rehabilitation and Closure Commitments (cont'd)

Source / Reference	Commitment	IM Comment
1992 Draft EIS pp. 188	The decommissioning strategy for rehabilitating inert sites will be relatively similar to surrounding areas. The rehabilitated areas will be made safe by: ♦ The dismantling and removal of all structures and equipment ♦ The removal of infrastructure and unused equipment ♦ The disposal of rubbish or hazardous wastes in approved sites ♦ Closing or burial of adit opening and exposed shafts ♦ Removing or closing access roads and tracks ♦ The retention of water storage's which may be useful for cattle grazing and the elimination of any other water storage areas The inert sites will be levelled off, deep ripped and seeded with native species or pastures. A topsoil cover of 100 mm may be required in areas where there is no topsoil	Only small areas have been available for rehabilitation to date
1992 Draft EIS pp. 188	The Bing Bong facility will be decommissioned in a similar manner by removing all plant and equipment and rehabilitating all disturbed areas	Not applicable at this time
1992 Draft EIS pp. 188	The dredge channel will be left untouched, as benthic biota will recolonise the area (channel beacons will be removed)	Not applicable at this time
1992 Draft EIS pp. 223	Local tourism post-mining options are discussed	Not verified
As noted	Bing Bong dredge spoil disposed as per Dredge Spoil Relinquishment Strategy (May 2002) and 2004 Annual Dredge Spoil Monitoring Report	Not verified
As noted	It is noted that additional rehabilitations and closure commitments maybe included on subsequent MMP's that supersedes these commitments	Not applicable

4.1.8.6 Items not Resolved From Previous Audit

Previous IM audits have not included a specific closure section. Items from the 2011 audit which relate to closure have been covered in other sections of this report.

4.1.8.7 Recommendations

Recommendations which impact on mine closure have also been included in other sections in the report, in particular sections 4.1.5.5 and 4.1.7.7. Recommendations of the IM which relate specifically to closure are outlined in Table 4.41.

Table 4.41 – New Mine Closure Recommendations

Subject	Recommendation	Priority
NOEF	Review the current dump design in relation to the sustainability and performance of the 0.6 m compacted clay infiltration/oxidation control layer. Test the sensitivities of the cover design to: ♦ Changes in material properties ♦ Changes in depth of NAF cover as a result of erosion ♦ Changes in climate	High
	Undertake erosion and sediment transport modeling of the proposed NOEF landform to identify depth of NAF cover material required to ensure the functionality of the cover for 100, 500 and 1,000 years. The IM supports MRM's decision to evaluate alternative landform designs which eliminate the need for engineered structures	Medium
	Undertake a trial to construct a liner to the required specification and regularity of thickness to prevent seepage in perpetuity. Samples from the trial compacted clay liner to be tested for density and permeability after compaction with testing to be undertaken at intervals over the full thickness of the liner	Medium
	Evaluate the potential for differential settlement of the NOEF to compromise the cover design. In particular, the potential implications for highly reactive PAF material to settle faster than other waste rock contained in the NOEF	Medium
Open pit	The seepage of contaminated water from the pit lake after closure should be assessed. This would best be carried out using a water and solute balance model for the pit void lake, which would include inflows, outflows, storage volumes, effects of salinity on lake evaporation rates and geochemical process associated with interaction between lake water and the pit wall rocks Under the 2011 West Australian mine closure guidelines, which MRM has adopted for closure planning purposes, an assessment of the pit lake condition is required to identify whether a groundwater sink or through flow cell will develop after closure	High
TSF	An interim cover design has been developed for TSF Cell 1. MRM currently does not have any plans for retreatment of Cell 1, although with further technological advances retreatment may be possible. An opportunity exists for MRM to develop its TSF closure strategy by implementing a final cover over either all or part of Cell 1. The IM recommends that a final cover strategy trial be undertaken on Cell 1 for at least part of the area	High
	Undertake erosion and sediment transport modeling of the proposed TSF landform to identify depth of NAF cover material required to ensure the functionality of the cover for 100, 500 and 1,000 years	Medium
Closure objectives, criteria and performance indicators	Revise the current mine closure objectives, criteria and performance indicators. The objectives should be outcome based and focused on the proposed post-mining land use. The closure criteria and performance indicators should be site specific and capable of objective measurement or verification	Medium
Closure costs	Review the mine closure costs with particular reference to the post-closure monitoring costs (including review of the anticipated period of post closure monitoring) and inclusion of post-closure maintenance costs	Medium

4.2 MRM Performance – Other Risks

4.2.1 Terrestrial Ecology

This section is a review of the ongoing management and monitoring of terrestrial ecology by MRM carried out during the operational period from October 2011 to September 2013. The section also includes observations made during the IM's site assessment in March 2014.

Terrestrial fauna and flora monitoring by MRM covers:

- Revegetation of the McArthur River and Barney Creek diversions.
- Vegetation surrounding the Bing Bong dredge spoil.
- Weeds across the mine site and Bing Bong Port.
- Riparian birds along the McArthur River and Barney Creek diversions.
- Gouldian finch (*Erythrura gouldiae*) at Tailings Storage Facility (TSF) Cell 4.
- Migratory birds in the Port McArthur and Limmen Bight areas.

4.2.1.1 Key Risks

Most key risks relating to the terrestrial ecology at McArthur River Mine are relatively minor (Appendix 2). Ten identified risks are discussed below with two being identified as high risk, four as a moderate risk and four as low risks:

- Slow revegetation of the McArthur River diversion channel is occurring as a result of flooding and high flow velocities during the wet season causing erosion, redistribution of soils and removal of planted tubestock. Trampling and grazing of surviving vegetation by large herbivores, predominantly cattle, also has a significant effect on growth. The lack of vegetation impacts the stability of the channel banks and, in turn, ecosystem development and health. Slow revegetation reduces important riparian habitat available to terrestrial flora and fauna. It also affects the health of the McArthur River through lack of shade, increased sedimentation and weed infestation. The impact is considered to be a high risk as it is predicted that the diversion channel is likely to be impacted for a number of decades, although impacts are likely to be localised to the channel itself.
- A number of noxious weed species are present at McArthur River Mine and Bing Bong Port due to historical mining and pastoral activities, and have spread to additional areas after clearing. Weeds recorded include large infestations of Noogoora burr, devils claw and parkinsonia (MRM, 2013f). Weed infestation causes exclusion of native flora species resulting in reduced habitat for native fauna and affects the success of rehabilitation works. Weeds have the ability to cause a long-term impact over a regional scale if not controlled adequately.
- The development of salt and/or heavy metal loads in vegetation, soils and sediments causing vegetation dieback. Salt and heavy metals can affect vegetation by entering soils and sediments through fugitive dust migration or runoff of settled dust from roadways. This results in the assimilation of sulfate and heavy metals into the vegetation through the roots,

changes in the pH of the soil and reduced photosynthetic ability of the plants causing vegetation to die. Vegetation dieback may result in a reduction of habitat for terrestrial fauna, a reduction in shade for aquatic fauna, reduced stability of soil increasing erosion potential and facilitation of the spread of weeds.

- There is a risk of creating vegetation communities along the diversions different to that present along the natural banks of Barney Creek and McArthur River. This occurs through planting and seeding of incorrect species and encroachment of weeds. MRM has devised a list of key and primary species that are desired flora species to be present in the rehabilitated riparian habitat. Rehabilitation studies have found that many of these species are not found in analogue sites but are included in seeding and tubestock mixes (EcOz 2012c, 2013a). As species being planted are still native to the area this is not likely to have a significant impact. However, efforts should be made to match the riparian vegetation of original channels as closely as possible. Incorrect habitat can also be created through the establishment of weeds or weedy natives in revegetation areas. An example of this is at the McArthur River diversion lookout where the encroachment of *Acacia holosericea, Vachellia farnesiana* and weeds onto riparian habitat is occurring.
- The mortality of vegetation surrounding Bing Bong Port dredge spoil ponds is occurring due to leachate draining from the dredge spoil, seawater retainment against the outside of the drain bund for a prolonged period of time after the tide recedes, or the previous obstruction of a creek from the east causing ponding and subsequent inundation of trees. This is resulting in the dieback and alteration of habitat. The impact is localised to a small area surrounding the spoil but has the potential to persist for a decade or more if the issue is not rectified.
- The failure of vegetation to establish on dredge spoils at Bing Bong Port leading to the alteration or loss of habitat and creation of dust. Much of the dredge spoil is unvegetated as future dredging is planned and current dredge spoil cells will be utilised for storage. Other portions are bare due to the spreading of seed mix that was not suitable given the salinity of the site. In the short term, bare spoil can result in the creation of dust, potentially affecting surrounding vegetation and human health.
- There is potential for important migratory bird and wader populations to be affected by dust migration and/or concentrate spillage from Bing Bong Port via heavy metal bioaccumulation in food sources (including small marine crustaceans and fish), resulting in the Pb or Zn poisoning of migratory shorebirds feeding along the coast.
- The clearing of habitat for the Gouldian finch (*Erythrura gouldiae*) will occur for construction of TSF Cell 4. At present, a small area containing a borrow pit has been cleared but a total of 51 ha will be cleared during the construction of Cell 4 (Barden, 2013a). Present and future clearing poses a low risk to populations of Gouldian finches due to the absence of suitable nesting trees in the clearance area, although the area does contain suitable feeding habitat in which Gouldian finches have been recorded. Feeding habitat is common throughout the landscape surrounding the clearance area. Breeding habitat may be present surrounding the proposed footprint and should be investigated; if present, the risk will need to be re-evaluated but disturbance is still unlikely.

4.2.1.2 Existing Controls

MRM has a range of control measures in place to address the risks listed in Section 4.2.1.1, and these are outlined in Table 4.42. Each control directly related to terrestrial habitat, flora or fauna is described further below. Controls relating to aquatic or marine ecology are dealt with in separate sections.

Table 4.42 – Current Controls in Place for Risks Identified at McArthur River Mine and Bing Bong Port

Risk	Current Controls
Spread of listed Northern Territory noxious weed species	♦ Weed Management Plan ♦ Weed control conducted with Weeds District Officer
Slow recovery of diversion channel vegetation	♦ Propagation of tubestock in the McArthur River Mine nursery located on site, ongoing planting of tubestock along the McArthur River and Barney Creek diversion channel and use of coir logs to trap sediment ♦ Installation of two irrigation sleds at sections along the diversion ♦ Annual monitoring of revegetation sites along the Barney Creek and McArthur River diversion channels ♦ Bi-annual monitoring of riparian bird species and their use of the riparian habitat along McArthur River and Barney Creek diversion channels ♦ Cattle exclusion fences along Barney Creek and McArthur River diversions and surrounding the dredge spoil at Bing Bong Port
Vegetation dieback due to the build-up of salt or heavy metals	♦ Annual monitoring of vegetation condition along the McArthur River and Barney Creek diversion channels including sites upstream and downstream
Unsuitable habitat along diversion channels	♦ Annual monitoring of vegetation along the McArthur River and Barney Creek diversion channels ♦ Bi-annual riparian bird surveys along McArthur River and Barney Creek diversion channels
Mortality of vegetation surrounding dredge spoil ponds	♦ Annual monitoring of vegetation surrounding dredge spoil ponds ♦ Perimeter drain surrounding dredge spoil to facilitate flow of salt water out to sea
Fragmentation of habitat	♦ Annual monitoring of vegetation along the McArthur River and Barney Creek diversion channels
Failure of revegetation on dredge spoil at Bing Bong Port	♦ Vegetation trial was implemented but was not completed ♦ Cattle exclusion fence surrounding the Bing Bong dredge spoil ♦ Vegetation monitoring within dredge spoil Cell 1 conducted in 2012

Table 4.42 Current Controls in Place for Risks Identified at McArthur River Mine and Bing Bong Port (cont'd)

Risk	Current Controls
Dust migration or concentrate spillage from Bing Bong Port impacting migratory birds	♦ Bi-annual migratory shorebird and wader survey along the Port McArthur coast and between Rosie Creek and Limmen Bight River to the northwest
Removal of Gouldian finch habitat	♦ Preliminary targeted Gouldian finch survey at the location of TSF Cell 4

Weed Management

The McArthur River Mine area has a long history of weed problems, dating back to previous mining and pastoral operations as well as current operations on the mine (MRM, 2013g). Noogoora burr (*Xanthium occidentale*), parkinsonia (*Parkinsonia aculeata*) and devil's claw (*Martynia annua*) are of particular concern. During the IM visit, weed infestations were evident including Noogoora burr, hyptis (*Hyptis suaveolens*), *Passiflora foetida*, and *Sida acuta* at the mine site. The track from the dredge spoil to the drain outlet at Bing Bong Port had abundant hyptis, kapok bush (*Aerva javanica*) and *Passiflora foetida.*

The weed management methods adopted by MRM are best practice, with individual treatments for each weed species and close involvement with the Weeds District Officer, and exceed efforts conducted at many other mines. However, weed control efforts can always be increased and undertaking weed management training of additional individuals from nearby Borroloola would provide added manpower and be beneficial for community relations. This would aid in controlling the many areas affected particularly by Noogoora burr. MRM has had particular success with parkinsonia at Bing Bong Port, where large infestations were present surrounding the dredge spoil. During the 2014 IM visit, only two individual parkinsonia plants were observed at Bing Bong Port, with one already dead after spraying. This illustrates what intensive, targeted control can achieve.

MRM has a detailed Weed Management Plan, which is updated annually (MRM 2011e, 2012i, 2013g). These plans detail MRM procedures for weeds including specific controls for a range of weeds identified on the MRM leases. The plans also detail a history of weed control on the leases, a dedicated section for the previous year's actions, and future control strategy.

Weed control during 2012 was concentrated on parkinsonia, bellyache bush, Chinese apple and Noogoora burr (MRM, 2012i). Weed management in 2013 was more extensive and focused on parkinsonia, devil's claw, neem tree, Noogoora burr, bellyache bush and hyptis (MRM, 2013g).

During meetings with the DME, concern was expressed about a possible weed infestation north of the overburden emplacement facility (OEF). This area was flooded during the IM site visit but MRM staff stated that it was a native species, *Abelmoschus sp.*, which was identified by the NT herbarium when flowering (Julie Crawford, pers. com., 2014). This genus has a weedy appearance.

Nursery Propagation and Tubestock Planting

MRM propagates many seedlings used in revegetation works in a purpose-built, private nursery located on site (Julie Crawford, pers. com., 2014). Additional seed and tubestock is sourced from multiple providers (MRM 2014e, 2014f, 2014g, 2014h). MRM plans to eventually propagate all tubestock needed for revegetation in the MRM nursery while also supplying seeds to commercial nurseries for germination and return to MRM (Julie Crawford, pers. com., 2014). Thirty nine thousand tubestock were planted along the McArthur River and Barney Creek diversion channels during 2012 with revegetation works concentrated along the southern side of the McArthur River channel batters and along the adjacent crest (Xstrata & MRM, 2013). Approximately 28,000 tubestock were planted in 2013 with the majority placed along the eastern side of the McArthur River diversion (23,073) (MRM 2013e, 2013h). An increase in the planting of two important riparian species – cane grass (*Chionachne cyathopoda*) and freshwater mangrove (*Barringtonia acutangula*) – was also carried out with 646 and 292 individuals planted, respectively (MRM, 2013h).

Channel Revegetation Monitoring

Revegetation began in the 2007-2008 wet season at the Barney Creek diversion channel and at the McArthur River diversion channel in the 2010 dry season (EcOz, 2013a). Monitoring of the revegetation commenced in the same year as initial revegetation works and was conducted annually by Charles Darwin University. In 2012, EcOz Environmental Services (EcOz) was contracted to carry out the revegetation monitoring which included a change to the monitoring program (EcOz 2012c, 2013a).

The aim of the monitoring program is to assess the success of rehabilitation of riparian habitat along the diversion channels in comparison to undisturbed sites on Barney Creek and McArthur River, and to aid the control of key risks including slow recovery of habitat along the banks, the production of incorrect habitat and the fragmentation of habitat which negatively affect terrestrial and aquatic flora and fauna as outlined in Section 4.2.1.1.

Monitoring results show that seven years after initial revegetation works, sites along the Barney Creek diversion channel are moving towards a condition as seen at reference sites, with encouraging results in canopy cover, litter and grass cover and standing total basal area. McArthur River diversion channel sites have had much poorer results under all indices with large areas of bare bank recorded. The results are lower than would be expected five years after revegetation works commenced, especially since multiple rounds of seeding and tubestock planting have been conducted.

Riparian Bird Monitoring

Bi-annual surveys of the riparian birds of the McArthur River and Barney Creek diversions were completed in 2012 and 2013. Surveys were conducted during the early dry season and late dry season in both years (Barden 2013b, 2013c, 2012a, 2012b). Timed surveys recorded all birds observed and heard within predefined plots positioned along both diversions, and reference sites upstream and downstream of the channels. The purple-crowned fairy wren (PCFW) (*Malurus coronatus*) and buff-sided robin (BSR) (*Poecilodryas cerviniventris*) were targeted as they are riparian health indicator species. Habitat data such as plant cover and disturbances were also recorded.

Overall, the early dry season and late dry season surveys recorded similar abundances and species diversity of birds to that recorded in previous years (Barden, 2012a). The 2013 early dry season survey saw the first record of the PCFW within the Barney Creek core restoration area, with the species recorded again at the same site in the late dry season survey, an encouraging indicator that the revegetation along the Barney Creek diversion has improved greatly. BSRs were restricted to lower bank riparian forest on McArthur River, mostly associated with freshwater mangrove in all surveys. Neither riparian indicator species has yet been recorded along the McArthur River diversion.

Areas along the McArthur River diversion channel enclosed by cattle exclusion fencing (such as between the southern bund wall and the diversion inlet, and north of the bund wall on the old McArthur River channel between the wall and the diversion) saw a decrease in the numbers of PCFWs between 2012 and 2013, highlighting the importance of restricting cattle and other large herbivores from the restoration areas. Recommendations on how exclusion fencing could be improved for the remainder of the diversion channel are discussed in Section 4.2.1.4.

During both surveys in 2013, downstream reference sites recorded the lowest numbers of PCFWs since surveys began, possibly due to increased faunal disturbance or feral cat predation (Barden 2013b, 2013c). The author deduced it was possibly as a result of dingo baiting by McArthur River Station, which could have increased the number of feral cats as a number were seen within the project area during the survey.

While considerable effort is currently being invested in the riparian bird surveys, methods could be improved by bringing them in line with NT Government guidelines for terrestrial fauna surveys (Northern Territory Government, 2011). At present, each two-hectare site is surveyed for 20 minutes at a time, with inner riparian zones surveyed four times and outer riparian zones surveyed twice (Barden, 2013c). To bring sites in line with NT government guidelines, each zone could be reduced to one hectare in size with survey time reduced to 10 minutes per survey repeated eight times. Surveys should be conducted in the early morning predominantly, but could also be conducted in the late evening if needed. Currently, the surveys are described as being conducted in the early morning and late evening with early morning described as 6.30 a.m. to 1.00 p.m. (Barden 2012a, 2012b, 2013b, 2013c). It is recommended that early morning surveys are not conducted later than 11.00 a.m. so that monitoring is conducted at the time of day when birds are most active. The NT guidelines also recommend that nocturnal sites are conducted, but this is not thought to be relevant at MRM due to the species being targeted (Northern Territory Government, 2011).

Cattle Exclusion Fence at McArthur River Mine and Bing Bong Dredge Spoils

A cattle exclusion fence surrounds the McArthur River and Barney Creek diversions. Fortnightly checks of the fences are conducted when access permits, to ensure there is no damage (Xstrata & MRM, 2013). Cattle mustering is also conducted when necessary (Xstrata & MRM, 2013), although controlling cattle invasion continues to be a serious issue due to fencing being damaged annually by floodwaters. A perimeter fence was installed around the dredge spoil at Bing Bong Port in October 2013 (All Fencing Services NT, 2013b).

Gouldian Finch

A preliminary assessment of the presence of Gouldian finches (*Erythrura gouldiae*) was conducted in March 2013 at the proposed location of TSF Cell 4 (Barden, 2013a). The survey was as a result of a sighting of Gouldian finches in the Cell 4 footprint during pre-clearing checks. The preliminary survey was conducted within a week of this sighting.

The assessment consisted of a desktop review of existing data, flora and habitat assessments, targeted bird surveys and camera traps. Vegetation and habitat assessments were conducted using flora transects focusing mainly on canopy and grass species. Three Gouldian finches were observed feeding on sorghum grass in the northern margin of the TSF Cell 4 footprint, a different location than where they were recorded in initially by MRM environmental staff. Habitat assessments found that suitable nesting trees for Gouldian finches were not located within the footprint itself and the area is likely used only for feeding (Barden, 2013a).

Bing Bong Dredge Spoil Vegetation

Monitoring of vegetation surrounding the Bing Bong dredge spoils commenced in 2012 with a second survey conducted in 2013 (Xstrata & MRM, 2013). The initiation of vegetation monitoring at the dredge spoils was a recommendation made by the IM in 2012 (EES, 2012) to assess the dieback of shrubs and habitat alteration surrounding the spoils and its relationship to salt leachate from the spoils or lack of drainage from flood plains due to bunding created for the drain. The monitoring is to be conducted on a trial basis for five years with monitoring reassessed after this timeframe (EcOz, 2013b).

The 2012 survey consisted of ground-truthing the vegetation of sites located within multiple different vegetation types identified using aerial imagery (EcOz , 2012d). Transects were installed to assess the vegetation within saline affected areas and in unimpacted reference sites. Surface soil samples were also taken at each site to assess the levels of salt present and to determine if changes in vegetation corresponded to changing salt levels of soil. Transects were also installed within Cell 1 dredge spoil to assess vegetation growth within the cell itself (EcOz , 2012d). In 2013, the remaining area surrounding the dredge spoil was surveyed (EcOz, 2013b). Methods used were similar to those used in 2012 with the exception that a full floristic description was conducted at vegetation ground-truthing plots, an expansion of the previous design which recorded only the three dominant species in each layer (EcOz, 2013b).

A total of six distinct vegetation communities were identified surrounding Cell 1 in 2012 (EcOz , 2012d). Highly salt-affected areas were present on the north, west and south sides of the cell in large patches and were identified through the presence of dead trees. Highly saline areas were evident through the dominance of *Tecticornia indica* in a site. A much greater diversity and coverage of vegetation was observed at sites with lower salt levels. Vegetation within the cell itself was very heterogeneous with variable ground cover. Cover consisted mostly of grasses with *Chloris barbata* being most common. Nine vegetation types were identified around the remaining cells in 2013 (EcOz, 2013b). The remonitoring of sites surrounding Cell 1 showed very little change. Transects surrounding the remaining cells showed a range of salinities with vegetation diversity again increasing as salt levels decreased.

Migratory Shorebirds

Migratory shorebird monitoring was successfully completed during the austral summer (January in 2012 and February in 2013) and northern staging periods (April in both years) during 2012 and 2013 (Barden & Coleman 2012a, 2012b, 2013a, 2013b). MRM is required to undertake a migratory bird survey twice a year (Xstrata & MRM, 2013; MRM, 2011b). A risk of the location of Bing Bong Port is that operations may result in dust migration or concentrate spillage resulting in heavy metal bioaccumulation in Port McArthur flora and fauna. This could result in the Pb or Zn poisoning of important migratory shorebirds feeding along the coast. The aim of the survey is to assess if migratory bird populations are being affected through shorebird counts.

Surveys consisted of 18 aerial count transects in the Port McArthur area with an additional four transects in the Limmen Bight/Rosie Creek area added in the summer survey in 2013. Ground counts were conducted during each survey to allow identification confirmation and counts of birds in large flocks.

Results during both years show the Port McArthur and Limmen Bight areas supports internationally significant numbers of migratory shore birds with in excess of 50,000 birds recorded during the northern staging survey in 2013 alone. The Port McArthur area supports greater than 20,000 water birds and is therefore a Wetland of International Importance under criterion 5 of the Ramsar Convention. Significant counts of 13 individual species were also recorded (Barden & Coleman 2012a, 2012b, 2013a, 2013b).

The existing permanent aerial count sites were extended to include a section of the coast northwest of the Port McArthur area between Rosie Creek and the Limmen Bight River (Figure 4.24). This was conducted as an exploratory survey in January 2012 with permanent sites put in place in April 2012 and sites increased in February 2013, bringing the total number of aerial count sites from 18 to 22 (Barden & Coleman 2012a, 2012b, 2013a, 2013b). The extension of the survey area to the Limmen Bight River area was included as a recommendation in both the authors' report and IM recommendations in 2012 (EES, 2012).

The surveys are extensive and methods seem adequate to sufficiently survey the shorebirds along the coast. The reporting is clear but could benefit from more comparison between surveys conducted by the author since 2010 and previous surveys of migratory birds conducted along the gulf by Garnett from 2007-2008 and in 1987 (Garnett 1987, 2007a, 2007b, 2008) and Chatto between 1990 and 2001 (Chatto 2001, 2003, 2006). This would provide long-term information to assess if the port is having any effect on bird populations.

While on site, MRM expressed interest in ending the migratory shorebird surveys in 2014, as this will mark five years of conducting austral summer and northern staging surveys of the Port McArthur area. Results indicate that the area hosts high numbers of birds with small fluctuations in numbers recorded between years, likely due to natural fluctuations. The survey authors highlight the need for long-term data to sufficiently assess fluctuations, as numbers can also be as a result of anthropogenic causes such as mine operations, climate change, hunting, tidal area and wetland reclamation as well impacts in staging grounds in other countries. It is recommended that the surveys are conducted for one additional year with all previous years' data collected by MRM compared to that collected since 1987 by previous authors, to assess the trend of fluctuations. The need to continue surveys should then be reassessed based on findings. It is difficult to ascertain if MRM is having an effect on avian populations through the current survey program due to the range of alternative causes of population fluctuations. It is likely that an extension of metal monitoring in crustaceans and vegetation at Port McArthur would provide more useful data.

SURVEY AREAS INCLUDED IN THE MIGRATORY SHOREBIRD MONITORING PROGRAM

McArthur River Mine Project

FIGURE 4.24

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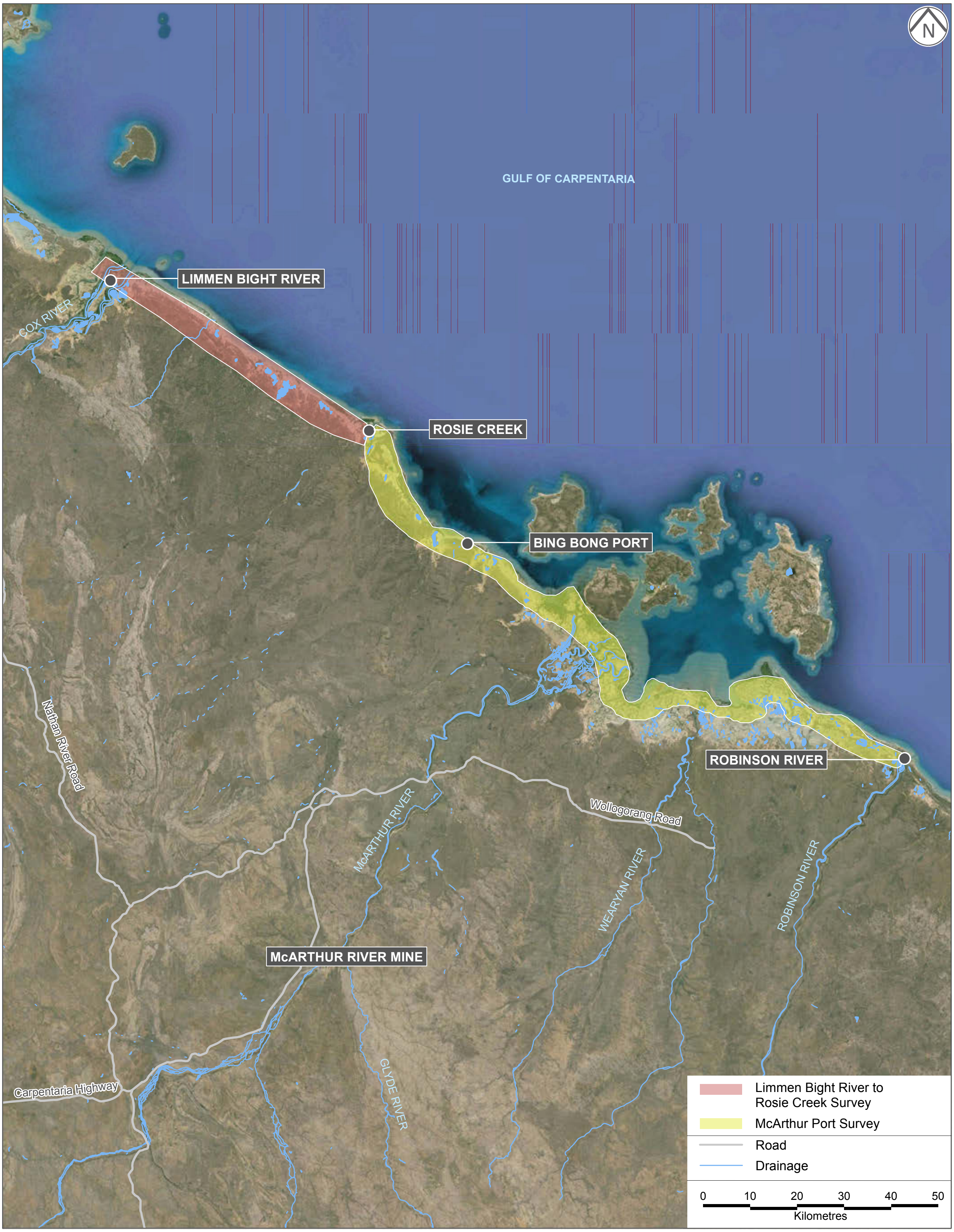

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Source: Google Image 2005

ERIAS Group | 01164A_1_F4-24_v1.pdf

4.2.1.3 Successes

This section describes successes over the previous two operational years as a result of controls put in place by MRM. Current revegetation monitoring sites on the Barney Creek and McArthur River diversions are shown in Figure 4.25.

McArthur River Diversion Channel Lookout

The 2014 IM inspection visited the lookout at the McArthur River diversion with a tour down to the river crossing to the west of the lookout. The vegetation at the lookout has grown well, with some eucalypts, casuarinas and acacias reaching over 4 m in height along the flat area at the top of the slope and a number of grasses present in the understorey. Vegetation was mostly concentrated on top of the bank and down at the water's edge where melaleuca has established (Plates 1 and 2). Revegetation of the mid-slope has been difficult due to flood waters in the wet season, the dominance of rock faces and the lack of soil present. MRM have installed coir logs along the slope which appear to be acting as a sediment trap and are likely to aid in establishing some vegetation on the slope. Back eddy soil trapped behind rock outcrops continues to support a few seedlings.

Barney Creek Diversion Channel Revegetation

The Barney Creek/Surprise Creek confluence was visited during the 2014 IM site visit. This area has revegetated particularly well (Plates 3 and 4). Trees are now above 4 m tall and along with shrubs and some grasses, have good coverage on the banks and on a raised island in the middle of the confluence. This location is trending towards a desirable rehabilitated riparian habitat. A review of photographs taken at revegetation monitoring points show that many other locations along the diversion are increasingly becoming rehabilitated with banks appearing to be stabilised (MRM, 2013i). This is also reflected in the results of a number of indices in the revegetation monitoring program (EcOz 2012c, 2013a). Although there is still work to be done, such as spot seeding or planting and weed control, the progress since the previous IM visit is encouraging as all sites on the Barney River diversion are improving in vegetation growth.

Purple Crowned Fairy Wrens

Bird species diversity along the diversions is positively correlated with condition and regeneration scores for survey plots. While neither indicator species has been detected within the McArthur River diversion, the purple-crowned fairy wren was recorded for the first time at a site along the Barney Creek diversion channel in November 2012 and again in 2013 (Barden, 2012b). This indicates that the revegetation at this site is improving. Numbers of purple-crowned fairy wrens have steadily increased within fenced areas such as those between the diversion inlet and the southern bund wall and between the bund wall and the McArthur River outlet (Barden, 2013c). These areas have seen increased regeneration highlighting the importance of restricting large herbivores from the riparian area.

McArthur River Mine Nursery

Propagation of seedlings at the MRM nursery has been very successful with multiple species observed during the IM visit including the important riparian species, *Barringtonia acutangula* (Plate 5).

CURRENT REVEGETATION MONITORING SITES ON THE BARNEY CREEK AND McARTHUR RIVER DIVERSIONS

McArthur River Mine Project

FIGURE 4.25

030985 - v04 - 17 October 2014

Source: EcOz, 2012c.

ERIAS Group | 01164A_1_F4-25_v4.pdf

Plate 1 – McArthur River Lookout During IM Visit, May 2012

Plate 2 – McArthur River Lookout During IM Visit, March 2014

Plate 3 – Barney/Surprise Creek Confluence During IM Visit, May 2012

Plate 4 – Barney/Surprise Creek Confluence During IM Visit, March 2014

Plate 5 – Propagation of Seedlings at the McArthur River Mine Nursery During the IM Visit, March 2014

4.2.1.4 New Issues

Revegetation

The revegetation of McArthur River diversion channel continues to be slow and a number of new issues have been identified with the current controls in place. These are described below.

A full survey redesign occurred prior to the 2012 survey, which incorporated IM recommendations to increase the number of survey sites on both diversions and to install more suitable control sites for comparison with the Barney Creek diversion channel rehabilitation sites. The redesign increased the number of indices monitored, bringing it in line with leading practice. Despite this, there are a number of issues which should be rectified. These include:

- All revegetation sites on the Barney Creek diversion are located west of the Barney Creek Bridge with no monitoring downstream of the Barney Bridge (EcOz 2012c, 2013a). This is illustrated in the map from the 2013 revegetation report (Figure 4.24) (EcOz , 2012c). Obtaining data on the downstream portion of the diversion would provide an outlook on the recovery of these sites compared to upstream sites and the effect of the bridge, if any, on the vegetation recovery and erosion.

- Revegetation sites on McArthur River diversion are mostly concentrated on the western half of the diversion. As the downstream half appears to have the most significant issues with erosion and revegetation, more sites should be installed here. Current sites incorporate both northern and southern banks of the diversion channel and this should be continued when installing the additional sites.

- It is currently planned to monitor revegetation sites annually while analogue sites will only be assessed every three years (EcOz 2012c, 2013a). It is recommended that analogue sites are also monitored annually to provide a better comparison of revegetation against the control sites in assessing the recovery of perennial and annual vegetation, to determine whether changes in the diversions are reflected in undisturbed areas, and whether management practices are effective.

- MRM has compiled a list of flora species (key and primary species) which are desired to be present in the final species composition along the diversion channels. These species were identified through a survey of undisturbed areas along Barney Creek in 2007 (MRM, 2013j). The recording of key and primary species at revegetation and control sites showed that a number of species were found at revegetation sites that were not present at control sites and that many key and primary species did not occur at any of the sites including control sites. The lack of key and primary species at the control sites suggests that either the list of important flora species may need to be reviewed according to what is present in the control sites, or the location of current control sites needs to be reconsidered. It is also recommended that key and primary species lists be compiled for McArthur River and Barney Creek separately, as results indicate the natural vegetation assemblages are quite distinct along each waterway (EcOz 2012c, 2013a).

There is little information in the literature as to the progress of rehabilitation of other river diversion channels around Australia and overseas. It is therefore difficult to determine if the rehabilitation of the McArthur River diversion channel is progressing at an acceptable rate. In comparison with the revegetation along the Barney Creek diversion channel, the McArthur River diversion is slower than might be expected, taking into account that the Barney Creek diversion has had an additional two years of vegetation growth. The main difference identified between the two diversions is the rate of flow of floodwaters in the diversions, with Barney Creek having a much lower flow rate and shorter distance than McArthur River (WRM, 2012c). At present the floodwaters are causing erosion along the McArthur River diversion, preventing establishment of soil and planted tubestock from the middle levels of the batters. MRM needs to concentrate remediation efforts on methods of decreasing the scouring effect of the floodwaters, protecting the banks, retaining soil on the batters and concentrating planting efforts in potentially suitable back eddies. Additional remedial works such as rock armouring barriers, shelter structures and rock gouging are likely to be needed to create appropriate habitat along the McArthur River diversion.

The instability of the diversion channel is the greatest factor inhibiting the revegetation of these areas, with erosion recorded as moderate to high on all slopes in both diversions, although less plant damage was recorded on Barney Creek (EcOz 2012c, 2013a).

The current survey method is almost exclusively vegetation-based with some notes on disturbance and erosion. It provides little information on the level of stability at each site, only the current presence/absence and extent of vegetation. Minimal information is provided on substrate suitability for vegetation or quantitative data on erosion from year to year. It does not assess the underlying issues as to why vegetation is not surviving on the banks, such as which areas are being affected by scour and which areas would benefit from remediation actions such as earthworks, rock armouring, chute construction or methods of substrate retainment such as coir logs. It is recommended that MRM considers changing to a more landscape-function approach to monitoring, such as Ephemeral Drainage-line Assessments (EDA) (Tongway & Ludwig, 2011), a type of landscape function analysis designed for small ephemeral lines that has recently been adapted by Ulan Coal Mines to assess the success of the channel diversion at the Goulburn River

(Ulan Coal Mines Ltd, 2013). This method would allow MRM to better illustrate that the channel is on a trajectory towards control site conditions, as opposed to measuring vegetation only, which based on current revegetation success may take decades to be completed. EDA assesses indices such as steepness and surface of slope, channel cross-sectional and longitudinal shape, and channel erodibility, as well as bank and channel floor vegetation (Tongway & Ludwig, 2011). An assessment of the species present would also need to be conducted to ensure that the correct species are present.

MRM is currently using tubestock exclusively to revegetate the banks. This decision was made as it gives plants a greater chance of rooting before the wet season than if they are grown from seeds. Establishment time is also inhibited by the limited access to the opposite banks, with environmental staff having to wait until waters recede sufficiently in the diversions to be able to move equipment across. Tubestock can be an expensive method of revegetation, particularly when high percentages are lost each wet season. It is recommended that MRM revisits the use of seeding as the main method of revegetation as seeds are likely to establish in appropriate back eddies and soil patches, with tubestock used to infill bare patches.

MRM has used several coir logs along the McArthur River diversion as a method of substrate establishment and retainment. MRM should investigate the use of these coir logs on a larger scale, increasing their density so they span the entire batter slope, in horizontal rows or placed randomly. Seed could then be spread over the banks or directly inoculated into the coir logs. Tubestock could also be planted directly behind the coir logs. This would need to be initiated immediately after the wet season, placing the logs as the water recedes in order to give the seeds time to germinate. Issues with crossing the diversion to the opposite bank could be combated by placing machinery on the opposite bank before the wet season and transporting staff by helicopter as soon as the water begins to recede.

Large woody debris has been placed in the diversions to act as shelter for aquatic fauna. The placement of large secured log piles or boulders may also aid in slowing the flow of water in the wet season and decreasing the impact of flooding on the banks, as well as providing soil in which more flood-adapted species such as *Melaleuca* spp. were already seen to be establishing during the IM visit in 2014.

MRM must also give consideration to the characteristics of habitat that is being established along the channel diversions, ensuring that the correct local species are being included. During the IM visit, a high density of *Vachellia farneciana* was observed along the top of the banks near the McArthur River diversion lookout. Although not listed, this species is considered to be a weed and care should be taken to restrict this species from dominating the rehabilitation.

No information could be found within the MMPs as to a predicted rehabilitation completion time for the diversion channels. It is important to have a reasonable target to keep rehabilitation works on track and to assess success against these targets. There is little information on the broader considerations of rehabilitation, the total effort which has been invested to date, and the end plan for rehabilitation completion. It is recommended that MRM conducts a review of rehabilitation works to date including total tubestock and kilograms of seed used, total areas planted, and percentage of successful revegetation works to assess the likely timeframe for channel rehabilitation. It is also recommended that MRM includes a future outlook for rehabilitation of

Barney Creek and McArthur River diversion channels including an expected completion year in future MMPs.

Cattle Exclusion Fencing

Cattle are having a significant effect on revegetation works along the McArthur River diversion channel. Cattle are reducing the stability of the banks through the creation of erosion rills and gullies, trampling of seedlings and grazing on vegetation. The effect of this has been reported in both the revegetation monitoring and riparian bird monitoring reports (Barden 2012a, 2012b) (EcOz 2012c, 2013d). The effect is particularly evident in the riparian bird monitoring reports, which target the riparian indicator species purple-crowned fairy wren and buff-sided robin. Significantly greater numbers of the PCFW are recorded within fenced areas than in unprotected areas, with numbers thought to be reducing further outside of fenced areas. Neither species are yet to be recorded within the core restoration area on the McArthur River diversion channel. With the exception of flooding in the river diversion channel, cattle damage is the greatest factor affecting the success of the rehabilitation of the channel and action must be taken to ensure exclusion from the revegetation areas.

A reassessment of the design of the cattle exclusion fencing surrounding the diversions needs to be conducted as current practices are insufficient. Each wet season the fencing sustains significant damage due to strong floodwaters and flood-borne debris, particularly along the McArthur River diversion banks and at the points where fencing crosses the diversion. The fencing is then repaired, only to be damaged again the following year. Actions should be taken to increase the flood-proofing of the fencing. The Waters and Rivers Commission of Western Australia provides a useful guide on flood-proof fencing of waterways (WRC, 2000).

Recommendations include:

- A section of the fence along the McArthur River diversion was relocated further back from the bank in 2012 with good results due to the reduced flow velocity and depth of flow further back from the main channel. The remainder of the fence should be moved back.
- Install fence posts at a 45° angle to the water flow, particularly where the fence crosses the channel to reduce the resistance pressure.
- Consider installing an end-strainer assembly on either side of where the fence crosses the channels. This can help to protect the majority of the fencing if the portion of the fencing across the channel fails.
- Keep the number of horizontal wires on the fence to a minimum, replacing barbed wire with plain wire and maintaining wire tension to minimise the amount of debris caught on fencing.
- Keep fence height to the minimum height needed for exclusion of large herbivore. The taller the fence, the more unstable it is.

Vegetation at the Bing Bong Dredge Spoils

Studies conducted in 2012 and 2013 by EcOz have shown that there are areas surrounding the dredge spoil which have been negatively affected by saline runoff from the dredge spoil before the peripheral drain was established (EcOz 2012d, 2013b). Little change has been seen in vegetation surveyed in both 2012 and 2013 since the drain was installed.

The reporting states that the purpose of the monitoring is to determine the impact of saline seepage on surrounding vegetation from the dredge spoil, if occurring. A number of other causes should be investigated as the reason for vegetation dieback. The drain bund wall may be causing seawater to be retained for a prolonged period of time after the tide recedes. Also, from a review of aerial images of the Bing Bong dredge spoil, it appears that the southeast corner of the dredge spoil was previously obstructing the flow of a creek line, causing pondage of water and subsequent inundation of trees (Figure 4.26). The ponding of freshwater on the saline soils would cause salts to be drawn to the surface, encouraging the growth of more salt-tolerant species like *Tecticornia indica.* MRM has since conducted remediation works, removing the southeast corner of the spoil and re-installing the drain (Figure 4.27). This should be investigated as another possible cause of the dieback of vegetation surrounding the spoil.

Vegetation within the dredge spoil cells is limited, contributing to dust formation during dry periods. MRM is reluctant to vegetate spoil cells as future dredging is expected and spoil will be stored within the existing cells. It is recommended that between dredging operations (which can be a number of years apart), a seed mix of salt-tolerant grasses is spread over the cells to aid in dust reduction.

With only two years of monitoring data collected to date, it is unclear if the surrounding vegetation is beginning to recover or if the habitat is still being negatively affected. For the most part, the survey program is sufficient to assess the condition of the vegetation. Two recommendations are put forward which would provide additional useful information. Site BBVM03A (2012 survey) and sites BBVM06 and BBVM07 (2013 survey) do not have corresponding reference sites due to a lack of suitable reference habitat in the area (EcOz 2012d, 2013b). Due to the lack of reference sites, it is difficult to determine if these sites are recovering towards a state of natural habitat or undergoing change. In the absence of the ability to find reference sites, it is suggested that additional sites be established in the same vegetation type to allow statistical treatment of data to show change or direction of change. Secondly, no transects were located within the dredge spoil in 2013 – unlike in 2012 – and it is unclear if the transects surveyed within Cell 1 dredge spoil were resurveyed in 2013 (EcOz 2012d, 2013b). Due to the lack of the previously planned vegetation trials on the dredge spoil, these transects can provide useful information on revegetation and should be surveyed annually, with transects expanded to include other dredge spoil cells.

Monthly dredge spoil inspections are currently conducted, which record factors such as erosion, blockages and fence damage surrounding and within the drain and allow maintenance works to be planned. It would be useful to also note if water is pooling against the perimeter bund wall outside the drain, to assess if vegetation may be affected due to water being held by the bund after the tide recedes.

2005 SATELLITE IMAGE OF BING BONG PORT SHOWING DREDGE SPOIL OBSTRUCTING CREEKLINE

McArthur River Mine Project

FIGURE 4.26

Source: Google Image, 2005.

2012 AERIAL IMAGE OF BING BONG PORT SHOWING NO OBSTRUCTION TO CREEKLINE

McArthur River Mine Project

FIGURE 4.27

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Source: AAM Pty Ltd

Gouldian Finches at TSF Cell 4

McArthur River Mine is to be commended for the swift action in organising a survey of Gouldian Finches immediately after they were observed by mine staff. Gouldian finches were recorded at the proposed site for the TSF Cell 4 feeding on grasses during the 2012 wet season (Barden, 2013a). The species is currently listed as vulnerable under the *Territory Parks and Wildlife Conservation Act 2012* and endangered under the *Environment Protection and Biodiversity Conservation Act 1999*. A habitat assessment of the area found that no suitable breeding trees were located within the TSF 51 ha footprint, but advised that the nearby hills be surveyed to assess their suitability for breeding (Barden, 2013a). The removal of habitat present in the Cell 4 footprint is not likely to greatly affect populations of Gouldian finches as feeding habitat is common in the area, but it is recommended that annual surveys be conducted for a period before and after clearing (including surveys of surrounding hillsides for nesting trees) to ensure that there is no negative impact.

The Phase 3 expansion at MRM was deemed a non-controlled action under the EPBC Act prior to the observations of Gouldian finches within the project area (Barden, 2013a). If not already undertaken, MRM should consider whether the Department of the Environment should be informed of the new findings.

It is planned that an annual survey of Gouldian finches will be incorporated into the current riparian bird monitoring program (Gary Taylor, pers. com., 2014). To increase the survey standard to that of leading practice, it is recommended that the annual monitoring program is designed so that it complies with the *Survey Guidelines for Australia's Threatened Birds*, which recommend targeted searches and watches at waterholes late in the dry season with area searches in suitable habitat also being useful (DEWHA, 2010). For areas less than 50 ha in size it is recommended that 12 hours of targeted survey time is conducted over four days or 20 hours over five days (DEWHA, 2010).

4.2.1.5 Incidents and Non-compliances

MRM were compliant with all commitments outlined in 2012-2013 SDMMP commitment tables (Xstrata & MRM, 2012).

An additional commitment was outlined in the body of 2012-2013 SDMMP Part A but was absent from the commitment tables (Xstrata & MRM, 2012). This commitment and its compliance rating are outlined in Table 4.43.

Table 4.43 Additional Commitments Made in 2012-2013 SDMMP but Absent from the Commitments Table

MMP Section	Area/Subject	Commitment	Compliance Rating
6.2	Rehabilitation	As a component of the approval, a commitment was included to conduct a riparian bird monitoring program. The monitoring program focuses on riparian birds in the rehabilitation areas, and in particular on two riparian indicator species, the Buff-sided Robin (*Poecilodryas cerviniventris*) and the Purple-crowned fairy-wren (*Malurus coronatus macgillivrayi*)	Compliant. Bi-annual surveys were conducted in 2012 and 2013

No reportable incidents occurred in 2012 or 2013 that directly related to terrestrial habitat, flora or fauna. Two minor incidents did occur and were recorded in the MRM incident register, as follows:

- On 3 May 2012 a wallaby was found swimming in a spillage pond on inspection of tailings dam The pond was full of rainwater at the time. The wallaby was retrieved and released. A fence was placed around the pond to minimise any future entry (Incident no. 29463) (MRM, 2012c).
- On 28 March 2012, while conducting fortnightly HSEC inspection, an MRM employee discovered a lot of cement run-off from the batching plant into surrounding scrub. A bund was constructed in the vicinity of the batching plant to stop any water from transporting any product away from the working area. (Incident no. 29408) (MRM, 2012c).

4.2.1.6 Review of Progress Against Completion of Previous IM Audit Recommendations

MRM has addressed many of the recommendations included in the previous IM audit report. Each recommendation and the action taken by MRM are described in the Table 4.44 below.

Table 4.44 – McArthur River Actions Against Recommendations Included in the Previous IM Audit Report

Subject / Area	Recommendation	IM Comment
Revegetation of the diversion channels	More focus on planting of targeted or key species, freshwater mangrove (*Barringtonia acutangula*) and native cane grass (*Chionachne cyathopoda*), along the river diversions	Completed. Species and numbers planted in 2012 are unknown, but an increase in the planting of two important riparian species (cane grass and freshwater mangrove) was carried out in 2013 (MRM, 2013h)
	Increase in planting on bank slopes of river diversions	Completed. Increased planting occurred in 2012 and 2013, concentrating along the southern side of the McArthur River channel batters and along the adjacent crest in 2012 (MRM, 2012c) and the eastern side of the McArthur River diversion in 2013 (MRM 2013h, 2014b)
	Expansion of vegetation monitoring on the McArthur River diversion to include additional sites allowing representation of the entire length of the channel	Partially completed. New rehabilitation monitoring sites were added in 2012 under the new rehabilitation monitoring program (MRM, 2013j), although additional sites are still need on the downstream half on both McArthur River and Barney Creek diversions channels
	Incorporation of additional analogue sites into the survey design for vegetation monitoring at Barney Creek as the previous analogue site located on Surprise Creek was unsuitable due to its location on a different system and its position downstream of the tailings dam	Completed. Analogue sites located on Barney Creek were added to the survey program in 2012 (MRM, 2013j)

Table 4.44 – McArthur River Actions Against Recommendations Included in the Previous IM Audit Report (cont'd)

Subject / Area	Recommendation	IM Comment
Revegetation of the diversion channels (cont'd)	Conducting trials on the survival of different riparian species at different levels on the bank slopes to determine effectiveness of selective planting	Not completed
	An increase in weed control on the opposite bank of the McArthur River diversion	Weed control on the opposite bank of the McArthur River diversion was low in 2012 but increased in 2013 (MRM 2012i, 2013g)
Cattle exclusion	Excluding cattle from restoration areas along the diversions	Partially completed. Fence maintenance works were conducted in 2013 but cattle are still invading and negatively affecting rehabilitation areas
	Relocating the remainder of the cattle exclusion fencing along McArthur River diversion to higher ground, in order to decrease chances of it being breached during the wet season. It was also recommended that the old fencing left buried along the McArthur River diversion channel be removed as it posed a danger to fauna and mine personnel	It is unknown if this occurred
Bing Bong dredge spoil	Conduct monitoring of vegetation surrounding the dredge spoil spoon drain experiencing vegetation dieback	Completed. This commenced in 2012 (EcOz 2012d, 2013b)
	Exclude cattle from dredge spoil area	Completed. A new fence surrounding the dredge spoil was constructed in 2013 (All Fencing Services NT, 2013)
	Spoon drain maintenance works conducted annually at the Bing Bong dredge spoil to remedy damage caused by erosion and cattle	It is unknown if this was conducted
Weed management	Investigate the possibility of conducting a combined weed control program with pastoral properties on the McArthur River, upstream of the mine	Partially completed. MRM had discussions with pastoral properties but a combined program did not eventuate
Heavy metal bioaccumulation	Conduct monitoring on heavy metals in vegetation in McArthur River and Barney Creek to investigate uptake of metals as a result of mine operation	Not conducted
	Conduct bi-annual vegetation monitoring at Surprise Creek to evaluate effects of tailings cell leachate	Not conducted

Table 4.44 – McArthur River Actions Against Recommendations Included in the Previous IM Audit Report (cont'd)

Subject / Area	Recommendation	IM Comment
Rehabilitation	Expand information regarding rehabilitation in Table 3.1 of the 2011/2012 MMP to include areas which will require rehabilitation in the future, with a view to using topsoil as it is removed from new open cut or other clearing operations	Not conducted
Mosquito monitoring	In the annual mosquito monitoring program, include monitoring of mosquito larvae in artificial ponding areas at Bing Bong Port and McArthur River Mine three days after large wet season rains (Dept. of Health, 2011)	Not conducted
	Incorporate the insertion of drainage holes in waste tyres into the Waste Tyres and Conveyor Belt Procedure to prevent tyres holding water and becoming breeding sites for mosquitoes	It is unknown if this was conducted
	Rectify ground depressions at Bing Bong Port by inserting drains and/or infilling to restrict breeding areas for mosquitos, where possible	It is unknown if this was conducted
	If insecticide spraying occurs at Bing Bong Port or McArthur River Mine, put in place an insecticide spraying register to assess areas and times of year that spraying is conducted	It is unknown if this was conducted

4.2.1.7 New Recommendations

The following recommendations are proposed based on the review of risks to terrestrial ecology at MRM and current controls in place. Recommendations are organised according to priority in Table 4.45.

Table 4.45 – New Recommendations for Terrestrial Ecology

Subject	Recommendation	Priority
Rehabilitation monitoring	Revise revegetation monitoring program to include sites on the Barney Creek diversion downstream of the Barney Creek bridge, and additional sites in the downstream half of the McArthur River diversion. Monitoring of diversion revegetation analogue sites every year rather than every three years	Medium
	Research the use of a more landscape function-based monitoring program such as Drainage-line Assessment to provide more information on erosion and stability of Barney Creek and McArthur River channels	Medium

Table 4.45 – New Recommendations for Terrestrial Ecology (cont'd)

Cattle exclusion	Redesign current cattle fencing surrounding McArthur River diversion to increase flood-proofing and ensure that cattle exclusion fences are monitored for damage	Medium
Rehabilitation	Conduct a review of rehabilitation works to date including total tubestock and kilograms of seed used, total areas planted and percentage of successful revegetation to assess the likely timeframe and cost for diversion channel rehabilitation including an expected completion year in future MMPs	Medium
Bing Bong dredge spoil	Establish reference sites for dredge spoil transects which do not currently have analogues. If this is not possible, it is recommended that additional sites be selected in the same habitats sufficient to provide statistically significant assessment of changes occurring within bands of vegetation in the landscape	Low
Fauna	Continue migratory bird monitoring bird program for one additional year with comparison of survey data to older data collected for the gulf by Garnett and Chatto. Reassess need to continue surveys based on trend of fluctuations compared to historical data	Low
	Include an annual survey of the Gouldian finches at TSF Cell 4 as an extension of the current riparian bird monitoring and survey surrounding hill slopes for the presence of nesting trees following the Gouldian finch survey design outlined in the Survey Guidelines for Australia's Threatened Birds (DEWHA, 2010)	Medium
Flora	Conduct bi-annual vegetation monitoring at Surprise Creek to evaluate effects of tailings seepage	Medium
Rehabilitation monitoring	Reassess the list of key and primary species to which revegetation on the diversions is compared to and/or reassess control site selection, as many of those listed are not recorded at current control sites Investigate separate key and primary species lists for McArthur River and Barney Creek as vegetation assemblages as the control sites show different assemblages	Low
Bing Bong dredge spoil	Include an inspection of the outside of the drain bund wall in monthly inspections of the dredge spoil cells, to assess if tidal seawater is ponding against the bund	Low

4.2.2 Aquatic Ecology

This section reviews MRM's ongoing management and monitoring of aquatic biota during the operational period from November 2011 to October 2013 and takes into account observations made during the IM's site visit.

Aquatic fauna monitoring by MRM includes:

- Freshwater fish diversity and abundance, including the threatened freshwater sawfish (*Pristis pristis*).
- Monitoring of metals and Pb isotopes in aquatic fauna.
- Freshwater macroinvertebrates.
- Large woody debris (LWD).

4.2.2.1 Key Risks

The key risks to aquatic ecosystems as outlined in the risk assessment (Appendix 2) relate to contamination, habitat loss and slow rehabilitation of the diversion channels. Specifically, the key risks are:

- The contamination of Surprise, Barney and Little Barney creeks by dust and runoff from the TSF, ROM pad, ore crushing plant yard and NOEF, that causes loss of flora/fauna and/or bioaccumulation of metals within tissues of aquatic biota. This contamination could migrate downstream to McArthur River.

- Discharge of seepage containing salt and metals from the TSF and NOEF enters Barney, Little Barney and Surprise creeks and causes flora dieback and/or bioaccumulation of metals in flora. This contamination then migrates downstream.

- Failure of infrastructure (such as pipelines, bund walls) leading to contamination of McArthur River, Barney Creek, Little Barney Creek and/or Surprise Creek. This could lead to uptake of contaminants by aquatic biota and/or large-scale mortalities in the immediate vicinity of the mine and/or downstream of activities.

- The river diversions create a physical and/or biological barrier to fish migration. This may prevent fish from migrating upstream to breed, grow and/or disperse and reduce replenishment of waterholes upstream of McArthur River Mine.

- Slow revegetation of the river diversion channels leads to reduced diversity and abundance of aquatic fauna in the diversions, and reduced ecosystem function.

- Inability to recreate riparian habitat and/or creation of incorrect habitat along the river diversions' banks prevents the diversion channels returning to an environment approaching that of the original channel. This may provide unsuitable habitat for aquatic fauna reducing aquatic fauna diversity and abundance in the diversions.

4.2.2.2 Existing Controls

McArthur River Mine has controls in place to minimise the risk to aquatic fauna. This includes the monitoring of the aquatic environment to ensure that operations are not negatively impacting the aquatic ecology. This monitoring is explained below and includes:

- Freshwater fish diversity and abundance, including the threatened freshwater sawfish (*Pristis pristis*).

- Freshwater macroinvertebrate diversity and abundance.

- Metals and Pb isotopes in aquatic fauna.

- Large woody debris (LWD) in the McArthur River diversion channel.

- Success of riparian revegetation program along the diversions.

This monitoring is supplemented and informed by other monitoring programs by MRM including, but not limited to, the following:

- Surface water and groundwater quality, outlined in sections 4.1.3 and 4.1.5.
- Contamination of fluvial sediments, soil and dust, outlined in sections 4.2.4 and 4.2.5.

In addition to these controls, MRM has ongoing controls to minimise/eliminate contamination as a result of mining operations. These controls are discussed in more detail in other sections of the report, but include:

- A water management plan to prevent contaminated water from entering the river system (Section 4.1.3).
- Dust emissions controls to prevent contamination of waterways via dust (Section 4.2.5).
- A water discharge licence which outlines the conditions under which water may be released into the surrounding waterways to minimise contamination (Section 4.1.3).
- A water extraction licence which determines when water can be abstracted from McArthur River (Section 4.1.3).
- Seepage capture sumps and bores to prevent contaminated seepage from entering waterways (sections 4.1.3 and 4.1.5).
- Routine inspections of infrastructure to ensure that they are in good condition and unlikely to fail, leading to potential broad-scale contamination.

Aquatic Fauna

Aquatic fauna is surveyed in the early and late dry season (roughly April and September, respectively) by Indo-Pacific Environmental (Thorburn 2012a, 2012b, 2013a, 2013b). The aquatic surveys monitor fish abundance and diversity in permanent and semi-permanent pools in McArthur River (within, upstream and downstream of the diversion channel), Surprise Creek and the Barney Creek diversion channel. Specific interest is given to the freshwater sawfish, *Pristis pristis*, which is listed as vulnerable under the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999*. Additionally, the surveys monitor fish passage through the diversion channels by tagging key fish species, and determining habitat associations and the utilisation of the diversion channel by sampling key species within, upstream and downstream of the McArthur River diversion channel. More recently, this survey has been expanded to include:

- A comparison between fishes present in the original section of the McArthur River and its diversion channel.
- The collation of data on recapture and sightings of the freshwater sawfish.
- Comparison of the size distribution and abundance of cherabin (*Macrobrachium* spp.) within and outside the McArthur River diversion channel.
- The assessment of the effectiveness of LWD in the diversion.
- The collection of size and distribution data on aquatic reptiles known to occur in the McArthur River.

Aquatic surveys meet the commitments outlined in the 2011-2012 and 2012-2013 mine management plans (MMPs) (MRM, 2011b; Xstrata & MRM, 2012) to:

- Prevent the loss of listed species.
- Ensure that mining activities are not impacting aquatic communities.
- Adhere to the Freshwater Sawfish Management Plan.
- Expand aquatic monitoring upstream and downstream.
- Monitor:
  - Abundance and diversity of freshwater biota.
  - Performance of the diversions (including migration through the diversion).

Overall results of the aquatic surveys are outlined in Table 4.46. Freshwater sawfish were caught in three of the four surveys undertaken during the two-year reporting period. Catches of freshwater fish and cherabin are consistently far lower in the McArthur River diversion channel than in naturally vegetated areas and this result is statistically significant. This indicates that the diversion channel is still only in the early stages of recovery. Within the McArthur River diversion channel, waters around LWD were supporting more fish and a more diverse community than open waters and this result was statistically significant. Large woody debris represented the only places within the diversion where the splendid rainbowfish (*Melanotaenia splendida*) were caught, whereas outside the diversion this is the most common fish. Predatory fish are relatively abundant in the diversion, so a lack of shelter for smaller fish and invertebrates may mean that mortality through predation is high. This pattern was likely due to the lack of suitable habitat in the diversion except for around LWD. In the 2012 early dry season survey, two recently-born sawfish and other estuarine species were caught above the McArthur River diversion channel in Djirrimini Waterhole, indicating that at least some fish are able to migrate through the diversion channel (Thorburn 2012a, 2012b, 2013a, 2013b).

Overall, this shows that, outside of the diversions, McArthur River and its tributaries continue to support a diverse freshwater fauna typical of the region. However, within the McArthur River diversion channel, the aquatic fauna is depauperate. This indicates that while operations are not having a measureable impact on fish communities outside of this diversion, the diversion itself continues to perform poorly. At a minimum, some freshwater sawfish and other larger marine migrants (such as barramundi, *Lates calcarifer*) are able to traverse the diversion. However, it is unclear whether fish can only migrate through the diversion when the floodplain is inundated and if smaller fish can traverse the diversion at all.

Table 4.46 – Number of Species of Bony Fish and Elasmobranchs and Abundance of Fish and Freshwater Sawfish During Aquatic Fauna Surveys in 2012 and 2013

	2012		2013	
	Early Dry Season	Late Dry Season	Early Dry Season	Late Dry Season
Number of species of bony fish	30	23	31	28
Number of species of elasmobranch	2	2	1	2
Total number of fish caught	1,596	1,954	2,194	5,152
Number of sawfish caught	3	1	0	1

Freshwater Macroinvertebrates

Aquatic macroinvertebrates are surveyed annually, four to six weeks after the first major wet season flood (generally March to April) by Ecological Management Services (Barden 2012c, 2013d). Diversity, abundance and community structure of aquatic macroinvertebrates are included in the aquatic monitoring of receiving waters as they are indicators of change in aquatic ecosystems, e.g., as a result of mining operations or river diversion channels. Figure 4.28 shows the macroinvertebrate sampling sites at McArthur River Mine. The monitoring program was developed with the NT government and is based on the NT AUSRIVAS protocol. The macroinvertebrate surveys meet the MMP commitments to survey aquatic invertebrates and to monitor the impact of activities on biota (MRM, 2011b; Xstrata & MRM, 2012).

The 2012 and 2013 aquatic macroinvertebrate surveys found that while the riffle macroinvertebrate community in the McArthur River diversion channel is healthy, the difference between edge community composition (diversity and abundance) within and outside of the diversion channel was statistically significant. Edge habitat in the diversion tends to host a macroninvertebrate community more typical of riffle habitats. This is likely due to the absence of edge habitat (e.g., overhanging vegetation, root mats) in the diversion channel. While not surprising given the relatively recent construction of the diversion, it indicates that ongoing work is required to rehabilitate the McArthur River diversion channel to a condition equivalent to that of the McArthur River itself.

Likewise in the Barney Creek diversion, edge macroinvertebrate community is similarly impaired. However, there is only a single survey site in this diversion, so it is difficult to infer whether the diversion as a whole is being impacted or only a single site.

At sites exposed to mining activities on Barney and Surprise creeks (i.e., downstream of the TSF), the macroinvertebrate community is also impaired, with far lower abundances compared to reference sites. This is potentially due to the changed water chemistry in exposed sites (i.e., sites on Barney and Surprise creeks downstream of the TSF and operations) as a result of MRM's activities. Multivariate analysis indicates that there are statistically significant differences between these sites, with increased sulfates, EC, total dissolved solids, Na, As, and Hg in surface waters and Cu, Pb and Zn in fluvial sediments. However, additional work is required to assess the underlying causes of the community impairment, due to a lack of reference sites on other local creeks of the same order as Surprise and Barney creeks (Barden 2012c, 2013d).

The ongoing rehabilitation of the McArthur River diversion channel should address the lack of edge macroinvertebrate community in the diversion by creating more edge habitat. Rehabilitation efforts should be increased and monitoring of macroinvertebrates should be ongoing to ensure that the community recovers. There is only a single survey site in the Barney Creek diversion channel, so it is unclear how the macroinvertebrate community in the Barney Creek diversion is performing.

The impairment of the macroinvertebrate community in exposed sites on Barney and Surprise creeks is of concern, as one of the potential causes is contamination of surface waterways as a result of McArthur River Mine's activities. If contaminants are impacting macroinvertebrate communities, contaminants could then feed into the trophic cycle of the rivers and potentially impact other aquatic fauna. Additional reference sites of the same stream order as Barney and Surprise creeks should be added so the effects of exposure and stream order can be understood.

MACROINVERTEBRATE SAMPLING SITES IN THE VICINITY OF McARTHUR RIVER MINE

McArthur River Mine Project

FIGURE 4.28

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ERIAS Group | 01164A_1_F4-28_v1.pdf

Metals and Lead Isotope Ratios in Aquatic Fauna

The concentration of metals and Pb isotopes in aquatic fauna are assessed in conjunction with the early dry season aquatic fauna surveys (Thorburn 2012c, 2013c). Three species of fish (bony bream (*Nematalosa erebi),* checkered rainbowfish (*Melanotaenia splendida)* and spangled grunter (*Leiopotherapon unicolor*)), crustacean (cherabin, *Macrobrachium* spp), and freshwater mussels (*Velesunio angasi*) are collected. Muscle tissue and (where possible) liver are analysed from *N. erebi* and *L. unicolor*. In *M. splendida* the trunk (the body with the head, tail, fins and gut removed) is analysed. The tail from cherabin and tissue, with the gut removed, from mussels are analysed. Tissues are analysed using inductively coupled plasma mass spectrometry for 16 metals and As, and the Pb isotope ratios for 207Pb:206Pb and 208Pb:206Pb. These samples are collected annually to assess whether aquatic fauna are exceeding maximum permitted concentrations (MPCs) as outlined by Food Standards Australia New Zealand (2009) for metals, and whether levels around and downstream of the mine site are higher than undisturbed reference sites.

Assessing Pb isotope ratios tests whether aquatic organisms are bioaccumulating mine-derived Pb, which has different isotope ratios to background Pb. This can be used to determine whether mine-derived Pb is entering the environment as a result of McArthur River Mine operations. The assessment of metal concentrations in biota meets commitments in the MMPs, and the area being monitored has been expanded as a result of seepage from the TSF and elevated levels of sulfates in Barney and Surprise creeks. Monitoring metals and Pb isotopes helps to assess whether commitments to minimise dust, soil, and surface and ground water contamination as a result of operations are being met (MRM, 2011b; Xstrata & MRM, 2012).

In 2012, the MPC for Cu was exceeded in 19 of 28 cherabin collected from exposed and reference sites, consistent with patterns in previous years. This is likely due to the physiology of cherabin, and appears common in McArthur River and adjacent rivers in the region. The development of a more regionally relevant trigger value for Cu in cherabin would be useful. The MPC for As was exceeded in one mussel collected from SW7 above the diversion, and was close to being exceeded in two mussels from SW21 and the Upper Burketown Crossing. This is consistent with past findings of elevated As in mussels in previous years and is unlikely to be a result of operations due to the location of the sites. However, two of the four rainbowfish and the single cherabin caught at SW19 on Barney Creek exceeded MPCs for Pb (see Figure 4.4). Lead isotope ratios at this site were very similar to that of the orebody, indicating that this Pb could have been derived from the orebody. However, high Pb isotope ratios similar to the orebody can occur naturally, as indicated by results from Kilgour Junction upstream of the mine and the two regional reference sites, so these results should be treated with caution.

In 2013, MPC for Pb were exceeded in 9 of 10 fish (spangled perch and rainbowfish) caught at site SW19, as well as three fish from other sites (a bony bream at SW16, and a rainbowfish at each of SW7 and Top Crossing). Measuring Pb isotopes at sites SW7, SW16 and SW19 indicates that ore-derived Pb may be entering aquatic biota. The raised Pb levels in 90% of fish sampled at SW19 is thought to be due to the proximity of this site to the Barney Creek bridge where many haul trucks cross daily, leading to contamination of the creek by dust and runoff from the road. However, away from the immediate vicinity of the mine site there is no evidence of mine-derived Pb in the McArthur River, indicating that mine-derived Pb is diluted downstream. Samples with high concentrations of Pb tended to match up more closely with Pb isotope ratios of the orebody, i.e., mine-derived ore. Similarly to 2012, three exceedances of MPC for Cu were recorded and likely reflected the high levels of these elements naturally recorded throughout the catchment and regional reference sites (Thorburn 2012c, 2013c).

As mine-derived Pb appears to be entering biota in the immediate vicinity of the mine, additional work is required to identify sources of contamination and implement additional controls to improve mine performance. Sources of contamination could be identified by expanding the monitoring of metals in aquatic organisms in Surprise and Barney creeks, so that the location and extent of contamination can be identified and quantified.

Large Woody Debris

MRM has committed to providing LWD as fish habitat as part of the MMP (MRM, 2011; Xstrata & MRM, 2012) as LWD supports more fish than open sections of the diversion channel. Since 2008, patches of LWD were added to the McArthur River diversion channel to provide habitat and shelter for resident fish and rest areas for fish migrating through the diversion.

LWD is surveyed annually and all piles of debris are photographed (MRM 2012j, 2013k). Surveys of LWD in 2012 covered only the upstream two thirds of the McArthur River diversion channel, and found 36 patches of LWD. There was no explanation regarding why only two thirds of the diversion was covered in the survey, but it is likely due to poor access in the lower reaches of the McArthur River diversion.

Surveys in 2013 covered the entire diversion channel, with 94 patches of LWD found in the same area surveyed in 2012, and the downstream third containing another 10 patches. While this would indicate that there has been a more than twofold increase in LWD from 2012 to 2013, this is unlikely, as only twelve additional loads of LWD were added in the 2013 dry season. These results are more likely due to one or several of the following factors:

- The survey was more intensive.
- Smaller LWD patches were counted as LWD.
- There was movement of wood downstream, either from naturally occurring snags migrating or LWD piles breaking up and moving.
- The water level was lower, hence more woody debris could be seen.
- Wood higher on the riverbank was included.

In future, more information should be provided in the LWD reports, including a clearer discussion of the annual additions of woody debris and the change in number of LWD patches between years.

It is encouraging to see that MRM is committed to increasing the amount of LWD in the McArthur River diversion channel, as the addition of large snags will aid in providing aquatic habitat, as well as capturing sediment and smaller organic debris.

Riparian Rehabilitation

Healthy riparian vegetation is essential for the ecosystem function of the diversion channel; however, currently the rehabilitation of riparian vegetation along the diversion is underperforming compared to reference sites. Canopy cover, ground cover and tree species richness were all much lower in rehabilitated sites compared to reference sites. Erosion is also worse in rehabilitation sites. Multivariate analysis statistically splits the reference sites and the sites on the diversion channels. While this is unsurprising considering the age of the diversion channel, considerable effort will be required over many more years to return the diversion channel to a condition approaching that of the surrounding environment. When the riparian corridor is rehabilitated, it will provide habitat, shade, detritus and flow control in the McArthur River and Barney Creek diversion channels, which are the essential building blocks for a healthy ecosystem.

4.2.2.3 Successes

MRM should be commended for the monitoring of the aquatic ecosystem (Plate 6). The monitoring program has developed over the duration of the operation and is now extensive. It is also regularly reviewed and modified as new issues arise.

Plate 6 – Aquatic Ecosystems at McArthur River Mine

Clockwise from top left. The Barney Creek diversion channel at the junction of Barney and Surprise creeks. A few hundred metres downstream of the start of the McArthur River diversion channel. The IM team at a waterhole on Surprise Creek adjacent to the TSF. Large woody debris placed at the upstream end of the McArthur River diversion channel.

Some of the successes of the operational period include:

- The inclusion of Surprise and Barney creeks in the aquatic fauna monitoring program.
- LWD continues to be added to the diversion and, in addition, coir logs made from woven coconut fibre are being added to the banks to supplement limited wood supplies. The LWD survey now covers the whole length of the diversion channel.
- The number of reference sites has increased in the aquatic surveys as well as the monitoring of metals in aquatic fauna. As such, more can be inferred from the data.
- Sawfish and other marine migrant species have been shown to pass through the McArthur River diversion channel.
- Metals entering the watercourses potentially as a result of McArthur River Mine operations are not having a measurable impact downstream from the mine site.
- Silt catchment devices have been constructed adjacent to the Barney Creek bridge to catch sediment being washed off the haul road and into the creek as a response to increased lead readings in organisms at SW19.

The above successes build on an extensive track record of improvements to aquatic ecosystem monitoring at McArthur River Mine, in response to new issues as they arise.

4.2.2.4 New Issues

While MRM's surveys of the aquatic ecosystem have been extensive, there are new risks pertaining to:

- Contamination of Surprise and Barney creeks.
- The absence of monitoring in the diversion of Little Barney Creek.

Some additional monitoring gaps are discussed below.

Contamination in Surprise and Barney Creeks

While McArthur River remains relatively uncontaminated, Barney and Surprise creeks are still being contaminated by the TSF and/or other aspects of the mining operation, despite efforts to minimise seepage from the TSF, especially Cell 1 (see Section 4.1.3). Multivariate analyses (MDS - multidimensional scaling, DISTLM – distance based multivariate analysis and SIMPROF – similarity profile analysis) of water quality measurements (overall chemical composition and individual analysis of EC and concentrations of sulfates, Pb and Zn) indicate that exposed sites (i.e., between the TSF and the McArthur River on Barney and Surprise creeks) are distinct from both upstream reference sites, McArthur River and regional reference sites (MRM, 2014b). Within exposed sites in Barney and Surprise creeks, there is a separate grouping which loosely equates to the Barney Creek diversion channel (SW6, SW18, SW19 and SW 20 (see Figure 4.4)), Surprise Creek exposed (SW2 and S24) and Barney Creek exposed (SW3, SW4, and SW22). This is supported in overall chemical analysis, as well as individual analyses relating to EC, sulfate, Pb, Zn, Cu and As (MRM, 2014b). This is also reflected in fluvial sediment monitoring, where exposed sites corresponding to the surface water monitoring points outlined above also have raised EC, Pb and Zn concentrations (Section 4.2.4). MDS and SIMPROF analyses group off the reference and exposed sites (MRM, 2014). Again, these results are reflected in sediment and water quality data from macroinvertebrate surveys (Barden 2012, 2013). Surface water and fluvial sediment monitoring programs indicate that mining activities are having a measurable impact on water quality in Surprise and Barney creeks below the TSF.

These contaminants are being taken up by aquatic fauna. Macroinvertebrate abundances at exposed sites on Surprise and Barney creeks are statistically different from reference sites (Barden 2012c, 2013d). This is consistent across both riffle and edge communities and is probably caused by elevated salts and metals in these exposed sites. However, the lower abundances of macroinvertebrates in exposed sites must be treated with caution due to a lack of suitable reference sites for these creeks. Additional reference sites of the same stream order as Surprise and Barney creeks downstream of the TSF should be added to the macroinvertebrate abundance and diversity surveys so the impacts of this contamination can be better assessed.

While ANZECC/ARMCAN (2000) trigger limits for salts and metals are only exceeded occasionally (Section 4.1.3), this low level contamination is potentially impacting macroinvertebrate communities and bioaccumulating in aquatic fauna (see Section 4.2.2.5). Every effort needs to be made to locate and eliminate sources of contamination before the aquatic ecosystem is further impacted, and contaminants begin to impact the McArthur River.

Monitoring of Little Barney Creek

There has been no assessment of the impact of the diversion of Little Barney Creek around TSF Cell 3/water management dam. Specifically, there is no assessment of the aquatic fauna or the water and fluvial sediment quality in the Little Barney Creek diversion channel. With no baseline data, MRM will be unable to measure any current or future impacts to this watercourse as a result of operations. The IM recommends including this creek in surface water, sediment and aquatic fauna monitoring. If TSF Cell 3 becomes a tailings storage facility in the future, appropriate mitigation measures will be required to ensure that contamination does not occur in Little Barney Creek, as was the case for TSF Cell 1 and the adjacent Surprise Creek.

Other New Issues

The IM has identified the following additional issues as a result of the document review and site visit:

- There is no comparison between aquatic fauna in the Barney Creek diversion channel and control sites. The IM recommends adding this to monitoring program so performance of this creek can be assessed.

- There has been no analysis of whether the operations are impacting Djirrimini Waterhole as a result of dewatering activities. It is likely that the Djirrimini Waterhole is an important dry season refuge for many aquatic species, particularly in very dry years. As Djirrimini Waterhole is the second most upstream permanent waterhole on McArthur River large enough to support freshwater sawfish, it may be important habitat for these conservation-listed species. Juvenile freshwater sawfish have been caught at Djirrimini Waterhole, so it may be an important breeding area. Monitoring of the depth, size, shape and aquatic community of the waterhole needs to be ongoing to ensure that the drawdown of the waterhole is not having a negative impact on the environment. This monitoring should be included in the MMP and aquatic surveys.

- The LWD reports require additional analysis, such as whether patches of debris have been moving or not, and the reasons for this. Such information can better inform placement of LWD in the future to prevent them being washed downstream. There was no explanation of why only two thirds of the diversion channel was addressed in the 2012 LWD report and why there were many more LWD patches recorded in 2013 compared with 2012, despite few LWD patches being installed in 2013. More clarity is required.
- Finally, within the MMPs MRM stated that they would investigate the potential of establishing a conservation area downstream of the mine site; however, there is no assessment or reporting regarding this statement.

4.2.2.5 Incidents and Non-compliance

MRM was compliant with all commitments outlined in the 2012-2013 MMP (Xstrata & MRM, 2012). However, there were several incidents.

Contaminants in Aquatic Organisms

In 2012 and 2013, metals exceeded MPCs in the flesh and liver of fish, the tails of cherabin and flesh of mussels at eight sites (Table 4.47). While not reported as an incident, the IM regards the contamination of aquatic organisms in Barney Creek as an incident.

In 2012, at site SW19 on the Barney Creek diversion channel (just downstream of the Barney Creek bridge), MPCs for Pb were exceeded in two rainbowfish and a single cherabin. All four rainbowfish collected exhibited elevated concentrations of Pb, resulting in the average reading for the site being above the MPC. The Pb concentration for the single cherabin collected was the highest recorded since monitoring began in 2005. Lead was not exceeded in spangled grunter from SW19.

The Cu MPC was exceeded by some cherabin at seven sites, consistent with previous years, likely attributable to the physiology of the species rather than water chemistry. High Ca concentrations were common in all three fish species, especially in Surprise Creek, likely due to the hardness of the water (Thorburn, 2012c).

In 2013, the MPC for Pb was exceeded at several sites, with Pb tissue concentrations exceeding the MPC for fish (0.5 mg/kg) in:

- A rainbowfish collected from Top Crossing.
- One rainbowfish from SW7 above the McArthur River diversion channel.
- A bony bream collected from SW16 in the McArthur River diversion channel.

However, at SW19 all five rainbowfish and four of five spangled grunters collected exceeded the MPC for Pb. Mean Pb concentrations for spangled perch (0.95 mg/kg) and rainbowfish (2.16 mg/kg) at this site were higher than any other sites sampled during this study, ten times that of the regional reference sites and far higher than those found in 2012 (0.05 mg/kg for spangled grunters, 0.64 mg/kg in rainbowfish) at the same site.

Table 4.47 – Metals Exceeding MPCs in Aquatic Fauna During Monitoring Programs in 2012 and 2013

Site	Organism	Number Exceeding MPC[1]	Metal	Concentration (mg/kg)	MPC Value [2] (mg/kg)
2012					
Top Crossing	Cherabin	4 of 4 caught	Cu	11, 13,11,19	10
Kilgour Junction	Cherabin	3 of 3 caught	Cu	15, 13 20	
SW21	Cherabin	2 of 4 caught	Cu	16, 13	10
SW7	Cherabin	4 of 4 caught	Cu	12, 13, 15, 16	10
SW7	Mussel	1 of 1 caught	As	1.8	1
SW19	M.splendida (trunk)	2 of 4 caught	Pb	0.59, 1.3	0.5
SW19	Cherabin	1 of 1 caught	Cu	14	10
SW19	Cherabin	1 of 1 caught	Pb	2.9	0.5
SW12	Cherabin	2 of 3 caught	Cu	14, 19	10
SW8	Cherabin	3 of 4 caught	Cu	13, 11, 11	10
2013					
Top Crossing	M.splendida (trunk)	1 of 1 caught	Pb	0.86	0.5
SW21	Cherabin	2 of 6 caught	Cu	18, 11	10
SW7	M.splendida (trunk)	1 of 5 caught	Pb	1.4	0.5
SW16	*N.erebi* (trunk)	1 of 5 caught	Pb	0.63	0.5
SW19	*L.unicolor* (muscle and trunk)	4 of 5 caught	Pb	0.53, 0.61, 1.8, 1.5	0.5
SW19	M.splendida (trunk)	5 of 5 caught	Pb	1.4, 1.4, 4.7, 2.1, 1.2	0.5
Upper Crossing	*N.erebi* (liver)	1 of 5 caught	Cu	11	10

1. Number of individual organisms exceeding the MPC value for the listed metal,
2. MPC Value = Maximum Permitted Concentration Value for the applicable metal.

In 2013, Cu MPCs were again exceeded in two cherabin; however, concentrations were consistent with previous findings (average of 11.92 mg/kg in 2012 and 7.3 mg/kg in 2013), and within the range recorded at regional reference sites (mean 10.66 mg/kg). Copper MPC was exceeded in the liver of one bony bream; however, Cu concentrations in muscle tissue were well below the MPC (Thorburn, 2013c).

Lead isotope ratios, i.e., the relative proportion of Pb isotopes such as 207Pb to 206Pb occurring, can be used to determine the origin of Pb entering the environment. Orebodies can have different Pb isotope ratios to the average found in the surrounding environment. The orebody at McArthur River Mine has higher 207Pb:206Pb and 208Pb:206Pb ratios than background levels. Lead isotope ratios indicate that Pb absorbed by organisms at SW19 and other sites around the mine (SW2, SW7, SW11 and SW16) were similar to those found in the orebody. The site with the Pb isotope ratio closest to the orebody is SW19. Sites closer to the mine generally have a higher Pb isotope ratio, and fish with high Pb concentrations also tend to have a high Pb isotope ratio, indicating that orebody-derived Pb appears to be entering aquatic organisms and is increasing Pb uptake in fishes close to the mine site. However, this is complicated by the fact that high Pb isotope ratios also occur naturally in the region. For example, Kilgour Junction upstream of the mine site and the reference site on the Wearyan River both have high Pb isotope ratios, so results should be treated with caution (Thorburn 2012c, 2013c). Monitoring would benefit from the establishment of a more regionally relevant background level for Pb isotopes, as for all sites the average isotopic ratios were closer to the orebody than background levels. Establishing a regionally relevant background isotope ratio would be more appropriate for determining whether orebody-derived Pb is entering aquatic fauna.

Thorburn (2012c, 2013c) argues that the source of Pb at SW19 is the haul road at Barney Creek bridge, with dust and runoff contaminating the area locally. MRM has installed silt traps at Barney Creek bridge to reduce the impacts of runoff. However, there is potential that other activities are introducing Pb to the system and the impact is more widespread. SW19 is the only fish and crustacean survey site on Barney Creek and the only spot where metals are monitored in these organisms. Hence, it is not known if there are high Pb concentrations in biota at other sites along Barney Creek. SW19 is also located where the creek widens and creates a permanent pool, so water flow slows and contaminated sediments could potentially settle out. Metal concentrations in fluvial sediments at SW18, which is upstream of the bridge, and SW19 are similar (MRM, 2014c). Filtered Pb concentrations in surface water samples are also similar among exposed sites on Barney Creek. In conjunction with evidence suggesting that reduced water quality is potentially affecting macroinvertebrate communities at exposed sites on Barney and Surprise creeks, the IM recommends that additional monitoring points are added along Barney Creek to assess aquatic fauna diversity, abundance and metal uptake. Sites SW4, SW22, SW3, SW18, SW6 and SW28 should be included in the metal contamination of aquatic biota program.

It should be noted that MPC guidelines relate to the consumption of fish by humans, and Thorburn (2012c, 2013c) did not note any adverse affect of elevated concentrations of Pb on fish health. However, it is concerning that metals are being recorded above MPCs in fish, indicating that additional Pb is entering the food chain possibly as a result of MRM's activities. The sources of metal contamination should be identified and eliminated quickly to prevent the contaminants spreading and potentially becoming a bigger issue for both fish and, potentially, human health.

Impacts could be localised to fish examined for metal contamination at SW19 as fish sampled at SW2 on Surprise Creek did not exceed MPCs for Pb. Additional survey sites along Barney and Surprise creeks are required to identify the source of contamination in aquatic fauna, and how widespread the contamination is.

The IM was not supplied with an incident report for this incident. However, as the obvious source of pollution at SW19 is the haul road across the Barney Creek bridge, MRM has since built a sediment trap to reduce runoff from the road. Monitoring in 2014 will assess the effectiveness of this control, and additional monitoring along Barney Creek will determine the extent of contamination in the creek line.

Additional Incidents

There were three other incidents that had the potential to impact aquatic fauna during the operational period:

- A bushfire on 28 August 2012 near the TSF melted a polyline which pumps water into the WMD, causing it to split. An estimated 80,000 L of seepage and rainwater from within the water management dam was lost in total, 20,000 to 30,000 L of which spilled into Little Barney Creek. Water quality testing of the WMD indicated that Zn and sulfates were over interim site specific guideline levels. The water pooled in the creek and then either evaporated or soaked into the creek bed. There was no recorded impact on aquatic fauna as a result of this incident.

- Seepage, probably from the NOEF, was recorded on 11 January 2012 flowing into Emu Creek adjacent to the NOEF. The liquid showed elevated concentrations of sulfates, Cd, Mn, Pb and Zn compared to background levels, but concentrations were not over guideline limits. Water was not flowing into McArthur River. There was no recorded impact on aquatic fauna as a result of this incident.

- A leaking pipe was noted on 12 January 2012 near the Barney Creek Bridge; however, all leakage was contained to a bunded area and did not flow into surface waters. Water samples taken from Barney Creek exceeded water discharge licence trigger values for sulfates. Trigger values were not exceeded for metals. Concentrations of As, Cu and Zn exceeded Australian livestock guidelines at a bore 50 m downstream of the point source, indicating that seepage had entered the groundwater. There was no recorded impact on aquatic fauna as a result of this incident.

While there was no record of aquatic fauna being impacted as a result of these incidents, there may have been cumulative impacts as a result of introduction of additional contaminants to the environment.

4.2.2.6 Review of Progress Against Previous IM Audit Recommendations

Progress made against many of the previous IM audit recommendations with regard to aquatic fauna (EES, 2012) is outlined in Table 4.48. Slow rehabilitation of the diversion channels is discussed in detail below.

In addition to these recommendations, recommendations relating to mine site flora also impact on the freshwater habitat. Rehabilitation of vegetation along diversion channels needs to continue, and additional monitoring sites added to the downstream end of the McArthur River diversion channel, where revegetation is poorest.

Table 4.48 – Performance against previous IM Audit Recommendations

Recommendation	IM Comment
Increase the density of the important riparian plant species: native cane grass, freshwater mangrove and *Pandanus* along the river diversion channels	Rehabilitation is ongoing, and riparian vegetation cover continues to increase. However, there is still more work to be done to develop the riparian vegetation to an appropriate ‘natural’ state, and the lower 80% of the diversion has little riparian vegetation. See below for more details
Ensure cattle are excluded from restoration areas along the diversion channels	Fencing is regularly inspected and fixed as required following each wet season. However, more monitoring, maintenance and controls are required, as grazing by introduced herbivores is considered one of the two largest threats to rehabilitation

Table 4.48 – Performance against previous IM Audit Recommendations (cont'd)

Recommendation	IM Comment
Continue to monitor and add large woody debris annually	MRM continues to add LWD. However, effort needs to be directed towards adding more large woody debris to the downstream half of the McArthur River diversion channel. See below for more details
Include molluscs in metal analysis of biota in river diversions, if possible, as they are good indicators of metal contamination	Freshwater mussels were added to the monitoring program at sites where they are found
Consider annual fish monitoring in Surprise and Little Barney creeks to investigate further the effect of sulfates and metals on fish from tailings seepage	Fish are now monitored in Surprise Creek; however, they are not monitored in Little Barney Creek
Conduct fish monitoring on Barney Creek within the diversion channel and on undisturbed stretches, to evaluate the effect of the diversion on fish assemblages	Fish are only surveyed at a single site on Barney Creek in the diversion channel, so MRM is not able to compare sites within and outside the diversion channel
Conduct an ecotoxicology evaluation that includes a suite of tropical native species as part of test design in order to create a more robust dataset	Ecotoxicology studies have not been expanded to cover a larger suite of native species

Rehabilitation and Performance of the Diversion Channels

The diversity and abundance of aquatic fauna within the McArthur River diversion channel continues to be reduced compared to control sites up and downstream of the diversion channel, and results recorded in the old river channel prior to the construction of the diversion.

Freshwater fish abundances and diversity in the McArthur River diversion remains static. Fish caught in fyke nets (a barrel shaped net with mesh wings) during the four surveys undertaken in 2012 and 2013 were roughly 12% of what they were in the old McArthur River channel prior to the diversion. Results have been consistent since the diversion channel was first established, with early dry season fyke catches between 2009 and 2012 being on average 11% of the catch prior to the diversion (Thorburn 2012a, 2012b, 2013a, 2013b). Fish catch via electrofishing is roughly 20 times greater in naturally vegetated sites (i.e., reference sites up and downstream of the diversion channel), compared to the diversion channel. The lack of riparian habitat, large and small woody debris, reduced macroinvertebrate abundance and lack of detritus continue to make the McArthur River diversion a low quality habitat for freshwater fish.

Invertebrate abundance and diversity show similar results to that for fish. Cherabin, thought to be a potential indicator of habitat complexity, are 20 times more abundant outside of the diversion channel than within it (Thorburn 2012a, 2012b, 2013a, 2013b). However, reporting is inadequate to indicate whether cherabin abundances are increasing, decreasing or remaining static since the diversion was established. Within the diversion channel, edge macroinvertebrate communities are significantly different to reference site communities found upstream and downstream of the diversion; these communities are effectively riffle communities even in edge habitats. EMS (Barden 2012c, 2013c) attributes this to the absence of true edge habitat (such as root mats and overhangs) in the diversion channel, arguing that the entire diversion channel is effectively riffle habitat. Riffle macroinvertebrate communities are similar within and outside of the diversion channel.

There is little sampling of the fishes and macroinvertebrates of the Barney Creek diversion channel, and no comparison between the performance of this diversion channel and reference sites. There is no sampling in the Little Barney Creek diversion channel. Therefore, it is unknown how these two diversion channels are performing. Aquatic monitoring should be extended to cover the Barney Creek and Little Barney Creek diversion channels and include reference sites outside these channels, so their performance can be assessed.

Larger marine migrants such as barramundi and freshwater sawfish may have been recorded as successfully traversing the McArthur River diversion channel. However, smaller, less mobile fish (such as rainbowfish and ambassids) may be unable to pass through the diversion due to:

- The absence of habitat, except for LWD, may mean that there is insufficient shelter and resting areas for fish passing through the diversion channel. LWD patches are dense upstream, sparser in the middle reaches and most sparse at the downstream end of the diversion channel, which may provide a considerable migration barrier (MRM, 2013k).

- Increased flow rates in the middle and downstream sections of the McArthur River diversion channel during flooding events (WRM, 2012c). Throughout the channel, 'as constructed' flows are equal to or higher than 'as designed' flows, indicating that flow is equal to or higher than planned in the diversion, which may further impair movement.

- Water temperatures may also be a barrier to fish migration in the diversion channel, as fish may have thermal tolerance thresholds or higher energetic requirements at higher temperatures. Temperatures in the diversion channel are on average two to three degrees higher than reference sites, and up to five degrees higher during the late dry season, when background water temperatures are at their highest and fish will be experiencing the greatest heat stress (Xstrata & MRM, 2013). As riparian vegetation cover increases along the diversions, more shade will be created and water temperatures should decline to reference site levels.

While freshwater sawfish are monitored (abundance and location of catch) during the aquatic surveys, there has been little analysis to determine the impacts of the diversion channel on sawfish in the McArthur River. For example, there is no comparison of current abundance, or how many sawfish are able to traverse the diversion channel to upstream waterholes, with that prior to establishment of the diversion channel. MRM has committed to the following (Xstrata & MRM, 2013):

> Monitoring of the use of the diversion channel by freshwater sawfish must be sufficiently robust to detect with at least 90% confidence, a reduction in dispersal numbers of 10% or more of the natural (predisturbance) dispersal

However, there is no analysis of monitoring data to determine whether this commitment is being met.

As noted, efforts to rehabilitate the riparian zone along the McArthur River diversion need to be increased, as freshwater sawfish require slow flowing microhabitats with shade for resting during migration. While juvenile sawfish have been caught above the diversion (indicating that adults can traverse the diversion), it is unclear whether this occurs at any time when there is sufficient flow, or only when the river flows onto the floodplain, and the slower flowing floodplain can be utilised.

While revegetation along the diversions continues to improve, there are sections – especially throughout the middle and downstream sections of the McArthur River diversion channel – where revegetation is performing poorly. Efforts need to be augmented, especially in the barest sections, to accelerate revegetation, improve the performance of the diversion and ensure that inadequate revegetation is only a short-term concern.

Rehabilitation efforts must continue along the length of the diversions to provide self-sustaining edge microhabitats, habitat diversity, resting areas and increased shade. Revegetation surveys continue to identify grazing by introduced herbivores (cattle and donkeys) and erosion as the two key factors affecting rehabilitation success (van den Hoek, 2012; van den Hoek and Ewers, 2013). As a result, efforts need to be increased to ensure that grazers are excluded from rehabilitation zones and ground cover is established. Potential engineering options could be investigated to minimise erosion along the diversion channel. Along the Barney Creek diversion, revegetation appears to be performing well. However, along the McArthur River diversion, rehabilitation efforts need to be directed towards the downstream sections as photo-monitoring of the diversion indicates that this lower 80% is lacking substantial vegetation cover (MRM, 2013i).

Large woody debris and coir logs should continue to be added to the McArthur River diversion channel, especially to the downstream half of the channel. Additional options should be investigated, such as the placement of small woody debris and leaf litter to provide microhabitats and detrital input into the system. Other options could include placing hessian-covered barriers in the river to catch sediment and debris, or placing more boulders and stones into the river to provide a more diverse substrate.

Overall, the diversion channels require ongoing effort to rehabilitate them to a natural state.

4.2.2.7 New Recommendations

Based on the IM's review of MRM's environmental performance during the previous two years, the following recommendations are made to improve aquatic ecology. These are outlined below and summarised in Table 4.49.

Table 4.49 – Recommendations for Aquatic Ecology Monitoring

Subject	Recommendation	Priority
Contamination of biota	The IM recommends additional aquatic fauna abundance, diversity and metal concentration monitoring along Barney, Little Barney and Surprise creeks to identify potential sources of contamination. This should include sites SW4, SW22, SW3, SW18, SW6 and SW28 until sources of contamination are determined. This monitoring can also be used to assess the effectiveness of the diversion channel rehabilitation	High
Large woody debris	The IM recommends continuing to add and monitor LWD and coir logs in the McArthur River diversion channel. When LWD is added to the diversion channel in the future, MRM should focus on the downstream sections of the diversion. MRM should start adding small woody debris and leaf litter to the diversion channels at the end of the wet season to provide habitat and detritus for small fish and invertebrates. In addition, other options could be investigated to trap sediment along the river bank and increase habitat diversity	Medium
Diversions	The IM recommends including additional sites on the Barney Creek and Little Barney Creek diversion channels to assess the performance of these diversions. Reference sites outside the channels should also be established so baseline data can be collected	Medium

Table 4.49 – Recommendations for Aquatic Ecology Monitoring (cont'd)

Subject	Recommendation	Priority
Freshwater sawfish	The Sawfish Management Plan should be more effectively implemented through better assessment of the sawfish monitoring data collected during the aquatic fauna survey, to determine impact of pre- and post-construction of the McArthur River diversion channel and how sawfish catches are changing over time. Continued community engagement, such as talks in Borroloola and King Ash Bay and informative signs at popular fishing spots would improve reporting of tagged sawfish and reduce illegal fishing	Medium
Drawdown at Djirrimini Waterhole	An investigation should be undertaken into the impacts of potential drawdown at Djirrimini Waterhole, and possible mitigation of its impacts, as this is one of the most upstream waterholes visited by freshwater sawfish	Medium
Macroinvertebrate reference sites	Extra reference sites of the same stream order as Surprise and Barney creeks should be included in the macroinvertebrate surveys. These sites will be used to determine whether differences in community composition are due to differences in stream order or impacts of operations	Medium
Bioaccumulation of contaminants	Fish from a higher tropic level such as the sooty grunter (*Hephaestus fuliginosus*) or barramundi (*Lates calcarifer*) could be included in the monitoring of metal concentrations in flesh, as these species are more likely to bioaccumulate metals	Medium
Better synthesis of data	Monitoring of aquatic biota would benefit from an overall synthesis of results from the aquatic biota monitoring, macroinvertebrate surveys, metal concentrations in biota assessments, and water and fluvial sediment monitoring in the SDMMP	Medium
New background Pb isotope ratio	Monitoring would benefit from the establishment of a more regionally relevant background level for Pb isotopes, as for all monitoring sites, the average isotopic ratios were closer to the ore body than background levels. Establishing a regionally relevant background isotope ratio would be better for determining whether ore derived lead is entering aquatic fauna	High

4.2.3 Marine Ecology

This section is a review of the ongoing management and monitoring of the marine ecology at Bing Bong Port and the surrounding coastline by MRM, for the operational period from October 2011 to September 2013. This section also includes observations made during the IM's site assessment on 26 March 2014 at Bing Bong Port.

Annual marine ecological monitoring at Bing Bong includes:

- The annual marine monitoring program (AMMP) which covers the contamination of water, sediment and biota (fish, crustaceans, molluscs and seagrass) in the vicinity of Bing Bong and the Sir Edward Pellew Group of Islands.
- The annual seagrass surveys which assess the extent and species composition of seagrass around Bing Bong Port, and whether meadows are expanding or contracting.
- Assessment of *Vibrio* bacteria in the waters around Bing Bong Port and McArthur River.

These are supplemented by several additional assessments of contamination of sediments and seawater throughout the operational period.

4.2.3.1 Key Risks

The key risks to marine ecosystems as outlined in the risk assessment (Appendix 2) are:

- While loading concentrate onto the MV Aburri and from the MV Aburri onto larger transport vessels, dust and spillage contaminates seawater and sediments in the Bing Bong Port swing basin, the trans-shipment area and the surrounding area. Metals in the dust and spilled concentrate can bioaccumulate in marine biota, which may have lethal and/or sublethal chronic effects on biota.
- Dust migration from the Bing Bong Port concentrate storage shed and road vehicles causes heavy metal contamination of marine sediments and seawater in Bing Bong Port and surrounding areas, which may potentially contaminate local biota.
- Shipping activities and dredging of the shipping channel increases turbidity, leading to the loss of seagrass by reducing light availability and therefore photosynthesis. This in turn affects seagrass dependent communities or populations (e.g., dugongs).
- Lack of controls in managing dust and surface water runoff at the mine site lead to contamination of water and sediments washed down McArthur River. This in turn leads to the bioaccumulation of metals in sediments and marine biota in vicinity of the Sir Edward Pellew Group of Islands and the McArthur River. This may have unknown sublethal/chronic effects on marine fauna and on higher trophic species, including humans who eat locally caught fish.
- Mining activities cause *Vibrio* bacterial infection of local people. *Vibrio* bacteria monitoring began after three cases of severe necrotising fasciitis (flesh-eating bacteria syndrome) from *Vibrio* bacteria in the Gulf of Carpentaria. *Vibrio* bacteria possess Zn-containing proteases and availability of Zn may restrict abundances. If Zn concentrations are increasing as a result of emissions from MRM's activities, this could result in conditions conducive to *Vibrio* bacteria and lead to increased *Vibrio* abundance.

4.2.3.2 Existing Controls

MRM has monitoring and controls in place to minimise the risk to marine biota. Controls include:

- Covered conveyor belts at the loading facility to reduce dust while loading the MV Aburri.
- Positive pressure differential and dust extractor system in the concentrate shed to reduce dust emissions while unloading vehicles, moving concentrate and loading the MV Aburri.
- Sprinkler systems on roads and vehicle washdown at Bing Bong Port to prevent dust emissions from vehicle activities.
- Dredge spoil is settled in ponds on land to reduce turbidity and contamination from resuspended sediments from dredging.

Monitoring is discussed in more detail below and includes:

- The annual marine monitoring program (AMMP), which assesses levels of contamination in water, sediment and biota (fish, crustaceans, molluscs and seagrass) in the vicinity of Bing

Bong Port and the Sir Edward Pellew Group of Islands as a result of MRM's activities. Lead isotope ratios are also addressed (Strenten-Joyce & Parry, 2012; Thorburn, 2013d).

- Annual seagrass surveys to assess the extent and composition of seagrass around Bing Bong Port, and whether seagrass meadows are expanding or contracting (Pietsch, 2012; Gregson, Hiles & Toki, 2012).
- Assessments in 2009, 2012 and 2013 of *Vibrio* bacteria in waters around Bing Bong Port and McArthur River estuary (Strenten-Joyce 2012, 2013).

In addition to the assessments listed above, MRM also assesses sediment and seawater contamination. This includes:

- Annual assessment of metal contaminants in near shore sediments to meet the requirements of Water Discharge Licence 174-2 (Thorburn 2012d , 2013e).
- Monthly monitoring of seawater contaminants by diffusive gradients in thin-films (DGTs) (Tsang & Parry, 2012; Tsang & Butler, 2013).
- Twice-yearly assessment of metal contamination in sediments in the shipping channel and swing basin (Xstrata & MRM, 2013, 2013c).
- Monthly sampling of seawater quality (Xstrata amd MRM 2013, 2013c).

These are discussed further in sections 4.1.3 and 4.2.4.

Annual Marine Monitoring Program

The annual marine monitoring program (AMMP) was set up to ensure that MRM is meeting its commitments to monitor the environment and to ensure that operations are not contaminating Bing Bong Port and the surrounding area via dust emissions and concentrate spillage while loading and unloading ships. The aims of the AMMP are to:

- Assess seawater and sediment quality in the vicinity of Bing Bong Port, McArthur River estuary and the Sir Edward Pellew Group of Islands.
- Quantify impacts to sediment and seawater quality as a result of MRM’s operations.
- Determine whether there is contamination of biota within the vicinity of Bing Bong Port.

The AMMP was carried out in November 2011 by the Australian Institute of Marine Science (Strenten-Joyce & Parry, 2012) and in December 2012 by Indo-Pacific Environmental (Thorburn, 2013d).

In 2012, the monitoring program was expanded to include:

- One site at the mouth of McArthur River to test for contaminants being transported downstream from the mine site.
- A site at Mule Creek to test for contaminants entering the environment from activities at Bing Bong Port and seepage from the dredge spoil.

- Two sites west of Bing Bong Port, as currents and therefore sediments travel in a net westerly direction.
- The Bing Bong Port shipping channel, as contaminants have built up in the channel.

Survey sites in 2012 survey are shown in Figure 4.29. Mud crabs and fish were added to the bioaccumulation assessment in the AMMP in 2012.

Results were relatively consistent between 2011 and 2012. Metal concentrations in filtered and unfiltered seawater were consistent across the monitoring sites. Cobalt and Cu were found to be above ANZECC/ARMCANZ (2000) guidelines for marine water quality at all sites for 99% species protection level. This is consistent with results in previous years and background levels across the marine waters of northern Australia. Of particular relevance to MRM's operations is that concentrations of Pb and Zn in seawater in the Bing Bong Port shipping channel and nearby were consistent with the control sites, indicating that there is no measurable impact of operations on seawater quality.

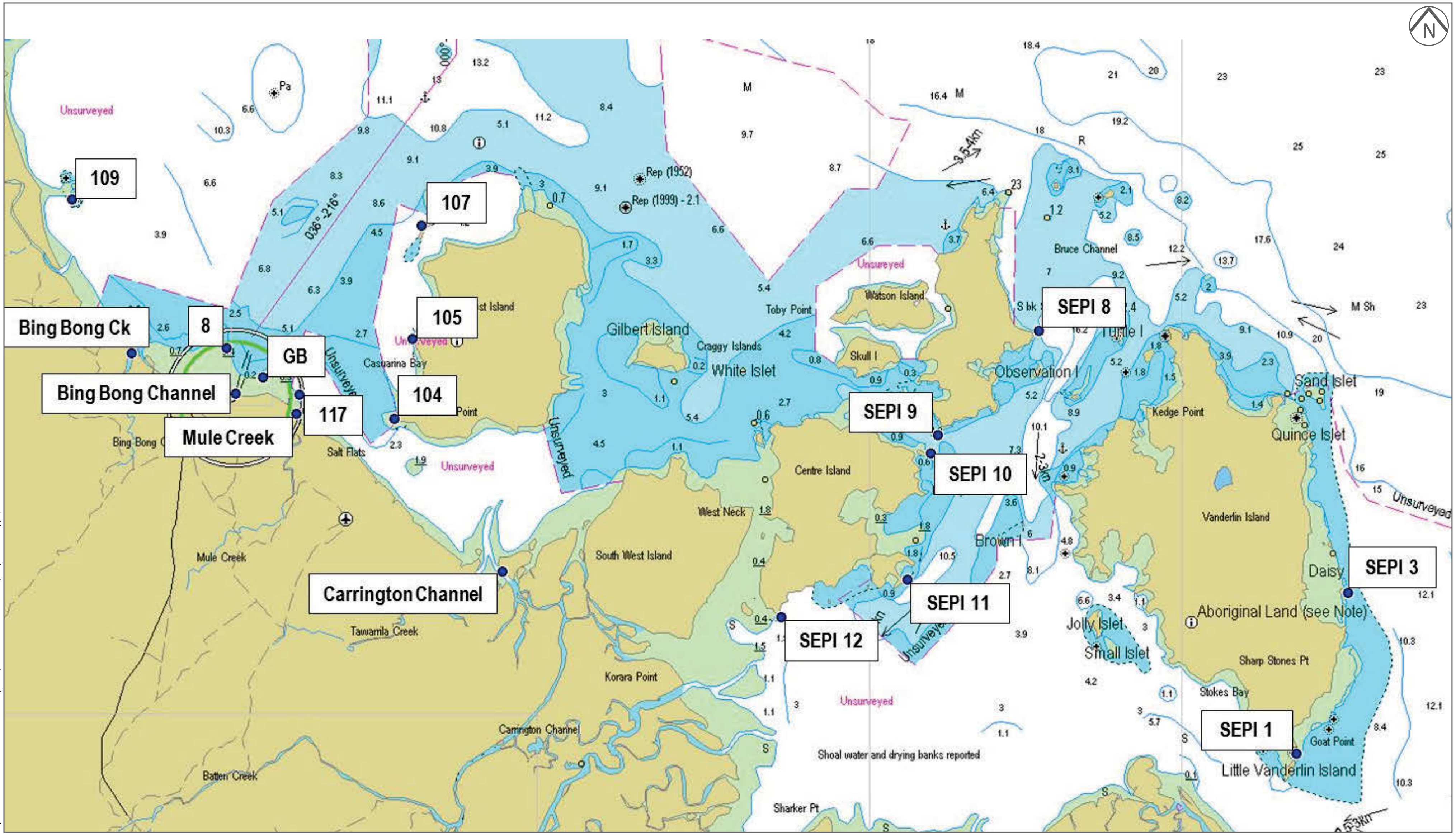
In sediment samples there were several exceedances of ANZECC/ARMCANZ (2000) interim sediment quality guidelines (ISQG-low) values for metals. Specifically:

- In sediment samples in 2012, there were two exceedances of the interim sediment quality guidelines (ISQG-low) value for As; these were recorded in sediment within Pine Creek Reef (BB109) and at BB8, both to the west of Bing Bong Port. In 2013, As concentrations in sediments exceeded the ISQC-low value at site BB109 and approached ISQC-low values at BB117, Bing Bong Channel and Sir Edward Pellew Islands (SEPI) 12.
- The ISQG-low values were also exceeded in 2012 for Ni at four sites, two at Bing Bong Port (BB9 and BB109) and two at the Sir Edward Pellew Group of Islands (SEPI10 and SEPI11) and was approaching ISQC-low values at the majority of sites. This pattern was not evident in 2013.
- In 2012, sites surveyed on the beach immediately west of the Bing Bong Port swing basin had elevated levels of Zn. In 2013, the Bing Bong Port shipping channel was added to the sediment monitoring and levels of Pb and Zn were elevated compared to regional reference sites. However, in both cases these values were below ISQG-low values for these metals.
- Lead isotope ratios indicate that some of the Pb in sediments collected from the shipping channel was derived from MRM ore. This is consistent with results collected in the annual near shore sediment monitoring program from 2012 and 2013 (Thorburn 2012, 2013e).
- Overall in 2012 and 2013, mean concentrations of all metals in sediments collected in the Bing Bong Port area were consistent with those found in the Sir Edward Pellew Group of Islands, indicating that aside from direct impacts in the channel itself, operations at Bing Bong Port are having negligible impact on sediments in the area.

SURVEY SITES FOR THE 2012 ANNUAL MARINE MONITORING PROGRAM

McArthur River Mine Project

FIGURE 4.29



Source: Thorburn, 2012d.

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In 2012, no maximum permitted concentrations (MPCs) for metals in biota were exceeded. However, in 2013:

- Copper exceeded MPCs in 19 of 27 mud crabs (*Scylla serrata*) analysed from around Bing Bong Port and the Sir Edward Pellew Group of Islands, suggesting that this is a natural occurrence likely due to the presence of oxygen-binding Cu-based protein in their haemocyanin (blood). Copper was also above MPCs in a single oyster at SEPI 9; this is consistent with surveys in 2010 and 2011.

- MPCs for As were exceeded in every mollusc and crustacean sampled. Due to the relative consistency of As concentrations across all sites, this is unlikely to be due to MRM's operations.

- Cadmium MPC was exceeded in seven of 27 mud crabs sampled; these crabs were taken from sites spread throughout the survey areas. As the high concentrations were widespread and not reflected in water and sediment quality monitoring, it is unlikely that operations are the underlying cause.

- Oysters collected from the Bing Bong Port shipping channel had Zn concentrations (553 mg/kg) well above the MPC (150 mg/kg). The IM has not seen an incident report submitted in response to this and it is presumed that MRM did not file one. Lead was also elevated in oysters from the shipping channel compared to all other sites, but well below the MPC. Oysters are well-known bioaccumulators of metals and can live at least five years, so this result is unsurprising if metal concentrations are elevated in the channel sediments. It is concerning that Zn is entering the food chain at concentrations almost four times greater than the MPC. This could then become a human health issue, if biota with high Zn concentrations is consumed by local fishers. MRM should make every effort to minimise contamination and discourage people from consuming sessile biota from the immediate area of Bing Bong Port.

- *Terebralia* and *Telescopium* sea snails from the shipping channel also had elevated Pb and Zn compared to sites outside the shipping channel, but concentrations were below the MPCs. In 2012, *Terebralia* and *Telescopium* collected from a beach immediately west of the swing basin also contained elevated levels of Zn and Pb, also below the MPCs.

- Fish and mud crabs did not have elevated Pb and Zn in the Bing Bong Port shipping channel, but these species are more mobile and may spend less time in exposed areas.

- Metal and metalloid concentrations in seagrass are consistent across all survey sites, indicating that operations are not contaminating seagrasses.

Lead isotope ratios (207Pb:206Pb and 208Pb:206Pb) can be used to assess whether Pb present in organisms is derived from the MRM ore body, as MRM orebody Pb isotope ratios are higher than background ratios. Molluscs collected from the shipping channel and the beach immediately west of Bing Bong Port had high Pb isotope ratios very close to that of the orebody, indicating that contaminants are entering the marine environment as a result of MRM's operations. Lead isotopes in all sampled organisms were higher in sites closer to Bing Bong Port (the shipping channel, Bing Bong Creek and Mule Creek) indicating that mine-derived Pb may also be entering fauna at those sites. Mobile species at Mule and Bing Bong creeks had elevated Pb isotopes compared to sessile species, indicating that these may have spent some time in sites close proximity to the loading facility. Operations are not enriching seagrasses with mine-derived Pb.

The AMMP combined with evidence from the annual monitoring of near shore sediment, and monthly DGT metal, sediment and seawater monitoring in the Bing Bong Port swing basin (discussed in sections 4.2.4 and 4.1.3) demonstrate that the impact of MRM operations is limited to the immediate vicinity of the swing basin and shipping channel. Mine-derived Pb is entering the trophic cycle in this area. However, outside this immediate area, there is no measureable impact on the surrounding environment. During the site visit, the Bing Bong Port loading facility was inspected immediately after the MV Aburri was loaded and little dust was present, so potential sources of contamination are being greatly reduced by the implementation of controls.

Annual Seagrass Monitoring

Seagrass is monitored annually in October or November to ensure that seagrass communities are not being impacted as a result of activities at Bing Bong Port, which could then impact seagrass dependent fauna such as dugong (*Dugong dugon*). Monitoring aims to:

- Identify and describe broad-scale patterns in the seagrass assemblage structure occurring around Bing Bong Port.
- Identify and categorise the relative cover and/or abundance of seagrass.
- Provide an assessment of spatial and temporal patterns in seagrass assemblages, relative to past monitoring results.
- Provide an assessment and comparison of the seagrass assemblages in the broader region with those adjacent to the Bing Bong Port loading facility.
- Identify key changes in seagrass communities around Bing Bong Port and implications for future management of the site.
- Provide recommendations for future monitoring events (Pietsch, 2012; Gregson, Hiles & Toki, 2012).

In 2012, monitoring was expanded to include two control sites 12 km and 20 km northwest of Bing Bong Port (Figure 4.30), so that the underlying causes of changes in seagrass density and diversity could be better understood. It should be noted that in late 2011 ex-tropical cyclone Grant passed close to Bing Bong Port, which may have impacted seagrass communities.

Seagrass coverage in 2011 and 2012 was very high, with seagrass being recorded at 99% of monitoring sites. Patterns in 2011 were consistent with previous years and indicative of continued recovery from two cyclones in 2001-2002. However, seagrass was sparser in 2012 than in 2011 (Table 4.50). This is likely due to changes in community composition and the impacts of Cyclone Grant.

LOCATION OF SEAGRASS SURVEYS IN 2012

McArthur River Mine Project

FIGURE 4.30

Source: Thorburn, 2012d.

Note: In 2011 surveys were only carried out at Bing Bong Port, not at sectors 3 and 4.

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Table 4.50 – Seagrass Coverage in 2011 and 2012 surveys.

Seagrass Coverage	2011 (%)	2012 (%)
Bare Substrate	1	1.1
Very Sparse	0	0
Sparse	12	51.5
Moderate	54	44.3
Dense	27	3.1
Very Dense	6	0
Sites with seagrass	99	98.9
Sites without seagrass	1	1.1

Seagrass in the vicinity of Bing Bong Port is dominated by two species – *Halophila ovalis* and *Halodule uninervis* (Table 4.51). Seagrass beds became less diverse in 2012, as *Halodule uninervis* became more dominant in the seagrass community. There is no evidence to suggest that changes in composition and density are a result of MRM's operations. It is more likely that these changes are indicative of the major role played by cyclones in disturbing and shaping seagrass communities in northern Australia (Roelofs et al., 2005). Control sites need to be monitored for longer periods to assess the factors driving seagrass community change and to differentiate between the impacts of natural processes, such as cyclones, and other impacts from mining operations.

Table 4.51 – Percentage of Sites Where each Species of Seagrass was Recorded

Seagrass Species	2011 (%)	2012 (%)
Halophila ovalis	68	59.8
Halodule uninervis	92	93.8
Cymodocea serrulata	5	6.2
Syringodium isoetifolium	31	15.5
Thalassia hemprichii	4	0

Control sites established in 2012 are not ideal reference sites, especially Sector 4 (Figure 4.29), due to different seagrass coverage, different species being dominant and the presence of rocky substrate. The IM recommends establishing more representative reference sites. At a minimum, Sector 4 should be replaced, as it is the most different control site (Pietsch, 2012; Gregson, Hiles & Toki, 2012).

Analysis of Vibrios

Vibrio bacteria populations were first assessed in 2009 after a cluster of severe necrotising fasciitis (flesh-eating bacteria syndrome) in fishermen due to *Vibrio vulnificus* (two cases) and *Vibrio parahaemolyticus* (one case, fatal) in estuarine waters of the Gulf of Carpentaria, northern Australia. The assessment was repeated in 2011 and 2013 and was aimed at:

- Characterising environmental *Vibrio* isolates from water samples from southwest Gulf of Carpentaria, McArthur River, McArthur River estuary and Bing Bong Port using DNA sequence analysis.
- Measuring associations between water chemistry and *Vibrio* diversity and abundance.

Vibrio possess a number of Zn-containing metallo-proteases (a protein enzyme whose catalytic process involves a metal) often implicated in pathogenic infection. By measuring *Vibrio* diversity and physicochemical parameters including Zn concentrations in seawater, it is possible to make preliminary assessment of whether there are any associations between physicochemical parameters and/or Zn and *Vibrios* in the waters of the southwest Gulf of Carpentaria. Specifically, MRM committed to assessing whether Zn entering the system from mining activities was related to *Vibrio* infections (Strenten-Joyce 2012, 2013).

Surveys found that the bacterial community changed from 2009 to 2013 and that this was related to physicochemical parameters, but they only explained up to 59% in the variation in bacterial communities. Other aspects not covered in the *Vibrio* survey accounted for the other 41% of variation. Representatives of the *Vibrio* genus were present at all sites in 2009, except King Ash Bay, and in 2012 were detected at low levels at the Bing Bong Port swing basin, Jensen Point and Vanderlin Island. The prevalence of *Vibrio* decreased in 2012 at the swing basin, but increased slightly at King Ash Bay and Vanderlin Island. In 2013, *Vibrios* were more frequently found at Vanderlin Island which had the lowest dissolved Zn concentrations. For all sampling occasions, *Vibrio* comprised <1.2% of the entire bacteria population; bacteria commonly found in marine soil and seawater were the most prevalent. In 2013, *Vibrio* comprised ≤0.05% of the bacteria community. Based on the three assessments, there is no correlation between Zn concentrations and prevalence of *Vibrio*. *Vibrio* do not appear to be affected by MRM operations (Strenten-Joyce 2012, 2013). The IM suggests one further *Vibrio* survey in 2015, and if no correlation between Zn or mining activities is found, no more monitoring of *Vibrio* will be necessary.

4.2.3.3 Successes

MRM should be commended for the marine ecology monitoring program. The program has been recently updated and includes:

- Control sites in the seagrass monitoring program, so the causal mechanism of changes in community structure and density can be identified.
- A new quantitative method for seagrass monitoring, so fine-scale changes in seagrass communities can be measured and monitoring can be more easily and accurately replicated.
- Bioaccumulation of metals in fish and mud crabs.
- Additional survey sites west of Bing Bong Port in the AMMP, as prevailing currents move sediments in a westerly direction (Guard, 2013).

Overall, the impacts of operations at Bing Bong Port appear to be isolated and restricted to the swing basin and its immediate surrounds. Sites located less than 1 km to the west of the swing basin have no measureable impact, with seawater, sediment and biota chemistry matching that of the wider area. There has been a downward trend in Zn and Pb concentrations in sediments in the swing basin and shipping channel (MRM, 2013). Actions implemented by MRM to reduce dust and concentrate spillage at Bing Bong Port appear to be reducing levels of seawater and sediment contamination, and as a result there is no measureable impact of MRM operations outside of the swing basin and shipping channel.

4.2.3.4 New Issues

Bing Bong Port

The Bing Bong Port facility and the overall marine monitoring program are functioning well. There are new issues that need to be addressed (the absence of monitoring in the trans-shipment is addressed in Section 4.2.3.5):

- While the impact of operations is localised, Pb and Zn derived from MRM ore are entering the environment and being taken up by the trophic chain. This is restricted to the shipping channel, swing basin and beach immediately west of Bing Bong Port loading facility and Pb and Zn concentrations in sediments have declined between 2005 and 2013. Additional work is needed to minimise dust and spillage of concentrate at Bing Bong Port. This could include additional watering of roads and further containment in the shed and loading system. As these practices have already been implemented to some extent, MRM should consider investigating what infrastructure other best practice loading facilities are using to identify additional methods and technologies that could be used to reduce concentrate emissions at Bing Bong Port. However, the current system is operating well and, as mentioned, there was very little dust present during the site visit which took place immediately after the MV Aburri was loaded.

- The new seagrass control sites, especially Sector 4, are inappropriate as the seagrass communities are quite distinct from those found in the immediate vicinity of Bing Bong Port. More appropriate controls should be found and, at a minimum, Sector 4 should be replaced.

- New survey sites to the west of Bing Bong Port (BB8 and Bing Bong Creek) are good additions to the AMMP, but additional survey sites close to the western side of Bing Bong Port (i.e., between the shipping channel and BB8, see Figure 4.29) should be added to take into account prevailing current and wind patterns. This will be useful to better understand how far west contaminants are travelling.

- While fish have been added to the AMMP, only juveniles are being sampled. Juvenile fish may not have accumulated as many contaminants as adult fish, so adult fish should be sampled instead of juveniles.

- In future it may be difficult to assess whether some future impacts at Bing Bong Port (such as the loss of seagrass) are from MRM operations or as a result of the new Western Desert Resources iron ore loading facility also located in Bing Bong Port swing basin. MRM and Western Desert Resources should work together to ensure correct environmental management of the Bing Bong Port area.

4.2.3.5 Incidents and Non-compliance

While there were five incidents in during the 2011 to 2013 reporting period affecting the marine environment, these have had a negligible impact on the marine environment at Bing Bong Port.

Reported Incidents

Total Zn and total and filtered Cu concentrations in seawater in excess of the ANZECC/ ARMCANZ (2000) 95% protection trigger values were recorded at the Bing Bong dredge discharge point (BBDDP) which is located 500 m east of the swing basin on 5 February 2013

(Table 4.52). This was recorded while dredging was taking place; however, there was no water flowing from the Cell 5 outflow, which connects the dredge spoil to the discharge drain so that excess water can drain out. Potential sources therefore include mobilisation of metals from the bed sediment in the perimeter drain (potentially as a result of rain as it was in the wet season) or seepage through the dredge spoil walls.

Table 4.52 – Exceedances of Cu and Zn Trigger Values recorded at the Bing Bong Dredge Discharge Point on 5 February, 29 March, 3 and 11 April 2013

Date	Total Zinc (µg/L)	Filtered Zinc (µg/L)	Total Copper (µg/L)	Filtered Copper (µg/L)
5/2/2013	21	Below trigger value	3.6	1.6
29/3/2013	305	265	2.4	Below trigger value
3/4/2013	358	253	Below trigger value	Below trigger value
11/4/2013	Below trigger value	Below trigger value	2.25	2.71

Total and filtered Zn more than 16 times in excess of the trigger value for Zn was recorded in seawater at the BBDDP on 29 March and 3 April 2013. Total Cu was also exceeded on 29 March 2013 and total and filtered Cu on 11 April at the same site (Table 4.52). It is likely that these exceedances were caused by a combination of dredging very fine particulate matter in the shipping channel and high rainfall. This meant that contaminated particulate matter was unable to settle out of the dredged material in the spoil ponds and was flushed into the discharge point. This did not result in exceedances in the receiving waters (Bing Bong Port swing basin), so the impacts were likely minor and highly localised (Butler & Tsang, 2013). MRM adopted several corrective actions to prevent future exceedances that included commissioning and decommissioning different cells in the dredge spoil area, changing the outflows from the ponds, restricting dredging to daytime to allow settlement of fine sediments overnight and installing a silt curtain in Cell 5.

On 22 April 2013 at 5.30 a.m., one of the hydraulic hoses on the suction dredge blew a small hole and approximately 40 L of oil was lost, 20 to 25 L of which was contained in the ladder well. Fifteen to 20 L entered the water in the Bing Bong Port shipping channel. When the oil was noticed, the engine was shut down, and the alarm raised. Spill equipment on the dredge was used to contain the oil within the ladder well. At sunrise (6.15 a.m.) the extent of the spill was assessed and oil had dispersed about 40 m from the dredge. A 100-m-long boom was used to contain the spill and oil was collected using soaker pads. By 10.30 a.m. all oil was collected with no observable environmental impact (i.e., an oil slick). MRM suggested corrective actions to avoid similar issues during the remainder of the dredging program, including:

- Installing hoses with higher pressure ratings (1850 PSI to 4000 PSI (the working pressure of the dredge is 1500 PSI)); this has been implemented.
- Fitting a low-level alarm to the hydraulic tank.
- Store a 100 m hydrocarbon boom on the dredge; this has been implemented.

This highlights the importance of maintaining an adequate spill kit on site; with one readily available, the spill was contained. The response would have been faster had the dredge been equipped with its own 100 m boom, as one had to be obtained from the shore to control the spill.

This control has since been implemented. The incident was well handled by MRM and the dredge contractor, the corrective actions were adequate and the environmental impact was negligible.

Unreported Incidents

A fish kill was recorded 22 March 2013. About 150 bait fish were found along the drain from the dredge spoil and on the beach near the BBDDP. The dredge spoil was investigated and fine black sediment, likely high in organic matter, was observed in Cell 5, where dredge spoil was being pumped. This matter likely decomposed quickly, removing oxygen from the water. High rainfall and active dredging resulted in this deoxygenated water being discharged from Cell 5 and causing the fish kill. The direct cause was lack of oxygen in the water, caused by the lack of treatment in the ponds and the type of material being dredged. The dredge was shut down overnight to allow fine particles to settle out of the water column in Cell 5. There is no evidence that this was reported, and MRM's actions following the fish kill addressed the immediate problem but not the underlying causes in order to prevent future fish kills. The IM recommends that in response to the fish kill, MRM commits to not dredging during rainfall events to allow fine sediments to settle out of the water in the dredge spoil ponds before being discharged. Dredging in the dry season is suggested as rainfall reducing the capacity of the spoil ponds would not be an issue. MRM should monitor the materials being dredged and adopt a conservative dredging regime when dredging areas that are rich in organic matter.

During dredging, the DGT at Site 4 became entangled in the anchor of the dredge, and the DGT was removed so dredging could continue. The incident was caused by poor communication between the dredging company’s safety officer and the dredge operators. There was no environmental impact but the DGT sample was lost.

4.2.3.6 Review of Progress Against Previous IM Audit

Progress has been made against half of the previous IM audit recommendations with regards to marine ecology (EES, 2012). Table 4.53 shows performance against those recommendations.

Table 4.53 – Performance against previous IM Audit Recommendations

Recommendation	IM Comment
Establishing control sites for seagrass monitoring	Control sites were added to the seagrass monitoring. However, these sites need to be changed, especially Sector 4, as the seagrass communities are quite different to the communities around Bing Bong Port
Continue to observe trends regarding the presence of heavy metals in sediments on the beach west of the barge load-out facility at Bing Bong Port	The beach to the west of the load-out facility is still monitored for contaminants. In addition, the AMMP now monitors the swing basin and shipping channel
In the AMMP, the authors should categorise oysters as bivalves and *Telescopium telescopium* and *Terebralia semistriata* as gastropods, as both are referred to as molluscs and this can cause confusion	This has not been addressed, but is not considered important as when discussed separately, they are clearly discernable
Use data from the Yanyuwa Indigenous Protected Area, Barranyi National Park and Limmen Bight Marine Park as control data for the marine monitoring program particularly for seagrass monitoring	It could be beneficial to include this data, if available, in the seagrass monitoring. It could be used to identify more suitable control sites. However, as seagrass communities are in a relatively constant state of flux, only long-term data sets will be useful. Hence, a review of what data is available and if the available data would benefit the monitoring program would be useful

4.2.3.7 New Recommendations

Based on the IM's review of MRM's environmental performance during the previous two years, the following recommendations in Table 4.54 are made to improve marine ecology monitoring and minimise impacts to the marine environment.

Table 4.54 – Recommendations for Marine Ecology Monitoring

Subject	Recommendation	Priority
Trans-shipment area	Expand the AMMP to include the trans-shipment area, as commitments to monitor contamination in this area are not being met. If seagrass is present in the area, the seagrass monitoring program should be expanded too. There could be dust generated or spillage as concentrate is transferred from the MV Aburri to larger vessels. Monitoring sites should be established in the trans-shipment area and at control sites in similar habitats away from potential impacts	Medium
Seagrass monitoring	Establish better control sites for the annual seagrass monitoring. Current control sites, especially Sector 4, are inherently different from seagrass meadows around Bing Bong Port such that the processes underlying community change cannot be accurately assessed. Roelofs, et al. (2005) indicate that more suitable seagrass controls may be present to the east of Bing Bong Port. Establishing better control sites will facilitate the collection of good quality baseline data	Medium
Contamination of biota	Establish an additional site in the AMMP immediately west of Bing Bong Port to determine the extent of contaminants. Prevailing currents carry sediments, and therefore contaminants, to the west. Sites to the far east of Bing Bong Port, such as SEPI 3, could be removed to accommodate these new sites	Medium
Bioaccumulation of contaminants	Use adult fish for the metal contaminants assessment in the AMMP, as they will have had more time to accumulate contaminants, and will likely have a higher trophic position	Low
Vibrio bacteria	In addition, as there appears to be no impact of operations on *Vibrio* bacteria, *Vibrio* monitoring should be carried out once more in 2015 and if there is no impact again, monitoring should cease	Low

4.2.4 Soil and Sediment Quality

This section is based on review of:

- Various reports prepared by MRM and its consultants (as listed in Appendix 1).
- Excel spreadsheets provided by MRM that contain collated laboratory and in situ data.
- Various MRM forms and similar documents such as sample data forms, sample submission forms, chain of custody forms, field data forms, planned area inspection checklists, incident notification forms, correspondence between MRM and government departments, and photographs.
- Other documents such as laboratory analysis reports, laboratory sample receipt advice forms, and DME compliance audit reports.

4.2.4.1 Key Risks

The risk assessment undertaken to support the review identified a number of key risks concerning soils, fluvial sediments[13] and marine sediments (see Appendix 2). These are summarised below.

Soils

Other than direct (and localised) contamination by operations at the McArthur River Mine and Bing Bong Port (as discussed in Section 4.1.3.1), the main risk is soil contamination from depositional dust generated by:

- Mining and processing operations, primarily from the TSF, ore crushing plant, ROM pad and external concentrate storage area at the mine site.
- Barge loading (and other materials handling tasks) at Bing Bong Port (and, to a lesser extent, placement of dredge spoil in the dredge spoil emplacement area (DSEA)).

In addition to affecting soil quality per se and the associated uses, soil contamination may cause poor water quality (pH, salts, trace metals) in adjacent surface waters. As noted previously (Section 4.1.3.1), this can have adverse impacts on aquatic or marine flora/fauna and, potentially, human health or animal health via bioaccumulation.

Fluvial Sediments

As with surface water at the mine site, a number of related risks have been recognised in terms of fluvial sediment quality:

- Poor quality seepage and surface runoff, primarily from areas such as the TSF and NOEF, may result in poor sediment quality in Surprise Creek and Barney Creek and, ultimately, McArthur River. The environmental impacts are as described in relation to surface water quality at McArthur River Mine (Section 4.1.3). This class of risks also includes impacts such as those associated with TSF embankment failure and the TSF overtopping, and neutral or saline leachates from waste rock[14].
- Poor quality surface runoff due to soil contamination from depositional dust generated by mining and processing operations, and direct dust deposition itself, may cause poor water quality (pH, salts, trace metals) in Surprise Creek and Barney Creek and, ultimately, McArthur River. The environmental impacts are as described for surface water quality risks (Section 4.1.3).

Other factors that were identified as having lower levels of risk in terms of impacts on fluvial sediment quality are as described previously in relation to surface water quality.

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[13] Fluvial sediments are those associated with the McArthur River and its tributaries.
[14] As described in the discussion concerning geochemistry (Section 4.1.6), during 2013 the definition of PAF rock was expanded to include rock that could generate runoff that would fail to meet discharge criteria, regardless of its acid generating potential. The former NAF and PAF rock types were replaced by six categories according to their acid rock drainage (ARD), saline drainage (SD) and neutral metalliferous drainage (NMD) generation risk, and reflected the known mobility of sulfates and metalloids at neutral pH values.

Marine Sediments

Risks associated with marine sediment are as described in terms of surface water quality risks in the marine environment:

- Contamination of bed sediments in the nearshore environment by poor quality surface runoff (which in turn has been contaminated by depositional dust generated by loading operations and dredge spoil). This can have adverse impacts on aquatic and marine flora/fauna and, potentially, human health or animal health via bioaccumulation.

- Contamination of bed sediments in the nearshore and offshore environment by concentrate spillages or direct dust deposition during barge loading or trans-shipment directly affecting coastal or marine water quality, with consequent adverse impacts as described above.

Additional risks are also as previously described:

- Acidic leachate from acid sulfate soils.

- Contamination of Sir Edward Pellew Group of Islands (SEPI) and/or McArthur River estuary from MRM upstream mine activities or Bing Bong port operations.

4.2.4.2 Existing Controls

Soils

General Controls

In terms of the main sources of contaminants that can affect soils, existing controls are discussed in the relevant sections that address:

- Materials management and generation of contaminated dust.

- Surface water management.

Monitoring Program

As noted in MRM (2013), the soil monitoring program at both the mine site and Bing Bong Port is to provide a health and environmental risk assessment of soil strata to which people and other receptors could feasibly be exposed.

The specific objectives of the program are to:

- Assist in identifying any potential sources of impact from mining operations and activities associated with the loading facility.

- Accurately assess soil physicochemical properties.

- Complement the current dust monitoring program.

The key elements of the program include:

- Sampling sites as shown in Figure 4.31 (McArthur River Mine) and Figure 4.32 (Bing Bong Port) for the 2012-2013 reporting period. Sampling sites at the mine site were grouped according to an identified point source of potential dust generation in operation, e.g., reference sites and sites associated with each of the ore crushing plant/ROM pad, NOEF and TSF. Sampling at Bing Bong Port included sampling of dredge spoil from two sites (BBS3 and BBS4) in the DSEA, as well as sites near the Bing Bong camp and swing basin.

- Sampling on an annual basis immediately before the wet season, with sampling at the mine site being undertaken in conjunction with the dust sampling regime so as to determine if fugitive dust is having an effect on soil properties.

- Laboratory testing (pH (paste), conductivity (paste), particle size distribution, major ions and total and <63 μm trace metals).

Soil quality data has been assessed by MRM as follows:

- Results from samples that are aimed at assessing impacts associated with the ore crushing plant and ROM pad are compared with health investigation levels (HILs) from NEPM (1999) (pre-2013 amendment)[15], where HIL$^{(E)}$ applies to parks, recreational open space and playing fields and HIL$^{(F)}$ applies to premises such as factories and industrial sites (MRM, 2013c).

- Results from other samples are compared with ecological investigation levels (EILs) from NEPM (1999) (pre-2013 amendment), so as to provide a more conservative assessment than would be the case using HILs for all sample results.

An additional sampling program that was reported in the 2011-2012 MMP (MRM, 2011b) but not the 2012-2013 MMP (MRM, 2013c) involved soils around the perimeter of the DSEA. The aim of the program was to evaluate the effectiveness of remedial works around the dredge spoil area, including the construction of the perimeter drain, by comparing soil salinity levels in adjacent salt flats and vegetated areas.

Fluvial Sediments

General Controls

In terms of the main sources of contaminants that can affect fluvial sediments, existing controls are discussed in the relevant sections that address:

- Materials management and generation of contaminated dust.

- Surface water management.

[15] NEPM (1999) has recently been revised, with the updated version becoming effective in 2013 (with transitional provisions).

SOIL MONITORING SITES - McARTHUR RIVER MINE

McArthur River Mine Project

FIGURE 4.31

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SOIL MONITORING SITES - BING BONG PORT

McArthur River Mine Project

FIGURE 4.32

030985 - v03 - 03 July 2014

Source: Google Image 2005

Additional controls that are specific to fluvial sediments at Barney Creek bridge include:

- Construction of a permanent large-scale siltation pond on the northern side of the creek.
- Installation of temporary siltation ponds on the southern side of the creek at the bridge. These ponds are reducing contaminated sediment supply to the creek, but are filling rapidly and a more permanent solution is required.

Monitoring Program

As noted in MRM (2013c), the fluvial sediment monitoring program is to assess potential sediment-associated pollutant fluxes in the McArthur River and its tributaries.

The specific objectives of the program are to:

- Identify potential variations in sediment physio-chemical parameters relating to river or creek flow.
- Provide information regarding long-term trends in water quality through sedimentation.
- Allow contaminated runoff – should this occur – to be traced.

The key elements of the program include:

- Fluvial sediment sampling sites as shown in Figure 4.33 for the 2012-2013 reporting period. These are the same locations as the surface water sampling sites (Figure 4.4).
- Sampling twice yearly, once during the middle of the dry season and once during the late wet season as part of the macroinvertebrate assessment program (when water levels are low).
- Laboratory testing (pH (paste), conductivity (paste), particle size distribution, major ions and total and <63 μm trace metals).

Assessment of the data obtained from fluvial sediment sampling primarily involved comparison with the ANZECC/ARMCANZ (2000) sediment quality guidelines. ISQG-low values represent concentrations below which the frequency of adverse biological effects is expected to be low. ISQG-high values were originally thought to represent concentrations above which adverse biological effects are expected to occur more frequently, although NADG (2009) reports that the ISQG-high values are now considered to be 'of uncertain ecological relevance'. NEPM (1999)) also states that '(t)he ISQG have limitations relating to the availability of appropriate ecotoxicology data and the small number of species on which they are based'. While use of these guideline values remains appropriate in the absence of alternative Australian sediment quality guidelines or criteria, the IM notes these limitations.

Marine Sediments

General Controls

In terms of the main sources of contaminants that can affect marine sediments, existing controls are discussed in the relevant sections that address:

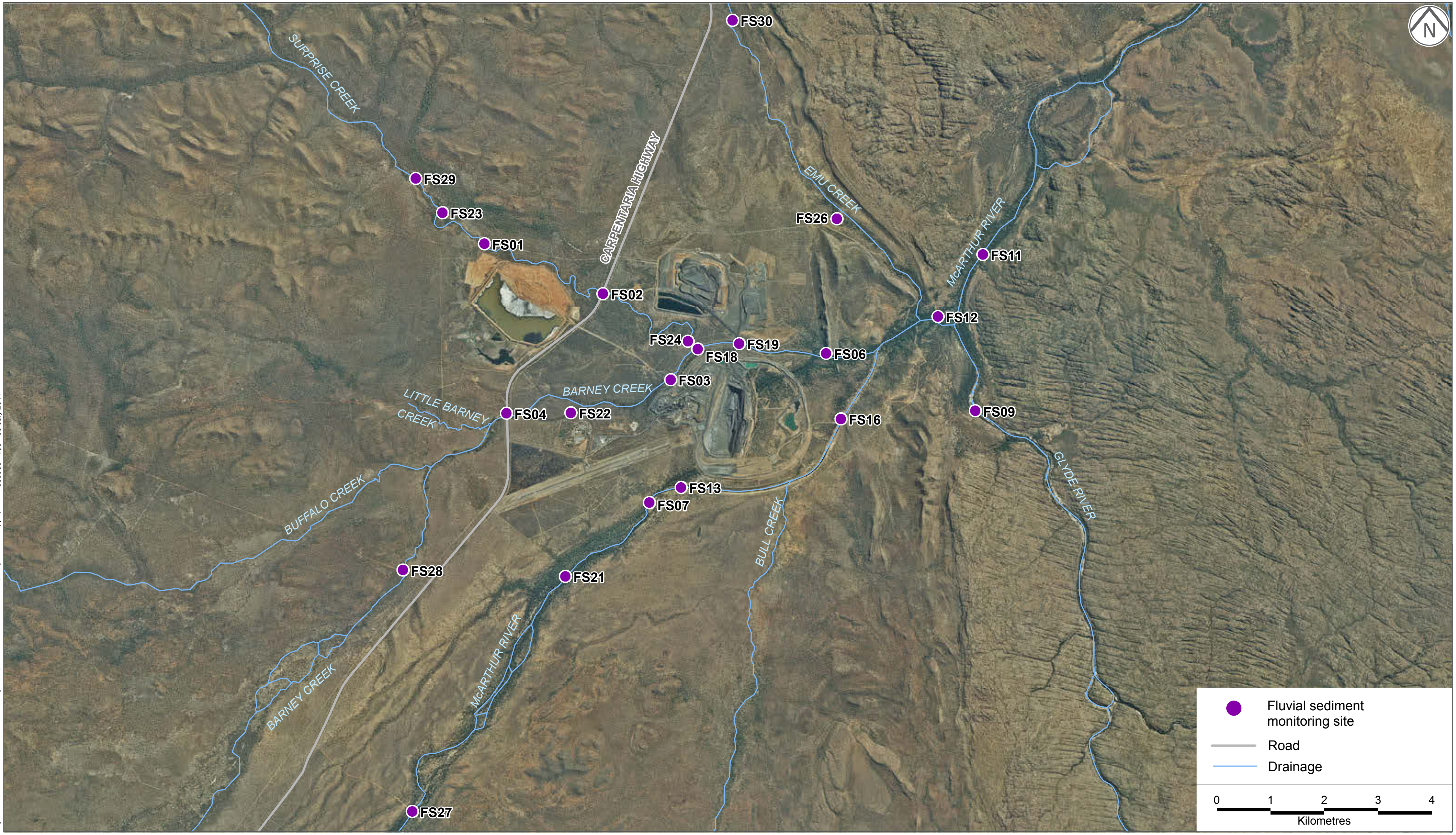
- Materials management and generation of contaminated dust.
- Surface water management.

FLUVIAL SEDIMENT MONITORING SITES - McARTHUR RIVER MINE

McArthur River Mine Project

FIGURE 4.33

ERIAS GROUP



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Monitoring Program

As with the routine marine water monitoring program, the routine marine sediment monitoring program is to assess whether activities at Bing Bong Port are having a significant impact on the local marine ecosystem. The specific objectives of the program are to (Xstrata & MRM, 2013):

- Establish routine surveillance monitoring to detect potential impacts and guide management decisions.
- Quantify the receiving environment water and sediment quality.
- Complete statutory monitoring in accordance with the waste discharge licence.

The key elements of the program include:

- Marine sediment sampling sites as shown in Figure 4.34 for the 2012-2013 reporting period.
- Two seasonal marine sediment sampling events during the 2012-13 reporting period, where these supported the annual marine monitoring program and the nearshore sediment specialist projects (where the latter is discussed below).
- Laboratory testing (particle size distribution, major cations, total and <63 μm trace metals, Pb isotope ratios, and an annual ICP-MS multi-element scan).

A specialist project that involved a nearshore sediment assessment was undertaken in August 2013. Samples were obtained from five intertidal zones both east and west of Bing Bong Port (Figure 4.35) – three potential impact zones and four control zones, taking both surface samples and 0.1-m-deep cores. The results were compared with those found in an analogous 2012 investigation undertaken by MRM in response to a condition in a previous version of the site's waste discharge licence.

As with the fluvial sediments, assessment of the data obtained from marine sediment sampling involved comparison with the ANZECC/ARMCANZ (2000) sediment quality guidelines. The same limitations as noted previously apply to the use of the ISQG values for these results.

4.2.4.3 Successes

Soils

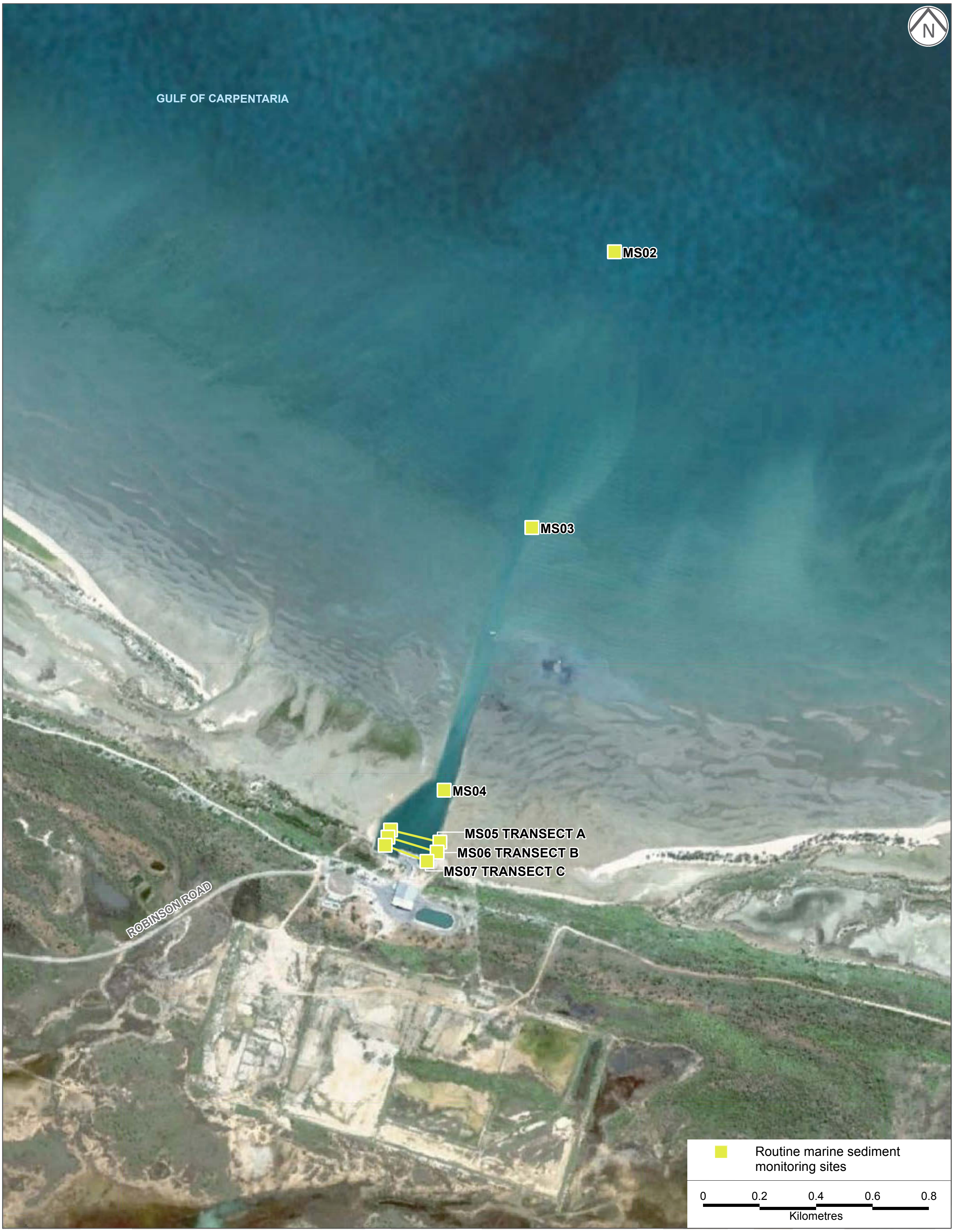
Points to note in relation to successes at the mine site (as described in Section 3.2.2) include (refer to Figure 4.31):

- The relationship between dust and soil metal concentrations was examined, with correlations being established between Pb and Zn concentrations in PM_{10} fugitive dust and the <63 μm soil fraction for sites within 1 km radial distance from the ore crushing plant/ROM pad.
- Total metal concentrations at all sites remained below $HIL^{(F)}$ values for the major metals, apart from Pb which exceeded the guidelines at sites S24 and S28 in 2013.
- Concentrations of Pb, Cd, Cu and As in the ore crushing plant/ROM 1 to 3 km radius sites were below the EILs at sites S25 and S31, although Zn at site S08 exceeded the EIL but was well below the HIL. Copper concentrations were consistent across all sites.

ROUTINE MARINE SEDIMENT MONITORING SITES - BING BONG PORT

McArthur River Mine Project

FIGURE 4.34



Source: Google Image 2005
Note: Reference sites are located at Mule Creek channel (MSW1a), between the BBLF and West Island (MSW2) and at Home Creek channel (MSW3a)

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NEARSHORE SEDIMENT ASSESSMENT SAMPLING SITES - BING BONG PORT

McArthur River Mine Project

FIGURE 4.35

Source: Google Image 2005

ERIAS Group | 01164A_1_F4-35_v1.pdf

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- All major metals concentrations at the NOEF <2 km sites were well below the EILs.
- No correlations were established between Pb and Zn concentrations in dust and soil samples collected from sites within a 3 km radial distance from the TSF.
- All major metals concentrations at the TSF <2 km sites were well below the EILs at all sites, with exception of site S07 where concentrations of As and Zn were above EILs but less than HILs.
- Lead, Zn, Cu, Cd and As concentrations at the TSF 2 to 3 km sites were all well below the EILs. The concentrations of As and Cu in the <63 μm fraction at site S03 showed a slight increase between 2012 and 2013.

Analysis of samples from control sites (>3 km from major operational infrastructure) showed metal concentrations that were less than EIL values for all sites, apart from site S05. This has historically been an outlier and MRM reports that it will be removed from the reference group given that it is located in the immediate vicinity of a quarry that was closed in the late 1970s (MRM, 2013c).

Points to note in relation to successes at Bing Bong Port (as described in Section 3.2.2) include (refer to Figure 4.32):

- The relationship between dust and soil metal concentrations was examined, and no correlations were established between Pb and Zn concentrations in dust and soil samples collected from sites at Bing Bong Port.
- Lead, Cu, Cd, As and Zn remained below EILs at all monitoring sites, apart from site BBS02 which exceed EILs but were below HILs for each major metal.
- Metal concentrations increased[16], with this being attributed to repairs to the concentrate shed roof and walls (MRM, 2013c).

Fluvial Sediments

Concentrations of As, Cu, Cd, and Zn were well below ISQG-low values at all sites in the McArthur River (see Figure 4.33). This was also true of total Pb levels, apart from the mid channel site (FS16), where the reported value was greater than the ISQG-low value in the wet season but remained below guidelines for the subsequent dry season monitoring. Similarly low levels relative to the ISQG-low values were reported for Barney Creek and Surprise Creek, a notable exception being elevated metal levels at site FS19, with the Pb concentration exceeding the ISQG-high value in the wet season. This is attributed by MRM (2013c) to fugitive dust coupled with runoff from the haul road nearby and transport of contaminated sediment downstream. MRM has subsequently reportedly excavated the contaminated sediment from this site and surrounds.

Although occasional exceedances occur, as described above, there is no trend of increasing concentrations with time.

[16] Although not a success, this information is included due to the general context of the discussion.

Specific additional points to note are that:

- Implementation of additional monitoring sites on Emu Creek and upstream sites on Surprise Creek, Barney Creek and McArthur River provide a comprehensive coverage of the current mining operation and more appropriate reference sites.
- Installation of the northern siltation pond at Barney Creek bridge appears to be reducing contaminated input to the creek, with significant reduction in Pb and Zn levels at the Surprise Creek confluence (FS18) and Barney Creek bridge (FS19). Arsenic levels have also been reduced at these sites. Sites having elevated concentrations of Pb or Zn are shown in Table 4.55. All locations can be seen in Figure 4.33.

Table 4.55 – Fluvial sediment monitoring sites showing elevated concentrations of Pb or Zn between 2011 and 2013

Monitoring Site	Location	Date	As_Total (mg/kg)	Pb_Total (mg/kg)	Zn_Total (mg/kg)
FS03	Barney Creek diversion channel next to crushing plant	8/08/2011	6	148	198
		12/06/2012	40	965	916
		13/01/2013	11	339	404
		8/08/2013	14.5	325	609
FS04	Barney Creek next to Carpentaria Highway	8/08/2011	18	29	61
		12/06/2012	12	38	90
		13/01/2013	7	35	80
		7/08/2013	19.3	113	119
FS06	Barney Creek/ Unnamed Creek Confluence	10/08/2011	11	75	260
		12/06/2012	14	88	613
		13/01/2013	9	59	277
		13/08/2013	8.5	93	661
FS16	Lower McArthur River diversion channel	11/08/2011	__	33	26
		12/06/2012	__	__	5
		13/01/2013	__	90	22
		13/08/2013	2	38.7	25
FS18	Barney Creek/Surprise Creek confluence	8/08/2011	10	51	53
		12/06/2012	29	219	490
		13/01/2013	24	118	462
		7/08/2013	1.9	7.2	13.9
FS19	Barney Creek bridge	8/08/2011	27	226	684
		12/06/2012	61	560	1990
		13/01/2013	45	374	1200
		7/08/2013	1.8	6.1	12.2
FS20	Barney Creek diversion channel Downstream Extent	8/08/2011	18	129	425
		12/06/2012	40	307	1050
		13/01/2013	24	250	650

Table 4.55 – Fluvial sediment monitoring sites showing elevated concentrations of Pb or Zn between 2011 and 2013 (cont'd)

Monitoring Site	Location	Date	As_Total (mg/kg)	Pb_Total (mg/kg)	Zn_Total (mg/kg)
FS22	Barney Creek, near Village	8/08/2011	6	26	54
		12/06/2012	9	42	98
		13/01/2013	9	34	73
		7/08/2013	18.1	160	126
FS24	Surprise Creek, just upstream of Barney Creek confluence	8/08/2011	8	17	29
		12/06/2012	8	51	114
		13/01/2013	6	24	41
		8/08/2013	9.9	81.2	212
FS25	Emu Creek, just upstream of Barney Creek confluence	10/08/2011	7	40	206
		12/06/2012	8	47	526
		13/01/2013	8	52	2640
ISQG-high			70	220	410
ISQG-low			20	50	200

Marine Sediments

A success in relation to closing out a previous IM recommendation is shown by the presentation of time series for Cu, Pb, Zn and Fe concentrations in marine sediment samples taken as part of the routine monitoring program. In terms of the actual results shown by this trend analysis, a further success is that Pb, Zn, and Cu concentrations decrease over time (although Fe levels have increased). MRM (2013c) notes that fugitive dust has historically been the primary source of sediment contamination at Bing Bong Port, and that several dust mitigation measures have been implemented. These include improving product transfer to shipment and containment, establishing additional dust monitoring sites, improving technology for dust monitoring equipment, and installing a dry scrubber extraction system to capture concentrate dust exiting the three roller doors on the western side.

A related success is that elevated metal concentrations were restricted to the swing basin, with exceedances occurring for Pb and Zn. No metal concentrations exceeded the ISQG-high values. MRM (2013c) reports that sediment is re-suspended in the swing basin during ship movement and settles mainly towards the western perimeter of the basin, where elevated metal levels were particularly evident.

The nearshore sediment assessment confirmed the spatially restricted nature of elevated Pb and Zn concentrations to the west and east (along-shore) of Bing Bong Port. Particular points to note about the findings include (Thorburn, 2013e):

- Consistent with the results of the 2012 study, Zn concentrations were again shown to be highest in Zone 2 with a mean concentration of 18.3 mg/kg.
- Zinc concentrations in Zone 2, however, remained substantially lower than the ISQG-low guideline value of 200 mg/kg.

- In relation to the impact zones, Pb was also shown to be highest in Zone 2 with a mean value of 9.8 mg/kg.
- Mean Pb concentrations recorded during 2013 were lower than those recorded during 2012 and all concentrations were well below the ISQG-Low value of 50 mg/kg.

It is also worth noting that, apart from Mn and Zn levels, concentrations of all other metals and As were highest in sediments collected from the Eastern Control (see Figure 4.35), which is a considerable distance from Bing Bong Port. Thorburn (2013e) therefore suggests that the Eastern Control should be moved slightly to the west and away from any direct influence of Mule Creek.

4.2.4.4 New Issues

Soils

The key new issue in relation to soils relates to assessment of the soil monitoring data rather than concern about additional soil contamination or similar. Soil monitoring data obtained subsequent to 2012-2013 should be assessed within the context of the revised NEPM concerning assessment of site contamination (NEPM, 1999). However, the IM notes that the revised NEPM (1999) states that 'Investigation and screening levels are not clean-up or response levels nor are they desirable soil quality criteria. Investigation and screening levels are intended for assessing existing contamination and to trigger consideration of an appropriate site-specific risk-based approach or appropriate risk management options when they are exceeded'. Data interpretation needs to take this perspective into account.

Site S7, which is located next to the WMD (see Figure 4.31), was added to the soil monitoring program in 2012 and early results show the concentration of major cations, EC and sulfate are higher than the other sites in this group. Following three consecutive years of above average rainfall (2010-2012), groundwater with suspected TSF seepage had infiltrated the upper soil profile, thereby increasing the metal and sulfate concentrations at this site (MRM, 2013c). This should be the focus of continued attention.

Quality assurance/quality control data for soil analyses, and subsequent discussion, is not adequately presented in the MMP[17]. A possibly analogous discussion that could serve as a model is that for the surface water quality monitoring program.

Fluvial Sediments

As noted in MRM (2013c), the pH at site FS22 (pH 5.7, 7/08/2013[18]) was notably lower than other monitoring sites in the Barney Creek catchment. A number of possible causes were suggested (e.g., minimal wet season flow in 2012-2013, disturbance to natural flow by roadworks, and accumulation of detritus in stagnant pooling). Future monitoring results will be assessed to identify if there is a temporal trend towards acidity, since this is one of the few occasions when such low pH values have been observed.

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[17] Although QA/QC was discussed in the previous IM report, it is included in this section given that the previous report did not carry the discussion through to a specific corresponding recommendation.

[18] This is beyond the nominal monitoring period that is the basis of this report; however, the sampling date is within the reporting period and is reported in MRM (2013).

A high sulfate concentration in sediment was observed at site FS18 (70,900 mg/kg, 7/08/2013). The possibility of this being associated with seepage from the SPROD was raised in MRM (2013c) and is being investigated, and this needs to be the focus of future attention.

Quality assurance/quality control data for fluvial sediment analyses, and subsequent discussion, is not adequately presented in the MMP. As with the soil monitoring results, a possibly analogous discussion that could serve as a model is that for the surface water quality monitoring program.

Marine Sediments

The results of the Bing Bong Port coastal modelling investigation indicate that, during typical dry season conditions, prevailing easterly to southeasterly winds generate waves and current patterns that cause a net westward movement of sediment. To a lesser extent, during typical wet season conditions, prevailing northerly winds generate waves and current patterns that cause on-shore movement of sediment. Additional sampling is therefore required to the west of Bing Bong Port to reflect the westward movement of water and/or sediment containing elevated metal (e.g., Pb and Zn) concentrations. However, such sampling should take into account the findings of the nearshore sediment investigation (Thorburn, 2013e) (and discussed above).

Quality assurance/quality control data for marine sediment analyses, and subsequent discussion, is not adequately presented in the MMP. As with the soil and fluvial sediment monitoring results, a possibly analogous discussion that could serve as a model is that for the surface water quality monitoring program.

Sediment monitoring in the trans-shipment area is addressed in Section 4.2.3.

4.2.4.5 Incidents and Non-compliances

Soils

Discussion of soil results in relation to HILs and EILs is presented in Section 4.2.4.3, which includes reference to values that exceed the relevant investigation levels (although these are not 'non-compliances' from a statutory perspective).

Fluvial Sediments

Metal and arsenic concentrations in fluvial sediments are discussed in Section 4.2.4.3, which also addresses these values in terms of sediment quality guidelines. Although not non-compliance within a regulatory framework, particular points to note include:

- Zn and Pb contamination of fluvial sediments at some sites is ongoing;
  - Concentrations of Zn and Pb at site FS3 near the crushing plant are still elevated above ISQG-high values. It is noted that the crushing facility is to be relocated and will be further away from Barney Creek.
  - Contamination of fluvial sediments (elevated Zn and Pb) at sites FS6, FS20 and FS25 at the downstream extent of the Barney Creek diversion is evident. Site FS20 also exhibits slightly elevated As concentrations. August 2013 sample results for sites FS20 and FS25 have not been seen by the IM. The previous IM report (EES, 2012) states that MRM is aware of sites FS6 and SF20 and plans further mitigation measures.
- Some data is missing from the spreadsheet for Pb and As values at FS16.

Marine Sediments

Although not strictly non-compliance within a regulatory framework, Zn and Pb concentrations in Bing Bong Port swing basin sediments continue to be greater than the ISQG-low value in the January 2013 samples (although they were lower in the June 2013 samples). As noted previously, the elevated metal concentration were attributed in MRM (2013c) to fugitive dust, and several dust mitigation measures have been implemented.

MMP Commitments

Non-compliances have been assessed against MRM's commitments as presented in the 2012-2013 MMP (MRM, 2013c). The non-compliances identified for the review period are summarised in Table 4.56.

Table 4.56 – MMP Commitments Concerning Soil, Fluvial Sediment and Marine Sediments

MMP Commitment Number	Subject	Commitment	Compliance Rating
Part A – 38	Soil monitoring	Soil samples will be collected on an annual basis, immediately prior to the wet season and sampled in conjunction with the dust sampling regime	Partial compliance. For example, soil samples were collected in Sep/Oct 2012 and 2013. However, the 2013 lab results for monitoring sites S08, S29, S30 and S31were not reported in MRM (2013c)
Part A – 39	Soil monitoring at Bing Bong Port	Soil monitoring at Bing Bong Port is carried out as per the MRM MINE site monitoring and analysis	Partial compliance. For example, sulfate was added to the analytical suite in 2013 but reported only for the mine site samples for that year; the 2013 sulfate results for the Bing Bong Port samples were not reported
Part B – 122	Dredge spoil monitoring	The dredge spoil monitoring is conducted on an annual basis and parameters requested for analysis are EC and total soluble salts	Partial compliance. Results were reported for the 2011-2012 program but not the 2012-2013 program (if conducted)

4.2.4.6 Review of Progress Against Previous IM Audit Recommendations

The recommendations from the previous IM review that relate to soils, fluvial sediments and marine sediments are presented in Table 4.57, which also contains comment as to whether the recommendations have been adopted by MRM. Additional comment is provided in the text following the table.

Table 4.57 – Soil, Fluvial Sediment and Marine Sediment Recommendations from the Previous IM Review

Subject	Recommendation	IM Comment
Soil monitoring – mine site sampling locations	Consideration should be given to undertaking soil sampling in areas outside the mining lease, ideally in both upwind and downwind locations, to assess whether any mining impacts are occurring outside the mine site due to wind or water transport and deposition	No information was sighted concerning whether such considerations have been undertaken. MRM (2013c) reports that 'A total of 25 soil monitoring sites <u>throughout the MRM mineral leases</u>' (emphasis added)

Table 4.57 – Soil, Fluvial Sediment and Marine Sediment Recommendations from the Previous IM Review (cont'd)

Subject	Recommendation	IM Comment
Soil monitoring – data interpretation	Soil monitoring data should be correlated with sediment monitoring data in the MMP	The MMP (MRM, 2013c) does not correlate soil monitoring data with sediment monitoring data
Soil monitoring – program details	Soil monitoring program recommendations: ♦ Refine analytical suite and interpretation of data ♦ Increase spatial density of sampling program (at least every five years) or alternatively undertake delineation sampling of areas with increase metal concentrations ♦ Develop site specific trigger levels	♦ The analytical suite has been refined (although not all parameters suggested in the previous IM report have been included in the revised analytical program) ♦ No information has been sighted concerning MRM's plans to undertake the recommended sampling that would involve increased spatial density of sampling sites ♦ A commitment in MRM (2013c is that 'In the interim of establishing background as the trigger level, this report will refer to NEPM Ecological Investigation Levels (EILs) (NEPC1999), as per the IM's recommendations (EES, 2011)'. Developing trigger levels will need to take into account the revised version of NEPM (1999)
Fluvial sediment monitoring – mitigation, reporting and QA/QC	Regarding the fluvial sediment monitoring and reporting, MRM should: ♦ Address elevated metal concentrations within Barney Creek sediments by implementing the planned mitigation measures ♦ Include a discussion for all parameters analysed ♦ Include QA/QC samples (namely duplicates and splits) to add robustness to data ♦ Incorporate background sediment levels determined by the macroinvertebrate assessment as long term targets	♦ The planned mitigation measures appear to be under construction on the north side of the channel (siltation pond) and temporary siltation ponds are in place on the southern side ♦ Discussion addresses most, but not all, of the parameters analysed, at all sites ♦ Results for QA/QC samples were not reported ♦ Long-term targets based on background sediment levels determined by the macroinvertebrate assessment do not seem to have been established
Marine sediment monitoring – assessment and reporting	Key recommendations for marine sediment monitoring and reporting: ♦ Include presentation of trends for sediment monitoring results ♦ Include assessment of sediment samples from transects outside the swing basin ♦ Include Pb isotope analysis of suspended sediments from the water column in the McArthur River delta region	♦ Trends in sediment monitoring results have been presented for selected parameters ♦ Results from the nearshore sediment assessment have been presented ♦ Pb isotope analysis of suspended sediments from the water column in the McArthur River delta region has not been presented

An ongoing issue noted in previous IM reports has been ongoing elevated metal concentrations in Barney Creek, with MRM being aware of this issue. The data provided in MRM (2013c) indicates that elevated metals were still evident at site FS19 due to fugitive dust, haul road runoff and transport of contaminated sediments, with Pb and Zn in the total sediment sample exceeding both ISQG-low and ISQG-high values. MRM (2013c) reported that the contaminated sediment was excavated from FS19 and surrounds, and placed in the OEF. Sediment traps have also been installed. Continued attention needs to be focused on this site.

Another ongoing issue concerns elevated sulfate and associated cation concentrations at site FS02 in Surprise Creek, immediately downstream of the TSF. Elevated Pb and Zn levels were also observed at this site, such that the ISQG-low guideline values were exceeded. Continued attention needs to be focused on this site.

4.2.4.7 New Recommendations

New IM recommendations related to soil, fluvial sediment and marine sediment issues are provided in Table 4.58. These recommendations have been categorised as either high, medium or low. High recommendations are considered a priority and, in the context of soils, focus on the need to accommodate a revised assessment framework for soil monitoring data, i.e., NEPM (1999).

Table 4.58 – New Fluvial Sediment, Soil and Marine Sediment Recommendations

Subject	Recommendation	Priority
Soil monitoring data – assessment	Soil monitoring data obtained subsequent to 2012-2013 should be evaluated within the context of the revised NEPM (1999)	Medium
Fluvial sediments – monitoring results and responses	Particular focus should be placed on sites FS22 (low pH), FS18 (elevated sulfate), and FS6, FS20 and FS25 (elevated Zn and Pb). Where required, mitigation implementation measures should be designed and implemented	Medium
Fluvial sediments – mitigation	A plan for mitigating contaminated runoff into Barney Creek on the southern side of the channel should be formalised and implemented	Medium
Marine sediment – monitoring sites	Additional sampling should be undertaken to the west of Bing Bong Port to reflect the westward movement of water and/or sediment containing elevated metal (e.g., Pb and Zn) concentrations, as determined by the Bing Bong Port coastal modeling investigation and taking into account the findings of the nearshore sediment assessment	Medium
Marine sediment – monitoring sites	The search for more appropriate sediment reference (control) sites should be continued, given the lack of suitability of the current control sites as shown by the PSD	Medium
General data interpretation and reporting	A reconciliation of actual versus proposed/committed sampling events should be provided	Medium
Soil, fluvial sediment and marine sediment monitoring program – reporting	Quality assurance/quality control data for sample analyses, and subsequent discussion, should be presented in the MMP	Low
Soil, fluvial sediment and marine sediment monitoring program – reporting	Figures in the MMP that show sampling sites should show ALL sampling sites, including control sites	Low

4.2.5 Dust

This section is based on review of:

- Various reports prepared by MRM and its consultants (as listed in Appendix 1).
- Excel spreadsheets provided by MRM that contain laboratory analysis data.
- Various MRM forms and similar documents such as sample data forms, sample submission forms, chain of custody forms, and correspondence between MRM and DME.

4.2.5.1 Key Risks

The key risks associated with dust as described in the risk assessment (Appendix 2) are:

- Fugitive dust emissions from spilled materials at the ore crushing plant at the mine site leading to heavy metal contamination of receiving waterways and diversion channels.
- Dust emissions from exposed areas of the tailings storage facility (TSF) and the northern overburden emplacement facility (NOEF) causing receiving waterways and diversion channels to be exposed to heavy metal contamination.
- Generation of dust during loading of concentrate onto transport vehicles at the mine site and during transport to Bing Bong Port causing heavy metal contamination of diversion channels and waterways.
- Emissions of dust from the Bing Bong Port concentrate storage shed and road vehicles to the marine environment resulting in heavy metal contamination of seawater, marine sediments and, potentially, marine biota.
- Generation of dust during loading of concentrate onto the MV Aburri at Bing Bong Port and from the MV Aburri onto export vessels in the offshore transport zone, leading to contamination of seawater and marine sediments and, potentially, bioaccumulation in marine biota.

4.2.5.2 Existing Controls and Commitments

MRM has monitoring and controls in place to minimise the risk to the receiving environment from dust. Monitoring includes:

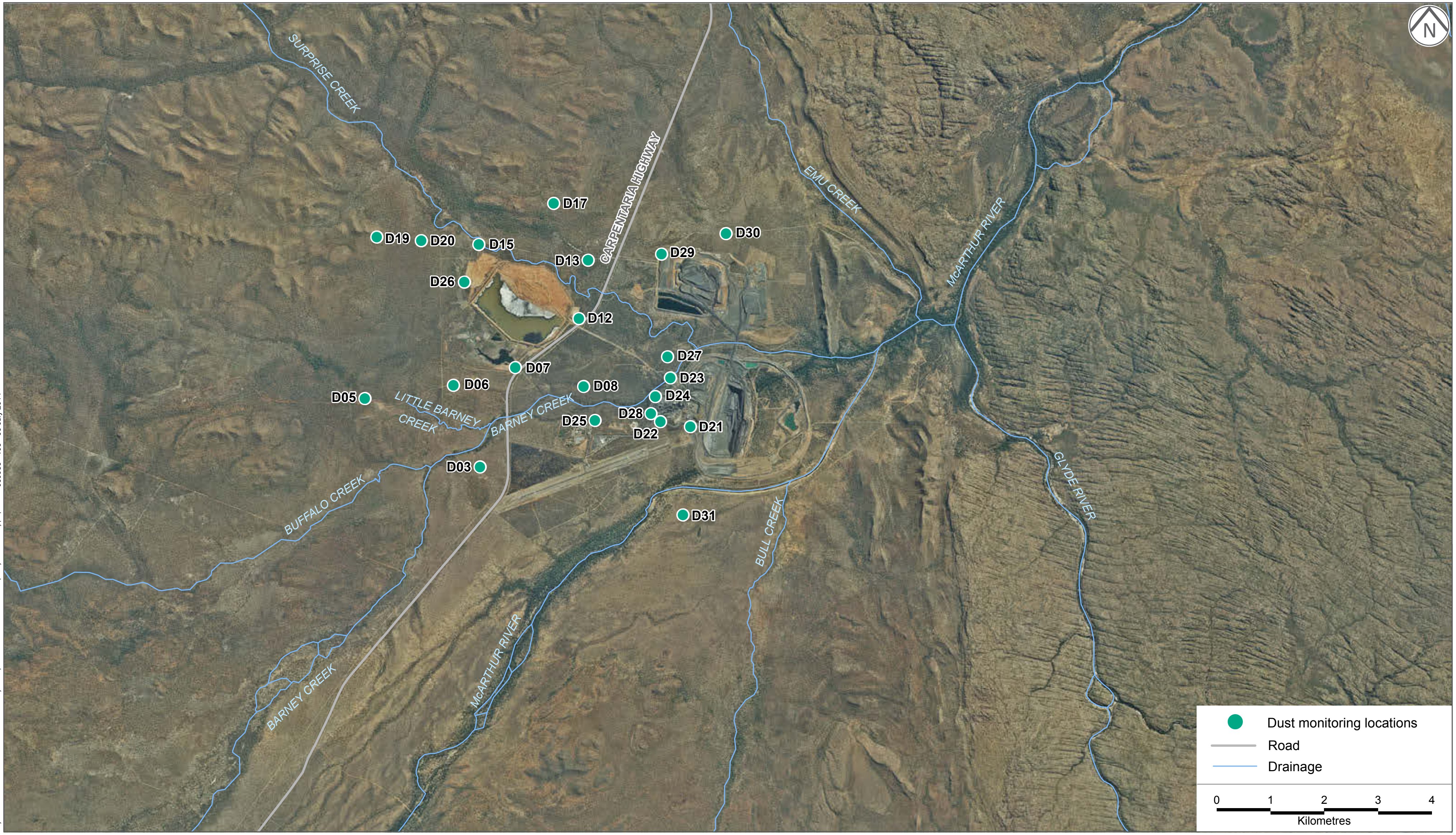
- An extensive network of dust monitoring sites at and around the mine site and Bing Bong Port (shown in Figure 4.36 and Figure 4.37, respectively). Locations of dust monitoring stations are based on seasonal wind direction and potential sources of fugitive dust emissions. Prior to August 2012, the dust monitoring stations consisted of depositional dust gauges. Samples were collected on a monthly[19] basis and analysed for total insoluble matter, total Pb and total Zn.

[19] During the tropical wet season (between three and four months per year), high rainfall conditions caused depositional dust gauge bottles to receive high volumes of water between sampling events. Bottles sometimes overflowed and soluble material was lost. Laboratory analysis did not take place when this occurred, however during high rainfall events dust generation is unlikely to occur to any great extent.

DUST MONITORING LOCATIONS - McARTHUR RIVER MINE

McArthur River Mine Project

FIGURE 4.36



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DUST MONITORING LOCATIONS - BING BONG PORT

McArthur River Mine Project

FIGURE 4.37

Source: Google Image 2005

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- Since August 2012, low-volume air samplers, allowing analysis of samples to occur year-round, replaced depositional dust gauges. Samples are now analysed for parameters associated with airborne particulate matter with an aerodynamic diameter less than 10 μm (PM_{10}), these analyses being:
  - Total suspended particulates.
  - As, Cd, Cu, Pb, Mn and Zn.

Measures to control dust include:

- A project dust target of minimising fugitive dust levels to less than nuisance levels as defined by the NSW Environmental Defenders Office (EDO, 2010) as follows:
  - Averaging period: 12 months.
  - Maximum total deposited dust level: 4 g/m^2/month.
- At the ore crushing plant and ROM pad:
  - Covered dust generation points, including transfer points between conveyors and at the base and top of the secondary crusher.
  - Water addition point to the head drum of the stockpile feed conveyor.
  - A booster pump and spray bar for the head drum to improve suppression of dust as the crushed material falls to the stockpile surface.
  - Watering around the general area by water trucks.
  - Use of water sprays in the primary crushing plant and conveyors.
  - Double layered skirting on horizontal rubber guarding.
  - A dust extraction system has been fitted to the secondary tertiary crusher building. While this became operational outside of the reporting period, the IM commends MRM on implementing this system.
- Capping of TSF Cell 1 with a clay layer to minimise generation of tailings dust.
- Washdown of all vehicles prior to leaving the mine site for Bing Bong Port and other destinations.
- Maintenance of a positive pressure differential and dust extractor system in the concentrate shed to reduce dust fugitive emissions during transport vehicle loading at the mine site.
- At the time of the IM site visit, MRM had recently received delivery of a street sweeper which is planned to be used around the site and, in particular, the concentrator to remove fugitive emissions which have settled to the ground.

- At Bing Bong Port:
  - Maintenance of a positive pressure differential and dust extractor system in the concentrate shed to reduce dust fugitive emissions during transport vehicle unloading, moving concentrate and loading the MV Aburri.
  - Covered conveyor belts at the loading facility to minimise fugitive dust emissions during loading of concentrate to the MV Aburri.
  - Dust-suppressing sprinkler systems on roads and vehicle washdown facilities.

4.2.5.3 Successes

MRM continues to improve both dust monitoring and management. Notable successes over the reporting period include:

- Establishment of additional dust monitoring sites, including a high-volume dust monitor at the ore crushing plant/ROM pad area at the mine site.
- Installation of a water softener to reduce the Ca build up in the crusher spray system. The softened water is intended to reduce the frequency of spray head blockages and thereby increase the availability of water for dust suppression in this area.
- Covering dust generation points at the ore crushing plant, including transfer points between conveyors and at the base and top of the secondary crusher.
- Installation of a permanent water addition point to the head drum of the stockpile feed conveyor.
- Installation of an additional booster pump and spray bar for the head drum to improve suppression of dust as the crushed material falls to the stockpile surface.
- Increased frequency of watering to suppress dust on haul roads, ore stockpiles and other exposed areas around the project site.
- Installation of a dedicated pump/spray system with spray outlets at all major dust generation points. The system has been refined to improve efficiency, e.g., the water source was changed to reduce the build-up of Ca in the system pipes and additional spray heads are rotated regularly.
- installation of double layered skirting on horizontal rubber guarding to strengthen the transfer chute to conveyor skirts under the primary and secondary crushers, thereby reducing skirt wear and minimising fugitive dust emissions.
- Commencing in August 2012, the depositional dust gauges were replaced with low-volume air samplers. These low-volume samplers:
  - Are capable of operating during the wet season, thereby allowing dust monitoring to occur year-round.

- Are used by MRM to analyse a larger, albeit different suite of metals contaminants (i.e., total suspended particulates, As, Cd, Cu, Pb, Mn and Zn as PM_{10}) than were analysed using the depositional dust gauges (i.e., total insoluble matter, total Pb and total Zn).

- The IM visited Bing Bong Port immediately following the loading of the MV Aburri. There was minor evidence of concentrate on the concrete apron but it was evident that dust emissions in the loading of concentrate were being well managed.

4.2.5.4 New Issues

The IM did not identify any new issues as a result of the review relating to dust.

4.2.5.5 Incidents and Non-compliances

Overall, dust is being managed well, particularly given the large operational area. However, the following were noted by the IM:

- Total insoluble matter over the reporting period regularly exceeded project nuisance level dust targets at sites within 1 km of the ore crushing facility and ROM pad at the mine site, namely sites D22, D23, D24, D27 and D28 (Figure 4.36). These sites are all within 1,000 m of the ore crushing plant and ROM pad, which may be the source of these exceedances. Additionally, D23 and D24 are adjacent to Barney Creek and reflect the increased metals levels in soils near the Barney Creek diversion as described in Section 4.2.4.

- A number of project nuisance level dust target exceedences occurred at Bing Bong Port at BBD05, located near the camp and BBD06, located near the swing basin (refer to Figure 4.37).

MMP commitments relating to dust are provided in Table 4.59.

Table 4.59 – MMP Commitments Concerning Dust

MMP Commitment Number	MMP Section Reference	Commitment	Compliance Rating
Part A - 32	4.6	Min vol dust sampling will become routine and additional dust stations will be implemented	Compliant
Part A - 35	5.1.1.4	Depositional dust gauges are located strategically to capture fugitive dust emissions during prevailing wind conditions that vary between wet and dry season	Compliant
Part A - 36	5.1.1.5	Depositional dust monitoring procedures will adhere to AS3580.10.1:2003	Compliant
Part A - 37	5.1.1.5	MRM has adopted 'nuisance levels' (NSW EDO, 2006; EES, 2011) as a dust trigger guideline to assess TIM levels	Compliant[1]
Part B - 117	11.2.1.2	The objective of the depositional dust monitoring program is to monitor potential contaminated particulate matter (dust particles) arising from MRM activities. Monitoring procedures adhere to AS3580.10.2003 where possible and are subject to wet season conditions which restrict access to sampling collection points	Compliant

Table 4.59 – MMP Commitments Concerning Dust (cont'd)

MMP Commitment Number	MMP Section Reference	Commitment	Compliance Rating
Part B - 118	11.3.1.2	The soil monitoring program aims to provide a health and environmental risk assessment of soil strata to which humans and other receptors could feasibly be exposed	Compliant
Part B - 119	11.3.1.3.1	Soil samples are collected from locations immediate to the dust sample sites	Compliant
Part B - 120	11.3.1.3.2	Samples are collected on an annual basis, immediately prior to the wet season and sampled in conjunction with the dust sampling regime	Compliant

1. As noted above, nuisance levels have been exceeded over the reporting period at both the mine site and Bing Bong Port.

4.2.5.6 Review of Progress Against Previous IM Audit

Dust-related recommendations from the previous IM review are presented in Table 4.60. Comment as to whether the recommendations have been adopted by MRM is also provided.

Table 4.60 – Dust Recommendations from the Previous IM Review

Subject	Recommendation	IM Comment
Dust monitoring – total insoluble matter, Pb and Zn	Continual increases in dust mitigation measures at Bing Bong and PACRIM/ROM Pad	A number of improvements in dust mitigation measures have occurred at Bing Bong Port and the mine site. These are described earlier in this section
	Ensure that QA/QC documentation is always obtained from laboratory conducting dust analyses	Laboratory quality control reports for each sampling event over the period August 2012 to June 2013 have been sighted by the IM and similar reports exist for subsequent sampling and analysis events
	Address minor reporting issues outlined in Section 9.3	The IM has observed improved reporting addressing requests from the previous IM review, specifically: ♦ Description of wind patterns at the mine site and Bing Bong (provided as wind roses from McArthur River Airport for the period 1969 to 2010) ♦ Description, location and rationale for each monitoring point ♦ The recommended guideline threshold of 4g/m^2/month for total insoluble matter ♦ Comprehensive charts depicting current and historical results for all locations ♦ Appropriate discussion of observed trends ♦ Planned upgrades for mitigation and monitoring

4.2.5.7 New Recommendations

New IM recommendations related to dust issues are provided in Table 4.61. These recommendations are considered by the IM to be of medium priority, i.e., they should be implemented within 12 months.

Table 4.61 – New Dust Management Recommendations

Subject	Recommendation	Priority
Dust monitoring	Depositional dust gauges and low-volume samplers should be maintained at a number of monitoring sites for a two-year period. This will allow a comparison of different monitoring methods to occur such that correlation between historical data sets and new data sets, both utilising different monitoring techniques may be possible	Medium
	The IM understands low-volume air monitors cannot measure total insoluble matter and therefore it may no longer be possible to measure project dust emissions against project nuisance level dust targets. The IM therefore recommends new project dust targets be developed and adopted to monitor performance against parameters now being measured	Medium

4.3 Review of DME's Monitoring

The IM conducted a review of DME in regulating the environmental performance of MRM under the MM Act and regulations. The review included:

- Review of compliance auditing.
- Review of DME annual assessment of MMP.
- Review of DME Environmental Monitoring Unit.
- Review of IM recommendations tracking.
- Review of previous IM recommendations regarding DME performance.

4.3.1 Review of Compliance Auditing

4.3.1.1 2012 Compliance Audit

DME conducted its 2012 annual compliance audit (DME, 2013a) at MRM on18 to 20 November 2012 and identified one partial non-compliance and a number of observations. Overall compliance of the operation was considered to be high with a compliance rating of 97.5% reported. Given that audits are a snapshot in time, it is difficult for the IM to comment on the 2012 audit and the findings as it is over 18 months since the audit. The IM observed that it took seven months from the site inspection to delivery of the final audit report. The delay in delivery of the final audit report is not good practice as it provides MRM with insufficient time to rectify issues before the next audit.

4.3.1.2 2013 Compliance Audit

DME conducted its 2013 annual compliance audit at MRM on 16 to 18 December 2013, and at the time of preparation of this report the final audit report had not been delivered to MRM. The IM was provided with a draft compliance report dated 21 February 2014 (DME, 2014). The audit assessed compliance with the 2012-2013 MMP and the DME audit team did not report any non-compliances with MMP commitments but did make eight conditional findings pertaining to construction of the Stage 3 expansion that had commenced but had not yet been completed and one observation. Compliance was measured against 59 commitments from the 2012-2013 MMP; however, the IM notes that there are 194 commitments in the 2012-2013 MMP and it is unclear why DME selected only 59 to measure compliance. The IM acknowledges that not all of the 194 commitments in the 2012-2013 MMP are commitments, with a number being statements from which it is difficult to determine compliance. Future audits would benefit from differentiation of the commitments being audited and clearly stating the reasons for assessing fewer commitments than those outlined in the MMP.

The commitments in the 2012-2013 MMP are often described as a requirement to undertake a specific action. The following is an example of such a commitment:

> Groundwater monitoring bores located at the mine site, TSF and Bing Bong are sampled every second month.

In assessing compliance it is understood the DME has determined if the monitoring of groundwater bores has been undertaken every second month but no mention is made of whether the sampling results were in compliance with guidelines. MRM has established groundwater trigger values that are based upon the limits for livestock identified in the ANZECC/NHMRC guidelines (1992). The IM in its review of groundwater monitoring (see Section 4.1.5.2) noted that monitoring data shows there have been exceedances in salinity and sulfate around the perimeter of TSF Cell 1 and on the southern and eastern sides of TSF Cell 2 and Cell 3 WMD. Exceedances in fluoride were also observed in one bore southeast of TSF Cell 2, two bores southeast of TSF Cell 3 WMD and one bore south of the SPROD. It is unclear to the IM whether the DME considers these exceedances to be non-compliances or if compliance is assessed only on whether the monitoring has been undertaken.

The IM in its review of compliance of the 2012-2013 MMP commitments has found the following:

- Compliant 101.
- Partial compliance 13.
- Non-compliant 6.
- Not verified 71.
- Not applicable 3.

The IM's assessment of compliance is different to that of DME in that the IM has attempted to assess all 2012-2013 MMP commitments. In attempting to assess compliance there were a number of commitments, which could not be verified. The six non-compliances related to:

- No details regarding the planned lysimeter in the NOEF.
- Tailings not being discharged around the perimeter of TSF Cell 2.
- NATA-accredited laboratory not yet built (building was in progress during the site inspection) or accredited (note there were 2 commitments regarding the laboratory).
- The 2013-2018 MMP was not submitted by 30 October.
- Overburden was not being separated into PAF and NAF (this non-compliance relates to the recent reclassification of overburden).

The draft audit report states that the audit was a performance audit which provides a snapshot of how MRM performs against its own management systems and best practice. While the IM understands how performance can be measured against MRM management systems, it is unclear how DME is assessing performance against best practice as this has not been defined.

Future audits would be improved by DME defining and documenting what constitutes best practice for specific areas of the operation. This would enable DME to better assess if the operation is meeting best practice.

4.3.2 Review of DME Annual Assessment of MMP

4.3.2.1 2011-2012 Mining Management Plan

The 2011-2012 Sustainable Development Mine Management Plan was submitted on 9 November 2011. Following review of the draft plan, the DME requested further information from MRM on 20 March 2012. The request for additional information covered the following areas:

- Targets for blood Pb and Cd used by MRM to assess compliance.
- Information regarding the classification of PAF material.
- Information regarding the stability of overburden emplacement facilities (OEF) during a 1:100 year flood event.
- Clarification regarding surface water management around the NOEF.
- Clarification regarding whether the geochemical classification of waste rock also assessed leachate under circum-neutral conditions.
- Management of PAF material at the western OEF.
- Information regarding whether construction of TSF Cell 4 triggers a referral to NRETAS.
- Request that EMPs follow the MMP structure guideline.
- Details regarding the materials to be used to encapsulate contaminated waste.
- Request that the life-of-mine closure plan is also submitted with the MMP.
- Plan to address the lack of revegetation success on the southern bank of the McArthur River diversion channel.
- MRM to link all commitments from previous approval processes and to provide explanation where changes have occurred.

The information requested by DME appears reasonable and appropriate.

On the 8 June 2012 MRM provided an updated MMP based on the request for additional information from DME. The 2011-2012 MMP was approved by DME on 14 August 2012. A period of nine months was required from submission of the MMP to approval.

4.3.2.2 2012-2013 Mining Management Plan

The 2012-2013 Sustainable Development Mine Management Plan was submitted on 2 November 2012 and a request from the DME for further information was sent to MRM on 22 February 2013. The request for further information was split into four sections with Section 1 being information that was critical to the approval of the MMP as follows:

- Information regarding dust emissions and management measures proposed to minimise dust emissions.
- Groundwater quality surrounding the process plant area and explanation for the changes in quality.
- Discussion regarding changes in groundwater quality and, particularly, elevated sulfate at monitoring locations around the NOEF.
- Additional information regarding the assumptions used in calculating the mine closure security.

The DME provided extensive comments on the 2012-2013 MMP, which the IM considers were appropriate. MRM provided additional information on 25 March 2013 and DME provided approval on 1 May 2013, five months after submission of the MMP.

4.3.2.3 Review of Mining Management Plans

The IM report for the 2011 operational year highlighted that assessment and approval of MMPs was requiring a period of five to nine months, by which time the timeframe that the MMP encompassed was almost over. The DME has previously required the preparation of an annual MMP and in 2013 this was changed to operations being required to prepare the following:

- A Mining Management Plan (MMP) that outlines the actions to be taken and strategies to be implemented that will manage impacts to the environment to acceptable standards over both the short- and long-term. Following approval of an initial MMP, subsequent MMPs are to be prepared at four-yearly intervals or as specified by DME.
- Operational Performance Report (OPR) prepared annually.
- Public Environmental Mining Report prepared annually.

The IM supports the movement to a longer period being covered by the MMP as this then enables a greater focus on the OPR and less repetition.

DME has prepared procedures for undertaking document reviews of MMP, Notice of Intent, Public Environment Report, Environmental Impact Statement, amendments and updates. The procedures and checklists outline the steps involved in reviewing documents received by DME. One of the steps is to determine if the document requires referral to the Department of Environment and Heritage (now Environment Protection Authority), although there is no step which requires DME to consider if the proponent should refer the proposal to the Commonwealth Department of the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) While referral under the EPBC Act is voluntary and not the responsibility of

DME in undertaking its assessment, the IM believes it is good practice to also consider the EPBC Act.

The MMP is a large document containing considerable information. In the 2012-2013 MMP a total of 194 commitments were listed by MRM. In reviewing the MMP, the IM found the following:

- A number of commitments in the MMP are statements or are not what the IM would describe as a commitment, e.g., all superintendents have teams of employees below them with position responsibilities described in their job descriptions.
- Commitments focused on an action, e.g., groundwater monitoring bores located at the mine site, TSF and Bing Bong Port are sampled every second month rather than an outcome, i.e., groundwater quality will not exceed metal concentrations assessed against the livestock drinking water guidelines (ANZECC/ARMCANZ, 2000) or the Australian Drinking Water Guidelines (NHMRC/ARMCANZ, 2004) depending on intended water use.

The IM believes that there is scope for the number of commitments in the MMP to be reduced significantly but that commitments also need to follow the SMART principle of being:

- Specific.
- Measureable.
- Attainable.
- Relevant.
- Time based.

Commitments where possible should be focused on improving environmental performance rather than a series of actions that may or may not lead to improved environmental performance.

4.3.3 Review of DME Environmental Monitoring Unit

The IM was provided with a spreadsheet of monitoring results collected by the Environmental Monitoring Unit (EMU). Two campaigns of check monitoring was undertaken over the 2012 and 2013 operational years, with check monitoring being undertaken in late May and early June of both 2012 and 2013. The check monitoring involved the collection of samples from:

- Groundwater bores surrounding the TSF and NOEF, and at Bing Bong Port.
- Areas of known seepage surrounding the TSF and NOEF.
- Surface water ponds.
- Surprise Creek, Barney Creek and McArthur River.
- Bing Bong Port swing basin and dredge spoil drain.

In previous years the IM reviewed a field report prepared by EMU on its check monitoring at MRM. The IM was not provided with field reports for 2012 or 2013 operational years.

4.3.4 2011 Independent Monitor Recommendations

A total of 69 recommendations were made by the IM in its review of the 2011 operational year. Progress towards completing these recommendations is discussed elsewhere in this chapter. It is of concern, however, that some high priority recommendations have not been completed in the 18 months since the release of the 2011 operational year report, e.g., installation of piezometers in TSF Cell 2.

From discussions with DME, the IM understands that there is no process by which progress towards completing the IM recommendations are tracked, other than the IM reviewing progress during its annual site inspection and document review.

The IM acknowledges that there is no regulatory imperative for MRM or DME to act on IM recommendations and that it is appropriate for MRM or DME to disagree with recommendations. However, the IM opines that those recommendations which are given a high priority ranking warrant an action plan and subsequent regular reporting on progress. Where either MRM or DME disagree with a recommendation, this needs to be documented so that it is clear that this recommendation is not being actioned and the reasons.

4.3.5 Review of Previous IM Recommendations Regarding DME Performance

The IM has reviewed progress towards completion of the recommendations made during the review of the 2011 operational year and this is outlined in Table 4.62.

Table 4.62 – Progress Towards Completion of 2011 IM Operational Year Recommendations

Recommendation	IM Comment
Quality assurance and control (QA/QC) needs to be improved by determination of: ♦ TDS/EC ratio (acceptable range of 0.55-0.80) ♦ Field pH to laboratory pH relative percent differences (RPDs), with an acceptable RPD of 10% ♦ RPD between field collected blind (intra-laboratory) duplicate samples and split (inter-laboratory) duplicate samples (if collected), including presentation and discussion of results and elevations in RPDs in particular	♦ TDS is not being measured and therefore ratios cannot be determined ♦ Laboratory pH is not being measured ♦ It is unclear to the IM whether this recommendation has been implemented based on the information received
Analytical suite: ♦ Analysis for metals and metalloids be limited to dissolved species including dissolved Al, Fe, Mn and Se ♦ A full cation and anion ionic balance be undertaken on all samples (pH, TDS, Na, Ca, Mg, K, Cl, SO_4, HCO_3, NH_3, NO_3, NO_2, PO_4 and F)	♦ DME is monitoring these metals and metalloids ♦ Full cation and anion iconic balance is being undertaken ♦ Nitrite and phosphate are not being tested. The IM has not identified the need to test for nitrite and phosphate at this time
The IM concurs with DME EMU 2011 report recommendations for surface and groundwater.	Report has not been reviewed by the IM

4.3.6 Recommendations

During the 2012 and 2013 operational years, DME has reviewed two MMPs and a number of MMP amendments and the Phase 3 Environmental Impact Statement and conducted two compliance audits and two check monitoring campaigns. After reviewing the performance of DME in regulating MRM, the IM's recommendations are summarised in Table 4.63.

Table 4.63 – New Recommendations DME Performance

Subject	Recommendation
Auditing	DME reviews its compliance audit protocol to include as part of its assessment of MMP compliance whether the operator is also complying with guidelines, e.g., ANZECC/ARMCANZ guidelines for water quality rather than simply completing an action, e.g., groundwater monitoring being undertaken quarterly
	DME to define and document what constitutes best practice for specific areas of the operation and include this as part of the DME audit protocol
	DME establishes a goal that audit reports are finalised within six weeks of the audit being conducted
IM audit findings	DME requests from MRM an action plan detailing how MRM will address the high priority recommendations including a timeline to complete these actions. DME requests on a quarterly basis an update from MRM on the progress towards implementing the high priority recommendations
	DME prepares an action plan detailing how DME will address high priority recommendations including a timeline to complete these actions and report quarterly on progress
MMP	DME reviews in more detail MMP commitments being developed by MRM so that they are specific, measureable, attainable, relevant and time-based. Commitments need to address the key environmental issues/risks
Review of MMP and other approval documents	DME revises the procedure for review of documents to include assessment of whether the project may trigger the EPBC Act. If the project in DME's opinion may trigger the EPBC Act, DME to advise MRM to refer the project

5. Summary of Recommendations

New IM recommendations are provided in Table 5.1. These recommendations have been grouped by topic and categorised as either high, medium or low. High recommendations are considered a priority and relate to the more significant risks and information deficiencies.

Table 5.1 – New Recommendations

Subject	Recommendation	Priority
Mine Site Water Balance		
Documentation and reporting	Increased detail is required in the reporting of the following items: ♦ The rainfall-runoff model calibration, in particular on how calibration was undertaken and how parameters where adjusted ♦ The water balance model calibration, in particular on how calibration was undertaken and how parameters where adjusted ♦ The monitoring of water balance components, in particular what is monitored, the frequency of monitoring and the accuracy of the measurement ♦ How the monitoring data is used in the water balance modelling ♦ A summary table of water balance storages, inflows and outflows needs to be included in the water balance modelling reports ♦ How the tailings storage facilities are included in the site water balance ♦ How the TSF Cell 1 surface runoff is treated in the water balance model	Medium
Changes in climate	The possible impact of climate change on the site water balance needs to be addressed	Low
Changes in water chemistry	The water balance needs to assess the risks posed by possible deterioration in site runoff and seepage water quality	High
Monitoring	Studies need to be undertaken to quantify the performance of evaporation fans, sprinklers and fountains. Targeted monitoring of selected ponds needs to be undertaken to reduce the number of processes that need to be estimated by difference in the water balance model	Low
Mine site water balance model calibration	The uncertainty in model parameter estimation requires reduction. While this is implicit in all aspects of the water balance monitoring and modelling, high priority areas that need addressing are: ♦ The groundwater inflow rate ♦ Seepage estimates ♦ Additional sensitivity analysis needs to be undertaken in the water balance modelling While the reduction in uncertainty is implicit in most of the recommendations, the key requirement here is that the reporting quantifies how the uncertainty is reduced in each successive year	High
Evaporation data	The evaporation data adopted in the water balance model uses long-term evaporation averages prior to 1970. The effect of this on the water balance model results needs checking	Low
Modelling of multiple years	Assessment of multiple years with the same site configuration should be considered to manage the risk of high starting pond water levels (following two or more two consecutive wet years)	Medium

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Surface Water Quality		
NOEF and TSF	The relevant monitoring programs (groundwater and surface water monitoring, and geochemical characterisation) should be reviewed to ensure that sufficient early warning is provided concerning potential impacts on surface water quality from NOEF and TSF leachates and runoff (or other potential failures of these project infrastructure components)	High
McArthur River/SW11	Particular attention should be paid to increasing sulfate concentrations (and EC values) at SW11 as the 2014 dry season progresses. If concentrations equal or exceed the trigger value (341 mg/L), a risk assessment should be undertaken concerning (i) possible implications (should this trend continue in future dry seasons), (ii) likely causes and, if found to be due to MRM operations, (iii) mitigation measures commensurate with the level of risk	High
Monitoring	The feasibility of real-time in situ monitoring at the stream gauging stations on McArthur River, Surprise Creek, Barney Creek and Glyde River should be determined and, if found to be feasible, this capability should be installed so as to be consistent with leading industry practice. The parameters for which the feasibility of real time in situ monitoring should be investigated include pH, temperature, DO, EC (first priority) and turbidity (second priority)	Medium
General data interpretation and reporting	Mine-derived loads of contaminants reporting to the McArthur River should be reported on an annual basis, within the context of background loads in the river	Medium
	Further interpretation and analysis of data should be presented in the MMPs, including further detail about water quality changes with river/stream flow and mine-derived influences	Medium
	All data should be collated on a yearly basis in a format that is readily accessible and able to be interrogated; this should include a reconciliation of all actual versus proposed/committed sampling events	Medium
General data interpretation and reporting	Comparison of metal and metalloid results with ANZECC/ARMCANZ (2000) values should include the 95th percentile value as well as median values	Low
	Evaluation of marine water quality data should reflect ANZECC/ARMCANZ (2000) requirements for Cd and Ni to consider 99% protection levels for slightly to moderately disturbed ecosystem	Low
	Reporting surface water management measures and monitoring data should focus on reducing technical and editorial errors	Low
	Figures in the MMP that show sampling sites should show ALL sampling sites, including control sites	Low

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Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Diversion Channel Hydraulics		
Geomorphology	A full geomorphic condition assessment and erosion mitigation study of both diversions is recommended as follows: ♦ The study should utilise on ground inspection in addition to recent and future ALS survey ♦ The study should be carried out for both the Barney Creek and McArthur River diversion channels with priority on McArthur River diversion channel ♦ The study should include the watercourses for at least 1 km up and downstream of the diversion channels ♦ The study should aim to identify areas of erosion and deposition, the current geomorphic processes causing erosion, and to quantify the degree and rate of erosion along the entire reach ♦ The study should draw upon the results of the Phase 3 Development Project Surface Water Assessment (WRM, 2012b) and the Review of the 'As-Designed' and 'As-Constructed' McArthur River and Barney Creek Diversions (WRM, 2012a) ♦ Locations of channel constriction and/or high flow velocities should be prioritised, along with areas that have undergone erosion ♦ The study should consider previous attempts at erosion control, including revegetation attempts ♦ This study should then be used to assess the methods of erosion control that can be used and prioritise areas for corrective works	High
Erosion	Ongoing monitoring of diversion channel and bank erosion should continue utilising the ALS surveys complemented by photograph monitoring, and visual inspection. It is recommended that an annual report on observed erosion should then be completed. These reports should detail: ♦ The observed erosion ♦ The existing mitigation measure (if any) ♦ The planned mitigation measure ♦ The status of implementation of the planned mitigation measure	Medium
Groundwater		
Overburden emplacement facilities	Assessment of seepage impacts from the NOEF to confirm the effectiveness of the PAF containment system This should include installation of monitoring bores around the current footprint and progressive installation of monitoring bores around the expansion area and completion of EM geophysical surveys The IM recognises that MRM has commenced installation of monitoring bores in the area marked for NOEF expansion. However, there are no monitoring bores located along the northern, eastern and western perimeters of the facility, which could be used to assess the success of the PAF encapsulation system adopted by MRM In addition, a schedule should be prepared showing the progressive installation of future monitoring bores in the NOEF expansion area, which should correspond to the planned development of the facility	High

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Groundwater (cont'd)		
Overburden emplacement facilities	The seepage from the SPROD needs to be addressed. MRM should commit to option(s) to prevent seepage at source. This work is likely to include a commitment to design and install a full liner at the dam The IM recognises that MRM has identified seepage from the SPROD as a major issue and during the review period has completed a cost benefit analysis on three remedial options	High
Tailings storage facility	The seepage from the TSF Cell 1 needs to be addressed. MRM should commit to option(s) to prevent seepage at source, e.g., installation of a permanent cover designed to limit recharge to the deposited tailings or reprocessing of the tailings MRM has installed a temporary cover, which the available monitoring data suggest is (so far) ineffective in controlling recharge to the deposited tailings. The continued exceedances in salinity and sulfate concentrations in a number of monitoring bores contravene the groundwater trigger values for the mine site	High
	The seepage along southeastern perimeter of the TSF Cell 3 WMD needs to be addressed. MRM should commit to option(s) to prevent seepage under this section of the embankment which likely relates to the presence of higher permeability alluvium associated with the original Little Barney Creek channel. Preventative options include installation of an interception trench across the original channel and installation of recovery bores MRM has already installed a geopolymer barrier along the southeastern wall of the Cell 3 WMD and a recovery sump within the original Little Barney Creek channel. The continued exceedance in sulfate concentrations in bores GW04 and GW14 indicate these measures are inadequate. The importance in addressing the seepage issue is highlighted by MRM's intention to use the dam to store dirty water as part of their mine water management strategy	High
	The seepage from the southeastern corner of TSF Cell 2 needs to be addressed. MRM should identify suitable options to mitigate this seepage. Preventative options include installation of recovery bores to augment the existing interception trench and geopolymer barrier The importance of addressing this issue is highlighted by MRM's intention of using the active TSF cell to store contaminated water as part of their mine water management strategy	High
General data interpretation and reporting	An annual independent review of the impacts from groundwater abstraction, including both groundwater supply from borefields and dewatering, should be undertaken by a suitably qualified hydrogeologist. The review should assess drawdown impacts on the groundwater and surface water systems and impacts on groundwater quality	Medium
	A review should be carried out on the commitments presented in the MMP to include all MRM commitments, remove any duplicates and (where required) clarify wording The commitments are currently presented over a number of sections and include repetitive comments from third parties. Clarification of MRM's commitments would assist in identifying were breaches have occurred	Low

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Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Groundwater (cont'd)		
General data interpretation and reporting	MRM should commit to reporting all breaches of their groundwater commitments to the DMP. In particular, there appears to be an acceptance that exceedance concentrations of sulfate and salinity in areas previously affected by seepage do not warrant reporting	Medium
Analytical suite	A comprehensive groundwater monitoring schedule should be presented in the MMP and Annual Operational Performance Report, which lists the committed monitoring bores and details the monitoring requirements, i.e., parameter/analyte, detection limit and frequency	Low
General data interpretation and reporting	The provision of water quality data should be reviewed to ensure consistency in the format and units used	Low
Geochemistry		
NOEF	Establish instrumented trial dump cover areas to confirm performance and construction methods	Medium
	Ensure that PAF-HC and PAF-RE materials are excluded from below batter zones (which have higher erosion risk) and set back 100 m from the outer face to control convective oxidation	High
	Review geochemical classification criteria with the objective of potentially identifying opportunities to increase the amount of lower acid/salinity/metal leaching material to increase flexibility in scheduling and allow opportunities to improve the robustness of the dump cover	High
	Review opportunities to further segregate mine materials during mining based on more detailed geological differentiation	High
	Continue development of geochemical classification criteria to progress full incorporation into the geochemical rock type distribution model	High
	Develop field reconciliation and NOEF field checks to reflect new geochemical criteria	High
	Continue barrel testing and set up leach column testing of a variety of waste rock materials to assist interpretation of leaching characteristics and assessment of leach barrel test results	Medium
	Implement a system for tracking of waste rock geochemical and lithological types placed in the NOEF	High
	Review old dump areas and potential issues associated with mis-classification	Medium
	Extend paddock dumping to PAF-HC in addition to PAF-RE materials, or devise an equivalent construction method that prevents development of coarse chimney structures and convective oxidation	High
	Control convection in old dump areas by placement of paddock dumped (or equivalent) materials on the outer face with (ideally) a minimum 100 m horizontal thickness	Medium
	Continue investigations to develop criteria to identify materials with spontaneous combustion potential	Medium
	Avoid the planned application of water and lime on spontaneously combusting materials, or trial on a small area before widespread use	High

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Geochemistry (cont'd)		
NOEF (cont'd)	Progressively place cover as soon as completed waste dump areas become available, and interim caps should be placed over active PAF dump areas prior to each wet season	High
	Carry out additional surface water and ground water monitoring along the northern and eastern edge of the NOEF as recommended by KCB (2014b)	Medium
Tailings storage facility	Install planned decant towers	Medium
	Carry out further geochemical characterisation and kinetic testing of tailings to better understand acid, saline and metal/metalloid leaching potential and variation. Include routine testing of discharged tailings and historical (deposited) tailings	Medium
	Produce a final TSF cover design and carry out field trials to measure performance and develop construction methods. Include assessment of long-term erosion and stability effects on the cover integrity	High
	Review the need for tailings in TSF embankment construction to avoid spontaneous combustion or develop methods of placement that control it	Medium
Mine site	Build on KCB (2014) work with a specific monitoring review to feed back into acid/saline/metal leaching materials management. Surface water monitoring, groundwater monitoring and field checks of dump materials should be included in the review, and assessed for any indications of geochemical impacts. The need to modify monitoring locations and frequency should also be assessed	Medium
	Prepare an inventory of waste rock placement areas across site outside of the NOEF and review material classification. Carry out further geochemical testing as required to assess the acid, saline and metal leaching potential of each area	Medium
Bing Bong dredge spoil	Carry out acid sulfate soil assessment of spoon drain and other potential sources at Bing Bong	Low
Geotechnical		
Tailings storage facility	MRM and TSF designer to provide design evidence and clear operating guidelines under which the TSF embankments are proven to be effective with respect to stability, seepage, erosion control, piping and any other action that may lead to an uncontrolled release of tailings or water. This should include limits on the depth and extent of the surface water pond A related recommendation was made in the previous IM report relating to removal of excess water from Cell 2. This was rated as a high priority	High
	MRM to fulfil their commitments with respect to monitoring piezometric levels within the Cell 2 embankments so that design factors of safety can be confirmed that the dam is being operated safely. This recommendation was made in the last two IM reports. The last IM report also requested that detailed stability analyses need to include monitored (as opposed to estimated) phreatic surfaces in the tailings and embankments. These items remain outstanding and were rated previously as high priority	High

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Geotechnical (cont'd)		
Tailings storage facility (cont'd)	MRM to provide a better assessment of their TSF risk of release by estimating the rainfall return periods that would result in: ♦ Exceeding the Cell 1 stormwater capacity resulting in overtopping and potentially catastrophic failure of the embankment ♦ Exceeding the Cell 2 stormwater capacity (including spillway capacity) resulting in overtopping and potentially catastrophic failure of the embankment ♦ Exceeding the Cell 3 WMD stormwater capacity resulting in overtopping and potentially catastrophic failure of the embankment	Medium
	Provide graphs in the MMP which clearly show groundwater levels (in RL), tailings pond surface water levels and maximum pond depth. These plots should also clearly show the monitoring locations in plan	Medium
	Expand existing settlement assessment to utilise more global information such as visual surveys, photographic records and site-wide survey techniques. The IM understands that airborne laser scanning is routinely used to survey. Differential analysis of this data would provide a more comprehensive assessment of settlement and horizontal movement to supplement the more accurate but sparse prism data	Medium
	MRM to confirm if the concrete works on the downstream channel of the emergency spillway have been completed	Medium
	MRM to consider discharge of collected seepage north of Cell 1 to others areas of the TSF and not back onto the Cell 1 surface	Medium
	MRM to review the current strategy for preventing seepage to Surprise Creek in light of recent groundwater monitoring, EM remote sensing and any other relevant data. This review should present evidence as to the effect of existing mitigation strategies, their longevity and long-term feasibility in consideration with other mitigation works such as final capping of Cell 1	Medium
	MRM to update existing monitoring reporting to include piezometric levels, embankment settlements, pipeline wear, pond levels, deposited tailings, water reclamation and any other TSF monitoring data with respect to design. This assessment should also set safe operating limits for these parameters and triggers and actions as advised by the designer. If any of these triggers or limits are exceeded then the action taken needs to be documented in the monitoring report	High
	All future civil works should provide evidence of the designer's allowable frequency or distribution of compaction test failures, or evidence of what specific action and retesting has been undertaken to rectify areas where tests have failed	High
	The discharge lines should be extended to facilitate deposition around the entire Cell 2 perimeter. This will significantly improve control of the location and extent of the surface water pond	High

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Geotechnical (cont'd)		
Specification	The IM has found some significant inconsistencies within the MRM specification, the application of the specification and assessment of test data. The IM also understands that the current specification is likely to be revised. The IM accordingly recommends that MRM conducts an immediate review of the specification to correct and clarify inconsistencies with specific attention to the placement moisture content range and the type and frequency of hydraulic conductivity testing Any revised specification will need to be reviewed and agreed by the OEF designer	High
QA/QC assessment	The IM has found many instances where material in violation of the construction specification is being accepted for dumping of PAF waste (e.g., memo dated 19/9/2013). The IM has also found that the specification pass/fail criteria are being incorrectly applied. In light of these the IM recommends: ♦ MRM reviews all test data to properly assess locations and approximate volumes of placed materials that have not met the reviewed specification including testing frequency ♦ The OEF designer(s) to conduct a review of the above to ascertain whether the placed materials meet design requirements. If not, the OEF designer(s) should recommend remedial action that would be required such that OEF can function as per the approved design and therefore it's intended purpose A revised encapsulation design may be required to accommodate these shortcomings depending on the severity and extent of test failures	High
	Full-time inspection and testing service on all earthworks (Level 1) to AS3798 should be carried out with the additional requirement that the testing authority (GITA) is independent of MRM (i.e., a Geotechnical Independent Testing Authority or GITA) and provides certificates verifying that the liner has been constructed in line with the specification and satisfies the nominated testing criteria as required by the Standard (AS3798) Future testing should comprise lot testing with *a none to fail* criterion	High
PAF cap	A clay cap should be constructed above PAF material prior to the wet season to minimise infiltration during this period. This action should be documented	High
Foundation treatment	The foundation treatment should be documented and reviewed against the design (currently URS (2008)). Construction records and reports on foundation treatment should be kept and made available to the IM	High
General	Detailed plans and cross sections of the OEFs should be prepared and made available to the IM such that the construction of the OEF can be verified. This should include, where relevant, a system to identify the QA/QC testing lots for the relevant materials	Medium

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Geotechnical (cont'd)		
Bing Bong Dredge Spoil – geotechnical monitoring	A design should be prepared that outlines the geometry and method construction of embankments up to the anticipated maximum RL. This design should incorporate expected piezometric levels based on measurements taken to date and other assessments and freeboard requirements. This design does not need to be overly complicated given the nature of materials being stored and the observed performance of the embankments to date	Medium
	It is recommended that the inspection regime include a more comprehensive assessment of key parameters and that action is taken when there is non-conformance. These parameters include: ♦ A numerical assessment of available freeboard and a comparison to design freeboard ♦ A visual assessment of slumping or excessive settlement	Medium
Closure Planning		
Northern overburden emplacement facility	Review the current dump design in relation to the sustainability and performance of the 0.6 m compacted clay infiltration/oxidation control layer. Test the sensitivities of the cover design to: ♦ Changes in material properties ♦ Changes in depth of NAF cover as a result of erosion ♦ Changes in climate	High
	Undertake erosion and sediment transport modeling of the proposed NOEF landform to identify depth of NAF cover material required to ensure the functionality of the cover for 100, 500 and 1,000 years. The IM supports MRM's decision to evaluate alternative landform designs which eliminate the need for engineered structures	Medium
	Undertake a trial to construct a liner to the required specification and regularity of thickness to prevent seepage in perpetuity. Samples from the trial compacted clay liner to be tested for density and permeability after compaction with testing to be undertaken at intervals over the full thickness of the liner	Medium
	Evaluate the potential for differential settlement of the NOEF to compromise the cover design, particularly the potential implications for highly reactive PAF material to settle faster than other waste rock contained in the NOEF	Medium
Open pit	The seepage of contaminated water from the pit lake after closure should be assessed. This would best be carried out using a water and solute balance model for the pit void lake, which would include inflows, outflows, storage volumes, effects of salinity on lake evaporation rates and geochemical process associated with interaction between lake water and the pit wall rocks Under the 2011 West Australian mine closure guidelines, which MRM has adopted for closure planning purposes, an assessment of the pit lake condition is required to identify whether a groundwater sink or through flow cell will develop after closure	High

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Closure Planning (cont'd)		
Tailings storage facility	An interim cover design has been developed for TSF Cell 1. MRM currently does not have any plans for retreatment of Cell 1, although with further technological advances retreatment may be possible. An opportunity exists for MRM to develop its TSF closure strategy by implementing a final cover over either all or part of Cell 1. The IM recommends that a final cover strategy trial be undertaken on Cell 1 for at least part of the area	High
Closure objectives, criteria and performance indicators	Undertake erosion and sediment transport modeling of the proposed TSF landform to identify depth of NAF cover material required to ensure the functionality of the cover for 100, 500 and 1,000 years	Medium
	Revise the current mine closure objectives, criteria and performance indicators. The objectives should be outcome based and focused on the proposed post-mining land use. The closure criteria and performance indicators should be site specific and capable of objective measurement or verification	Medium
Closure costs	Review the mine closure costs with particular reference to the post-closure monitoring costs (including review of the anticipated period of post closure monitoring) and inclusion of post-closure maintenance costs	Medium
Terrestrial Ecology		
Rehabilitation monitoring	Revise revegetation monitoring program to include sites on the Barney Creek diversion downstream of the Barney Creek bridge, and additional sites in the downstream half of the McArthur River diversion. Monitoring of diversion revegetation analogue sites every year, rather than every three years	Medium
Rehabilitation monitoring	Research the use of a more landscape function-based monitoring program such as Ephemeral Drainage-line Assessment to provide more information on erosion and stability of Barney Creek and McArthur River channels	Medium
Cattle exclusion	Redesign current cattle fencing surrounding McArthur River diversion to increase flood-proofing and ensure that cattle exclusion fences are monitored for damage	Medium
Rehabilitation	Conduct a review of rehabilitation works to date including total tubestock and kilograms of seed used, total areas planted and percentage of successful revegetation to assess the likely timeframe and cost for diversion channel rehabilitation including an expected completion year in future MMPs	Medium
Bing Bong dredge spoil	Establish reference sites for dredge spoil transects which do not currently have analogues. If this is not possible, it is recommended that additional sites be selected in the same habitats sufficient to provide statistically significant assessment of changes occurring within bands of vegetation in the landscape	Low
Fauna	Continue migratory bird monitoring bird program for one additional year with comparison of survey data to older data collected for the gulf by Garnett and Chatto. Reassess need to continue surveys based on trend of fluctuations compared to historical data	Low

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Terrestrial Ecology (cont'd)		
Fauna	Include an annual survey of the Gouldian finches at TSF Cell 4 as an extension of the current riparian bird monitoring and survey surrounding hill slopes for the presence of nesting trees following the Gouldian finch survey design outlined in the Survey Guidelines for Australia's Threatened Birds (DEWHA,2010)	Medium
Flora	Conduct bi-annual vegetation monitoring at Surprise Creek to evaluate effects of tailings seepage	Medium
Rehabilitation monitoring	Reassess the list of key and primary species to which revegetation on the diversions is compared to and/or reassess control site selection, as many of those listed are not recorded at current control sites. Investigate separate key and primary species lists for McArthur River and Barney Creek as vegetation assemblages as the control sites show different assemblages	Low
Bing Bong dredge spoil	Include an inspection of the outside of the drain bund wall in monthly inspections of the dredge spoil cells, to assess if tidal seawater is ponding against the bund	Low
Aquatic Ecology		
Contamination of biota	The IM recommends additional aquatic fauna abundance, diversity and metal concentration monitoring along Barney, Little Barney and Surprise creeks to identify potential sources of contamination. This should include sites SW4, SW22, SW3, SW18, SW6 and SW28 until sources of contamination are determined. This monitoring can also be used to assess the effectiveness of the diversion channel rehabilitation	High
Large woody debris	The IM recommends continuing to add and monitor LWD and coir logs in the McArthur River diversion channel. When LWD is added to the diversion channel in the future, MRM should focus on the downstream sections of the diversion. MRM should start adding small woody debris and leaf litter to the diversion channels at the end of the wet season to provide habitat and detritus for small fish and invertebrates. In addition, other options could be investigated to trap sediment along the river bank and increase habitat diversity	Medium
Diversions	The IM recommends including additional sites on the Barney Creek and Little Barney Creek diversion channels to assess the performance of these diversions. Reference sites outside the channels should also be established so baseline data can be collected	Medium
Freshwater sawfish	The Sawfish Management Plan should be more effectively implemented through better assessment of the sawfish monitoring data collected during the aquatic fauna survey, to determine impact of pre- and post- construction of the McArthur River diversion channel and how sawfish catches are changing over time. Continued community engagement, such as talks in Borroloola and King Ash Bay and informative signs at popular fishing spots, would improve reporting of tagged sawfish and reduce illegal fishing	Medium
Drawdown at Djirrimini Waterhole	An investigation should be undertaken into the impacts of potential drawdown at Djirrimini Waterhole, and possible mitigation of its impacts, as this is one of the most upstream waterholes visited by freshwater sawfish	Medium

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Aquatic Ecology (cont'd)		
macroinvertebrate Reference sites	Extra reference sites of the same stream order as Surprise and Barney creeks should be included in the macroinvertebrate surveys. These sites will be used to determine whether differences in community composition are due to differences in stream order or impacts of operations	Medium
Bioaccumulation of contaminants	Fish from a higher tropic level such as the sooty grunter (*Hephaestus fuliginosus*) or barramundi (*Lates calcarifer*) could be included in the monitoring of metal concentrations in flesh, as these species are more likely to bioaccumulate metals	Medium
Better synthesis of data	Monitoring of aquatic biota would benefit from an overall synthesis of results from the aquatic biota monitoring, macroinvertebrate surveys, metal concentrations in biota assessments, and water and fluvial sediment monitoring in the SDMMP	Medium
New background Pb isotope ratio	Monitoring would benefit from the establishment of a more regionally relevant background level for Pb isotopes, as for all monitoring sites, the average isotopic ratios were closer to the ore body than background levels. Establishing a regionally relevant background isotope ratio would be better for determining whether ore derived lead is entering aquatic fauna	High
Marine Ecology		
Trans-shipment area	Expand the AMMP to include the trans-shipment area, as commitments to monitor contamination in this area are not being met. If seagrass is present in the area, the seagrass monitoring program should be expanded too. There could be dust generated or spillage as concentrate is transferred from the MV Aburri to larger vessels. Monitoring sites should be established in the trans-shipment area and at control sites in similar habitats away from potential impacts	Medium
Seagrass monitoring	Establish better control sites for the annual seagrass monitoring. Current control sites, especially Sector 4, are inherently different from seagrass meadows around Bing Bong Port such that the processes underlying community change cannot be accurately assessed. Roelofs, Coles and Smit (2005) indicate that more suitable seagrass controls may be present to the east of Bing Bong Port. Establishing better control sites will facilitate the collection of good quality baseline data	Medium
Contamination of biota	Establish an additional site in the AMMP immediately west of Bing Bong Port to determine the extent of contaminants. Prevailing currents carry sediments, and therefore contaminants, to the west. Sites to the far east of Bing Bong Port, such as SEPI 3, could be removed to accommodate these new sites	Medium
Bioaccumulation of contaminants	Use adult fish for the metal contaminants assessment in the AMMP, as they will have had more time to accumulate contaminants, and will likely have a higher trophic position	Low
Vibrio bacteria	As there appears to be no impact of operations on *Vibrio* bacteria, *Vibrio* monitoring should be carried out once more in 2015 and if there is no impact again, monitoring should cease	Low

Table 5.1 – New Recommendations (cont'd)

Subject	Recommendation	Priority
Soil and Sediment Quality		
Soil monitoring data – assessment	Soil monitoring data obtained subsequent to 2012-2013 should be evaluated within the context of the revised NEPM (1999)	Medium
Fluvial sediments – monitoring results and responses	Particular focus should be placed on sites FS22 (low pH), FS18 (elevated sulfate), and FS6, FS20 and FS25 (elevated Zn and Pb). Where required, mitigation implementation measures should be designed and implemented	Medium
Fluvial sediments – mitigation	A plan for mitigating contaminated runoff into Barney Creek on the southern side of the channel should be formalised and implemented	Medium
Marine sediment – monitoring sites	Additional sampling should be undertaken to the west of Bing Bong Port to reflect the westward movement of water and/or sediment containing elevated metal (e.g., Pb and Zn) concentrations, as determined by the Bing Bong Port coastal modeling investigation and taking into account the findings of the nearshore sediment assessment	Medium
Marine sediment – monitoring sites	The search for more appropriate sediment reference (control) sites should be continued, given the lack of suitability of the current control sites as shown by the PSD	Medium
General data interpretation and reporting	A reconciliation of actual versus proposed/committed sampling events should be provided	Medium
Soil, fluvial sediment and marine sediment monitoring program – reporting	Quality assurance/quality control data for sample analyses, and subsequent discussion, should be presented in the MMP	Low
Soil, fluvial sediment and marine sediment monitoring program – reporting	Figures in the MMP that show sampling sites should show ALL sampling sites, including control sites	Low
Dust		
Dust monitoring	Depositional dust gauges and low-volume samplers should be maintained at a number of monitoring sites for a two-year period. This will allow a comparison of different monitoring methods to occur such that correlation between historical data sets and new data sets, both utilising different monitoring techniques may be possible	Medium
Dust monitoring	The IM understands low-volume air monitors cannot measure total insoluble matter and therefore it may no longer be possible to measure project dust emissions against project nuisance level dust targets. The IM therefore recommends new project dust targets be developed and adopted to monitor performance against parameters now being measured	Medium

6. Conclusions

The IM in its review of the 2011 operational year concluded that there had been an improvement in the environmental performance of MRM over the previous five years. The report for the 2011 operational year (EES, 2012) highlighted five areas of concern:

- Volume of water stored in TSF Cell 2.
- Delineation of seepage from the TSF and its impact on Surprise Creek.
- Geochemistry of the tailings and development of closure strategies.
- Identification and management of PAF waste rock.
- Revegetation progress of the McArthur River diversion channel.

This review of the 2012 and 2013 operational years has identified identical concerns, with the exception of the development of closure strategies for the TSF Cell 1 where an interim cover design has been developed.

The recent reports by Klohn Crippen Berger (KCB, 2014), and the reclassification of waste rock with the proportion of PAF waste rock increasing from around 30% to over 50% and the recognition that a further 30% of waste rock has the potential for saline and metalliferous pH-neutral drainage, has been a major change in the understanding of the waste rock geochemistry. The IM considers acid, saline and metalliferous drainage the most significant environmental issue at MRM, with potential long-term impacts on groundwater quality, and terrestrial and aquatic ecosystems.

Elevated water levels in TSF Cell 2 were reported in EES (2012) and during the IM's inspection in March 2014 it was observed that the depth of water was at least 2 m above the tailings surface along a substantial section of the TSF Cell 2 southern embankment. The pond extent observed by the IM during the site inspection was similar to that described by ATC Williams during its annual regulated dam safety review (ATC Williams, 2013). Maintenance of high water levels on TSF Cell 2 is contrary to commitments by MRM which state that:

- Decant water will be stored at the centre of the TSF rather than on the periphery.
- Tailings will be deposited using subaerial deposition to maximise density and limit seepage.

The maintenance of high water levels also increases the risk of embankment failure.

Review of quality control procedures at the TSF and NOEF found that a number of compaction tests failed to meet the specification and that subsequent retesting was not undertaken to confirm that remedial action was successful. The failure to confirm that remedial actions were successful is not good industry practice and is a significant failing in construction quality control. At the NOEF, three specifications have been developed for the construction of the compacted clay PAF cells. It was evident, however, that the three specifications vary slightly and that MRM is not consistently following a particular specification. It was observed that there is no lower limit on in situ moisture content with 59% (36 of 61 tests) compacted -2% dry of optimum. Compacting dry of optimum and particularly -2% dry of optimum is known to result in higher permeability than compacting wet of optimum. The implication of these results is that the construction of the compacted clay liners may not be in accordance with the design specifications and consequently the performance of this compacted clay liner will be different to that assumed in modelling.

MRM has undertaken a significant number of studies and installation of monitoring bores to further improve its understanding of groundwater and risks from mining and processing activities. In addition to these studies, MRM has also installed low-permeability geopolymer barriers. Despite these improvements, there is continuing evidence of seepage from discrete points along the eastern and southern boundaries of TSF Cell 2 and Cell 3 WMD.

Rehabilitation of the McArthur River diversion channel has continued with a further 67,000 trees being planted. It is noted, however, that erosion of sections of the diversion channel of up to 2 m has occurred in the past four years. Large areas of the diversion channel remain unrehabilitated and this is likely to be particularly difficult to achieve with such high levels of erosion. While MRM is continuing to make progress with planting of tubestock, this is slow and the IM recommends that a review of the current strategy be undertaken to determine whether other techniques could be employed which would accelerate rehabilitation.

7. Limitations

The following statements are intended to advise the reader of the scope of this report and the level to which conclusions may be drawn from the findings contained herein. These statements are not intended to reduce the level of responsibility accepted by ERIAS Group, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes by doing so.

7.1 General Limitations

ERIAS Group has prepared this environmental performance report in response to the following items and subject to the limitations contained therein:

- The McArthur River Mining Pty Ltd mining Authorisation Number 0059-02, and in particular Schedule 2 – McArthur River Mine Independent Monitoring Assessment Conditions (IMACs).
- The specific scope of services set out in the Request for Tender issued by the DME, and the subsequent notification of award of contract issued by the Department of Corporate and Information Services on behalf of the DME (Contract No.: D12-0274) on 9 December 2013.

This environmental performance report:

- Relates only to the areas referred to in the scope of works, being the McArthur River Mine and Bing Bong Port, Borroloola region, Northern Territory.
- Has reviewed environmental matters only. Issues relating to mine safety, health and/or social issues, personnel and administration matters or governance arrangements resulting from the operation of the mine have not been included in the assessment.
- Has been prepared for the particular purpose outlined in the DME scope of services and no responsibility is accepted for the use of this report, in whole or in part, in other contexts or for other purposes. This report may not be relied upon by any third party not named in this report for any purpose except with the prior written consent of ERIAS Group.

7.2 Information Relied Upon

ERIAS Group has reviewed the information provided by MRM with regards to the environmental assessments and monitoring activities that the company has undertaken, as well as environmental assessments and audits undertaken by DME. This report has been prepared on the basis of:

- Information provided by MRM and DME, which was not verified by ERIAS Group except to the extent required by the scope of services. ERIAS Group has assumed that this information is correct unless otherwise stated, but does not accept responsibility for the accuracy or completeness of the provided information in respect to MRM's environmental performance.
- Information that existed at the time of production of this report and under the conditions specified. This report relates to McArthur River Mine and Bing Bong Port as at the date of the report and/or the most recent information provided by MRM as at the date of reporting. It is

recognised that conditions may have changed thereafter due to site activities and/or natural processes. The scope of services allowed ERIAS Group to form an opinion of the actual performance of the site at the time of this assessment and cannot be used to assess the effect of any subsequent changes at the site or associated aspects.

7.3 Specific Constraints

Due to constraints of time, scope and site accessibility (i.e., wet season) during the assessment of environmental performance, ERIAS Group did not perform a complete assessment of all possible conditions or considerations at the site. For example, ERIAS Group:

- Has not undertaken a detailed site visit of McArthur River Mine or Bing Bong Port (for example, not all monitoring locations were visited).
- Has not reviewed all of the approximately 7,000 documents and other files provided by MRM.
- Has not verified performance against mine commitments for which information was not available at the time of this assessment.

It should also be noted that management of the McArthur River Mine NOEF is currently being reviewed and, as such, assumptions and findings contained in this report with regards to overburden management (including previous NOEF designs and overburden geochemical classification) may have limited applicability.

8. References

All Fencing NT, 2013	All Fencing Services NT. 2013. Bing Bong Fencing Invoices. Darwin.
ANCOLD, 1999	ANCOLD 1999. Guidelines on Tailings Dam Design Construction and Operation, October, Australian National Committee on Large Dams.
ANCOLD, 2012	ANCOLD 2012. Guidelines on Tailings Dams - Planning, Design, Construction, Operation and Closure, May, Australian National Committee on Large Dams.
ANZECC/ARMCANZ, 2000	ANZECC/ARMCANZ. 2000. Australian and New Zealand guidelines for fresh and marine water quality. Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, Canberra.
ANZECC/NHMRC, 1992	ANZECC/NHMRC 1992. 'Austriailian water quality guidelines for fresh and marine waters'. National Water Quality Management Strartergy Paper No 4, Australian and New Zealand Environmental and Conservation Council.
Ashe, 2013a	Ashe, G. 2013a. Letter from Greg Ashe, General manager, McArthur River Mining Pty Ltd to Dr William Freeland, Delegate for the Controller of Water Resources. 19 November 2013.
Ashe, 2013b	Ashe, G. 2013b. Letter from Greg Ashe, General manager, McArthur River Mining Pty Ltd to Dr William Freeland, Delegate for the Controller of Water Resources. 10 October 2013.
ATC Williams, 2013a	ATC Williams, 2013a. Construction Report for Cell 2 Stage 2 Embankment Lift, June 2013, ATC Williams.
ATC Williams, 2013b	ATC Williams, 2013b. McArthur River Mine Tailings Storage Facility 2012 Annual Regulated Dam Safety Review Report, January 2013, ATC Williams.
ATC Williams, 2014	ATC Williams, 2014. McArthur River Mine Tailings Storage Facility 2013 Annual Dam Safety Review Report, February 2014.
ATC, 2013a	ATC Williams, 2013a. 'McArthur River Mine – PAF Dam Seepage Remediation Works', report reference 111351.13 dated 16 December 2013. Letter report prepared by ATC Williams Pty Ltd for McArthur River Mining Ltd.
ATC, 2013b	ATC Williams. 2013b. McArthur River Mine Tailings Storage Facility. 2013 Annual Regulated Dam Safety Review Report. Document Number: 11135112R01. February 2013. Report prepared for McArthur River Mining.
AWA, 2011	AWA, 2011. Tailings Storage Facility - Cell 2 Design - Appendix A Geotechnical Investigation Report, Allan Watson Associates.
AWA, 2012	AWA, 2012. Macarthur River MIne Hazardous Dams Stability Assessment, Allan Watson Associates, 111351-07-r001-b, September 2012.
Barden & Coleman, 2012a	Barden, P., & Coleman, J. 2012a. *Survey of Listed MIgratory Shorebirds and Other Birds: Port McArthur Area, Summer, January 2012.* Queensland: Prepared by Ecological Management Services Pty Ltd. for MRM/Xstrata.
Barden & Coleman, 2012b	Barden, P., & Coleman, J. 2012b. *Survey of Listed Migratory Shorebirds and Other Birds: Port McArthur area, Northern Staging/Migration, April 2012.* Queensland: Prepared by Ecological Management Services Pty Ltd for MRM/Xstrata.
Barden & Coleman, 2013a	Barden, P., & Coleman, J. 2013a. *Survey of Listed Migratory Shorebirds and Other Birds: Port McArthur Area, Summer, February 2013.* Queensland: Prepared by Ecological Management Services for MRM/Xstrata.
Barden & Coleman, 2013b	Barden, P., & Coleman, J. 2013b. *Survey of Listed Migratory Shorebirds and Other Birds: Port McArthur River, Northern Staging, April 2013.* Queensland: Prepared by Ecological Management Services Pty Ltd for MRM/Xstrata.
Barden, 2012a	Barden, P. 2012a. *McArthur River Mine Riparian Bird Monitoring Program June 2012 Sampling Report.* Queensland: Prepared by Ecological Management

	Services Pty Ltd for MRM/Xstrata.
Barden, 2012b	Barden, P. 2012b. *McArthur River Mine Riparian Bird Monitoring Program November 2012 Sampling Report.* Queensland: Prepared by Ecological Management Services Pty Ltd for MRM/Xstrata.
Barden, 2012c	Barden, P. 2012c. McArthur River Freshwater Aquatic Macroinvertebrate Assessment 2012. Prepared by Ecological Management Services for McArthur River Mining, Winnellie, NT.
Barden, 2013a	Barden, P. 2013a. *Gouldian Finch (Erythrura gouldiae) Preliminary Assessment TSF Cell 4, McArthur River Mine, NT.* Queensland: Environmental Management Services.
Barden, 2013b	Barden, P. 2013b. *McArthur River Mine Riparian Bird Monitoring Program May 2013.* Queensland: Prepared by Ecological Management Services Pty Ltd for MRM/Xstrata.
Barden, 2013c	Barden, P. 2013c. *McArthur River Bird Monitoring Program September 2013.* Queensland: Prepared by Ecological Management Services Pty Ltd for MRM/Xstrata.
Barden, 2013d	Barden, P. 2013d. McArthur River Freshwater Aquatic Macroinvertebrate Assessment 2013. Prepared by Ecological Management Services for McArthur River Mining, Winnellie, NT.
BoM, 2014a	BoM, 2014a. Australian Bureau of Meteorology, Australia, http://www.bom.gov.au/climate/change/index.shtml#tabs=Tracker&tracker=trend-maps, accessed 15 May 2014.
BoM, 2014b	BoM, 2014b. Australian Bureau of Meteorology, Australia, http://www.climatechangeinaustralia.com.au/ntrain5.php, accessed 15 May 2014.
Boughton, 1996	Boughton, W.J. 1996. AWBM water balance model calibration and operation manual, CRC for Catchment Hydrology.
Butler and Tsang, 2013	Butler, E.C.V. and Tsang, J.J. 2013. Investigation of discharge from the Bing Bong dredge settlement ponds. Prepared for Glencore Xstrata McArthur River Mine. Australian Institute of Marine Science, Darwin.
Cardno, 2012	Cardno, 2012. Earthworks supervision and conformancing testing - Bibg Bong holding ponds, internal wall construction, Cardno, Ullman & Nolan, Letter 5 December 2012.
Chatto, 2001	Chatto, M., 2001. The distribution and status of waterbirds around the coast and coastal wetlands of Northern Territory. Technical report 70, Darwin: PWCNT.
Chatto, 2003	Chatto, M., 2003. The distribution and status of waterbirds around the coast and coastal wetlands of Northern Territory. Technical report 73, Darwin: PWCNT.
Chatto, 2006	Chatto, M., 2006. The distribution and status of waterbirds around the coast and coastal wetlands of Northern Territory. Technical report 76, Darwin: PWCNT.
Dept. of Health, 2011	Dept. of Health. 2011. *Mosquito Monitoring Program, McArthur River Mine 2010/2011.* Darwin: Medical Entomology, Centre for Disease Control, Department of Health.
DEWHA, 2010	DEWHA. 2010. *Survey guidelines for Australia's threatened birds. Guidelines for detecting birds listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999.* Canberra: Department of Environment, Water, Heritage and the Arts, Commonwealth of Australia.
DME QLD, 1995	DME QLD, 1995. Technical guidelines for the environmental management of exploration and mining in Queensland, QLD Department of Mines and Energy.
DME, 2013a	Department of Mines and Energy (2013) Legislative Compliance Audit - McArthur River Mine. Audit conducted November 18-20, 2012. Report issued 29 July 2013.
DME, 2014b	Department of Mines and Energy (2014). 2012/13 MMP Compliance Audit - McArthur River Mine. Audit conducted December 16- 18, 2013 DRAFT Report.
EcOz, 2012a	EcOz. 2012a. Dredging and spoil disposal management plan. Document No. EZ12019-C0301-EIA_R_0001. Prepared by EcOz Pty Ltd.

EcOz, 2012b	EcOz, 2012. Dredging and Spoil Disposal Management Plan, EcOz,Report EZ12019-C0301-EIA-R-0001, 26 September 2012.
EcOz, 2012c	EcOz . 2012a. *McArthur River and Barney Creek Rechannel Revegetation Monitoring 2012.* Darwin: Prepared by Ecoz Environmental Services for MRM/Xstrata.
EcOz, 2012d	EcOz . 2012b. *Vegetation Condition Assessment: Dredge Spoil area, Bing Bong Loading Facility.* Darwin: Prepared by EcOz Environmental Services for MRM/Xstrata Zinc.
EcOz, 2013a	EcOz . 2013a. *McArthur River and Barney Creek Rechannel Revegetation Monitoring 2013.* Darwin: Prepared by EcOz Environmental Services for MRM/Xstrata.
EcOz, 2013b	EcOz. 2013b. *Vegetation Monitoring of the Dredge Spoil Area at Bing Bong 2013.* Darwin: Prepared by EcOz Environmental Services for MRM/Xstrata Zinc.
EDO, 2010	EDO. 2010. Technical Fact Sheet: Air Quality- Dust Monitoring. Environmental Defenders Office. Sydney, New South Wales.
EES, 2012	EES. 2012. Independent monitor audit of the McArthur River Mine for the 2011 operational period. Report to the Minister for Mines and Energy. 1 October 2012. Version 1. Prepared by Environmental Earth Sciences VIC.
EPBC, 1999	Commonwealth of Australia (1999). Environmental Protection Biodiversity and Conservation Act.
Erskine, 2006	Erskine., W. 2006. Review of the McArthur River Mine Open Cut Project Public Environmental Report. TUNRA. University of Newcastle. July 2006.
Garnett 2007a	Garnett, S., 2007a. Monitoring program to assess the impact of metal pollution at Bing Bong Port of list migratory birds. Final report, Report to MRM, July 2007,
Garnett 2007b	Garnett, S., 2007b. Monitoring program to assess the impact of metal pollution at Bing Bong Port on listed migratory birds. Final report. Report to MRM, October 2007
Garnett, 1987	Garnett, S., 1987. Aerial surveys of waters (Aves: Charadriiformes) along the coast of north eastern Australia. Wildlife Research 14, pp. 521-528.
Garnett, 2008	Garnett, S., 2008. Monitoring program to assess the impact of metal at Bing Bong on list migratory birds. Final report. Report to MRM, April 2008
Golder, 2011	Golder Associates. 2011. McArthur River Mine. Hydrogeochemical Investigation of the Tailings Storage Facility. Report Number 107633048-003-Rev0. 17 June 2011. Report prepared for McArthur River Mining/Xstrata Zn Australia.
Gregson, Hiles and Toki. 2012	Gregson, M, Hiles, B and Toki, B. 2012. Bing Bong Loading Facility Annual Seagrass Monitoring - 2012 Episode. December. Prepared by BTM WBM for McArthur River Mining, Winnellie, NT
Guard, 2013	Guard, P. 2013. Bing Bong Loading Facility Coastal Process Modelling Investigation. Prepared by BTM WBM for McArthur River Mining, Winnellie, NT
ICOLD, 2011	ICOLD, 2011. Improving tailings dam safety - Critical aspects of management, design, operation and closure, International Commission on Large Dams.
KCB, 2012a	Klohn Crippen Berger (KCB) 2012a. Initial Static Testing: Northern Overburden Emplacement Facility. Technical memorandum prepared for MetServe/McArthur River Mining. File No: M09814A01.720. 20 September 2012.
KCB, 2012b	Klohn Crippen Berger (KCB) 2012b. PAF/NAF Classification: Review and Preliminary Field Results. DRAFT. Technical memorandum prepared for MetServe/McArthur River Mining. File No: M09814A01. 11 December 2012.
KCB, 2013a	Klohn Crippen Berger (KCB) 2013a. McArthur River Mine Geochemistry: Spontaneous Combustion Investigations. DRAFT. Technical memorandum prepared for McArthur River Mining. File No: M09814A03. 13 December 2013.
KCB, 2013b	Klohn Crippen Berger (KCB) 2013b. McArthur River Mine Geochemical Assessment. TSF Seepage Review Memorandum. Technical memorandum prepared for MetServe/Xstrata Zinc. File No: M09814A01. 27 August 2013.
KCB, 2014a	Klohn Crippen Berger (KCB) 2014a. McArthur River Mine Geochemical Assessment. Waste Classification Guide. Report prepared for McArthur River

	Mine. File No: M09814A01. March 2014.
KCB, 2014b	Klohn Crippen Berger (KCB) 2014b. McArthur River Mine Geochemical Assessment. Desktop Review. Report prepared for McArthur River Mine. File No: M09814A01. March 2014.
KCB, 2014c	Klohn Crippen Berger (KCB) 2014c. McArthur River Mine Geochemistry: MRM Clay Assessments. Report prepared for McArthur River Mine. File No: M09814A02. 10 March 2014.
KCB, 2014d	Klohn Crippen Berger (KCB) 2014d. McArthur River Mine Geochemistry. Additional NOEF Testing Results. Report prepared for McArthur River Mine. M09814A01. 10 March 2014.
KCB, 2014e	Klohn Crippen Berger (KCB) 2014e. McArthur River Mine Geochemical Assessments. Waste Classification Guide: Field Results. Report prepared for McArthur River Mine. File No: M09814A01. 7 March 2014.
KCB, 2014f	Klohn Crippen Berger (KCB) 2014f. McArthur River Mine: Field Barrel Leach Design. Report prepared for McArthur River Mine. File No: M09814A02. 7 March 2014.
KCB, 2014g	Klohn Crippen Berger (KCB) 2014g. McArthur River Mine: Low Grade Ore Stockpile Characterisation. Report prepared for McArthur River Mine. File No: M09814A02.700. 7 March 2014.
KCB, 2014h	Klohn Crippen Berger (KCB) 2014h. McArthur River Mines: Tailings Classification Review. DRAFT. Report prepared for McArthur River Mine. File No: M09814A02. March 2014.
KCB, 2014i	Klohn Crippen Berger (KCB) 2014i. McArthur River Mine: NOEF Cover Design - Geochemistry Review. Report prepared for McArthur River Mine. File No: M09814A01. 11 March 2014.
KCB, 2014j	Klohn Crippen Berger (KCB) 2014j. McArthur River Mine Geochemistry: MRM Clay Assessments. Report prepared for McArthur River Mine. File No: M09814A02. 10 March 2014.
Kennedy et. al., 2011	Kennedy, M., Phillips, B. L. S., Murphy, S. & Faulkner, R. A., 2011. Do dingoes suppress the activity of feral cats in northern Australia?. Austral Ecology, pp. volume 37, Issue 1, 134-239.
Metserv, 2012	Metserv, 2012. Draft Environmental Impact Statement: McArthur River Mine Phase 3 Development Project. Report prepared by Mining & Energy Technical Services Pty Ltd, for MRM, McArthur River, NT.
MRM, 2011a	MRM, 2011a. Incident Management Procedure. GEN-SD-PRO-6040-0015. McArthur River Mining.
MRM, 2011b	MRM, 2011b. Sustainable Development Mine Management Plan 2011-2012. Report Prepared by McArthur River Mining, Winnellie, NT.
MRM, 2011c	MRM, 2011c. 'McArthur River Mine 2011 Diesel Spill Detailed Site Investigation and Remediation Action Plan' dated 2011. Unpublished report prepared by McArthur River Mining/ Xstrata Zinc.
MRM, 2011d	MRM, 2011d. NOEF Asbuilt Review and Signoff Procedure Rev 0, McArthur River Mining, Procedure MIN-TEC-PRO-1000-0026, 15 September 2011.
MRM, 2011e	MRM, 2011e. *Weed Management Plan 2011-2012.* Darwin: McArthur River Mine Xstrata Zinc.
MRM, 2012a	MRM, 2012a. Northern Overburden Emplacement Facility Sump Overflow Incident 31 Dec 2011, Incident Investigation Report No 29213, entered in to TRIM database 24 Feb 2012.
MRM, 2012b	MRM, 2012b. Notification of an Environmental Incident, Exceedance of sulphate & metal concentrations in drainage line adjacent to the Northern Overburden Emplacement Facility, 11 Jan 2012.
MRM, 2012c	MRM, 2012c. Xstrata Zinc Commodity Business Unit Incident Investigation Report, Exceedance of sulphate & metal concentrations in drainage line adjacent to the Northern Overburden Emplacement Facility, Incident Date 21 January

	2012, Incident No 29223.
MRM, 2012d	MRM, 2012d. Comments on the TSF Cell 2 Raise Design, MacArthur River Mine, Letter MDOC20126276, 29 August 2012.
MRM, 2012e	MRM, 2012e. Clay Liner Quality Control and Construction at the NOEF, McArthur River Mining, Specification MIN-TEC-PRO-1000-0026, 4 April 2012.
MRM, 2012f	MRM, 2012f. EOM NOEF Sampling Procedure Rev 4, McArthur River Mining, MIN-TEC-PRO-1000-0015, 13 December 2012.
MRM, 2012g	MRM, 2012g. Overburden Emplacement Facility Management Plan (Appendix E2 McArthur River Mine Phase 3 Development Project Environmental Impact Statement).
MRM, 2012h	MRM, 2012h. Preliminary Mine Closure Plan, (Appendix E4 McArthur River Mine Phase 3 Development Project Environmental Impact Assessment)
MRM, 2012i	MRM, 2012i. *Weed Management Plan 2012-2013.* Darwin: McArthur River Mining/Xstrata Zinc.
MRM, 2012j	MRM, 2012j. Large Woody Debris Report 2012, McArthur River Channel. Report Prepared by McArthur River Mining, Winnellie, NT.
MRM, 2013a	MRM, 2013a. High Potential Incident Investigation Report, Overflow from Tailings Storage Facility Cell One Sump Incident, Incident Date 27 November 2013, Incident No 30836.
MRM, 2013b	MRM, 2013b. Notification of an Environmental Incident, MRM TSF Cell 1, 27 November 2013.
MRM, 2013c	MRM, 2013c. 'Sustainable Development Mining Management Plan 2013-2018', draft report November 2013. Unpublished report prepared by McArthur River Mining.
MRM, 2013d	McArthur River Mining (MRM) 2013d. Mining Department. EOM NOEF Sampling Procedure. 13 December 2013. Reference Number MIN-TEC-PRO-1000-0015.
MRM, 2013e	MRM. 2013e. Sustainable Development Environmental Monitoring Manual 2013. Report Prepared by McArthur River Mining, Winnellie, NT.
MRM, 2013f	MRM 2013f. NOEF Testing Database Rev01, Excel Spreadsheet.
MRM, 2013g	MRM. 2013g. *Weed Management Plan 2013-2014.* Darwin: McArthur River Mining/Xstrata Zinc.
MRM, 2013h	MRM. 2013h. *Planting Register 2013.* MRM/Xstrata.
MRM, 2013i	MRM 2013i McArthur and Barney Photomonitoring 2013. Report Prepared by McArthur River Mining, Winnellie, NT.
MRM, 2013j	MRM. 2013j. *GEN-ENV-PRO-6040-0027 Rechannel Revegetation Monitoring Procedure I001 Rev 0.* Northern Territory: McArthur River Mining.
MRM, 2013k	MRM. 2013k. Large Woody Debris 2013. Report Prepared by McArthur River Mining, Winnellie, NT.
MRM, 2013l	MRM, 2013l. Conditional Approval and Response to Conditions with Timeline of Works, MacArthur River Mine, Letter: MDOC201301709, 7 March 2013.
MRM, 2013m	MRM, 2013m. Survey monuments TSF crest walls, MRM, Survey MM080148/001, 11 September 2013.
MRM, 2014a	MRM, 2014a. Early Flood Warning System Procedure, Issue 2, DocNo. ADM-ENV-PRO-6040-0011. March 2014.
MRM, 2014b	MRM. 2014. Sustainable Development Mining Management Plan 2013-2018 Volume 2: Environmental Monitoring Water Management Plan. Report Prepared by McArthur River Mining, Winnellie, NT.
MRM, 2014b	McArthur River Mining (MRM) 2014b. NOEF & Waste Data. Geochemistry. March 2014. Power Point presentation to Environment Protection Agency, NT.
MRM, 2014c	McArthur River Mining (MRM) 2014c. NOEF & Waste Data. Materials Balance. March 2014. Power Point presentation to Environment Protection Agency, NT.

MRM, 2014d	McArthur River Mining (MRM) 2014d. Tailings Storage Facility (TSF) Operating Guidelines. February 2014. Reference Number MET-GEN-GDL-2800-0001.
MRM, 2014e	MRM. 2014e. PO G69687 Seed Order 2014. Darwin: McArthur River Mining/Xstrata Zinc.
MRM, 2014f	MRM. 2014f. PO G69836 Seed Order 2014. Darwin: McArthur River Mining/Xstrata Zinc.
MRM, 2014g	MRM. 2014g. PO G69837 Seed Order 2014. Darwin: McArthur River Mine/Xstrata Zinc.
MRM, 2014h	MRM. 2014h. PO G71914 Tubestock Order 2014. Darwin: McArthur River Mining/Xstrata Zinc.
NADG, 2009	NADG, 2009. National Assessment Guidelines for Dredging, Commonwealth of Australia, Canberra.
NEPM, 1999	NEPM. 1999. National Environmental Protection Measure. Assessment of site contamination, Guideline on Investigation Levels for Soil and Groundwater.
Northern Territory 2013	Northern Territory Mining Management Act 2013 and Regulations.
Northern Territory Government, 2011	Northern Territory Government, 2011. Environmental Assessment Guidelines for the Northern Territroy: Terrestrial Fauna Surveys, Darwin: Greening the Territory, Northern Territory Government.
NT EPA, 2006	NT EPA, 2006. McArthur River Mine Open Cut Project - Environmental Assessment Report, August 2006, Northern Territory Environmental Protection Agency.
OKC, 2013	O'Kane Consultants Pty Ltd 2013. McArthur River Mine . Interim Cover Design for TSF Cell #1. Report No. 750/7-01. June 2013. Report prepared for McArthur River Mine.
Pietsch, 2012	Pietsch, C. 2012a. Bing Bong Loading Facility Annual Seagrass Monitoring - 2011 Episode. January. Prepared by BTM WBM for McArthur River Mining, Winnellie, NT
Qld Govt., 2014	Qld Govt. 2014. (Database) http://www.longpaddock.qld.gov.au/silo/
Roelofs et al. 2005	Roelofs A, Coles R and Smit, N. 2005. A survey of intertidal seagrass from Van Diemen Gulf to Castlereagh Bay, Northern Territory, and from Gove to Horn Island, Queensland. National Oceans Office. Department of Environment and Heritage. March 2005
RPS, 2012a	RPS. 2012a. 'Shallow Groundwater Investigation McArthur River Mine' report reference A254E/R001a dated 4 December 2012. Unpublished report prepared by RPS Aquaterra for McArthur River Mining Ltd.
RPS, 2012b	RP.S 2012b. 'Groundwater Modelling of Seepage from MRM SEPROD' report reference A245G.R002 dated 2 August 2012. Unpublished report prepared by RPS Aquaterra for Australian Mine Design & Development Pty Ltd/ METSERV.
RPS, 2013a	RPS. 2013a. 'McArthur River Mine Deep Groundwater Investigation' report reference A254F/R002a dated 8 April 2013. Unpublished report prepared by RPS Aquaterra for McArthur River Mining Ltd.
RPS, 2013b	RPS. 2013b. 'MRM EPROD Seepage – Groundwater Modelling', report reference A450B.R001b dated 15 November 2013. Unpublished report prepared by RPS for McArthur River Mining Ltd.
Simpson et al. 2008	Simpson, S.L., Batley, G.E., Charlton, A.A., Stauber, L.L., King, C.K., Chapman, J.C., Hyne, R.V., Gale, S.A., Roach, A.C. and Maher, W.A., 2008. Handbook for Sediment Quality Assessment CSIRO: Bangor, NSW
SoilCon, 2012	SoilCon, 2012. 'Water Inflow Interdiction and Containment Open Cut Pit' report reference 12092012.doc dated 12 September 2012. Unpublished report prepared by SoilCon Systems NT for McArthur River Mining Ltd.
Strenten-Joyce and Parry, 2012	Strenten-Joyce, C and Parry, D. 2012. McArthur River Mine: Annual marine monitoring program: 2011. April. Report Prepared by Australian Institute of Marine Science for McArthur River Mining, Winnellie, NT.
Strenten-Joyce, 2012	Strenten-Joyce, C. 2012. Analysis of Vibrios in Waters South West Gulf of Carpentaria. November. Report Prepared by Australian Institute of Marine

	Science for McArthur River Mining, Winnellie, NT.
Strenten-Joyce, 2013	Strenten-Joyce, C. 2013. Analysis of Vibrios in Waters South West Gulf of Carpentaria. September. Report Prepared by Australian Institute of Marine Science for McArthur River Mining, Winnellie, NT.
Strohmayr, 2014	Strohmayr, 2014. Pers.com., 26 March 2014.
Taylor, 2014	Taylor, Gary. 2014. Pers. com., 27 March 2014.
Thorburn, 2012a	Thorburn D. 2012a. Interim Report on the Aquatic Fauna of the McArthur River, Northern Territory, April and May 2012. Prepared by Indo-Pacific Environmental for McArthur River Mining, Winnellie, NT.
Thorburn, 2012b	Thorburn D. 2012b. Interim Report on the Aquatic Fauna of the McArthur River, Northern Territory, September 2012. Prepared by Indo-Pacific Environmental for McArthur River Mining, Winnellie, NT.
Thorburn, 2012c	Thorburn, D. 2012c. Monitoring of Metals and Lead Isotope Ratios in Fish, Crustaceans and Molluscs of the McArthur River, 2012. Prepared by Indo-Pacific Environmental for McArthur River Mining, Winnellie, NT.
Thorburn, 2012d	Thorburn, D. 2012d. Metal and Arsenic Concentrations of Near Shore Sediments of the Bing Bong Loading Facility, August 2012. Prepared by Indo-Pacific Environmental for McArthur River Mining, Winnellie, NT
Thorburn, 2013a	Thorburn D. 2013a. Interim Report on the Aquatic Fauna of the McArthur River, Northern Territory, Early Dry 2013. Prepared by Indo-Pacific Environmental for McArthur River Mining, Winnellie, NT.
Thorburn, 2013b	Thorburn D. 2013b. Interim Report on the Aquatic Fauna of the McArthur River, Northern Territory, Late Dry 2013. Prepared by Indo-Pacific Environmental for McArthur River Mining, Winnellie, NT.
Thorburn, 2013c	Thorburn, D. 2013c. Monitoring of Metals and Lead Isotope Ratios in Fish, Crustaceans and Molluscs of the McArthur River, 2013. Prepared by Indo-Pacific Environmental for McArthur River Mining, Winnellie, NT.
Thorburn, 2013d	Thorburn, D. 2013d. Annual Marine Monitoring Program, McArthur River Mine, December 2012. Prepared by Indo-Pacific Environmental for McArthur River Mining, Winnellie, NT
Thorburn, 2013e	Thorburn, D. 2013e. Metal and arsenic concentrations of near shore sediments of Bing Bong loading facility, August 2013. Prepared for McArthur River Mine. Indo-Pacific Environmental Pty Ltd.
Tongway & Ludwig, 2011	Tongway, D. & Ludwig, J., 2011. Ephemeral Drainage-line Assessments: Indicators of Stability. In: Restoring Disturbed Landscapes. .:Island Press/Center for Resource Economic, pp. 151-156.
Tsang and Butler, 2013	Tsang, J and Butler, E. 2013. Monitoring the Concentrations of Bioavailable Metals and Lead Isotope Ratios in Seawater by Diffusive Gradients in Thin-Films Deployed around Glencore Xstrata McArthur River Mine's Bing Bong Loading Facility: Review of 2012–13 data. October. Report Prepared by Australian Institute of Marine Science for McArthur River Mining, Winnellie, NT.
Tsang and Parry, 2012	Tsang, J and Parry D. 2012. Monitoring of bioavailable metal concentrations in seawater by Diffusive Gradients in Thin-films (DGTs) at the XstrataZinc McArthur River Mine loading facility at Bing Bong. August. Report Prepared by Australian Institute of Marine Science for McArthur River Mining, Winnellie, NT.
Ulan Coal Mines Ltd, 2013	Ulan Coal Mines Ltd, 2013. Goulburn River Diversion Remediation Plan, Environmental Management System,: Glencore./Ulan Coal Mine Ltd.
URS, 2004	URS 2004. Draft Report. Kinetic Leach Column Project: Stage 2 Project Review. 42605730/R001-A. 21 December 2004. Report prepared for McArthur River Mining Pty Ltd, McArthur River Mine.
URS, 2005a	URS 2005a. Final Report. Geochemical Assessment of Overburden and Tailing Materials Including Conceptual Design of Overburden Emplacement Area. Appendix to EIS for Proposed Expansion of McArthur River Mine. 42625552 (Previously 24061-015) R001A.DOC. 24 January 2005. Report prepared for McArthur River Mining Pty Ltd, McArthur River Mine.

URS, 2005b	URS 2005b. Draft Report. Kinetic Leach Column Project: MRM Overburden, Stage 3 Project Review. 42605730/R001-A_STAGE3. 24 October 2005. Report prepared for McArthur River Mining Pty Ltd, McArthur River Mine.
URS, 2005c	URS 2005c. McArthur River Mine Expansion, Evaluation of Pit Void Water Quality. Appendix to EIS for Proposed Expansion of McArthur River Mine. 30 June 2005. Report prepared for McArthur River Mining Pty Ltd, McArthur River Mine.
URS, 2006	URS 2006. Draft Report. Kinetic Leach Column Project: MRM Overburden, Stage 4 Project Review. 42605730/R001-A_STAGE4. 9 October 2006. Report prepared for McArthur River Mining Pty Ltd, McArthur River Mine.
URS, 2007	URS 2007. Report. Kinetic Leach Column Project: MRM Overburden, Stage 5 Project Review. 42625934. 7 November 2007. Report prepared for McArthur River Mining Pty Ltd.
URS, 2008	URS 2008. McArthur River Mine. Overburden Emplacement Facility (OEF) Design. Open Cut Project. Reference: 42625951. 30 July 2008. Report prepared for Xstrata.
URS, 2011a	URS 2011a. Stage 7 Kinetic Leach Column Program Update. 2 February 2011. Project No. 42626651. Letter prepared for Julie Crawford, McArthur River Mining Pty Ltd, McArthur River Mine.
URS, 2011b	URS 2011b. Stage 7 Kinetic Leach Column Program Update - April 2011. 5 May 2011. Project No. 42626651. Letter prepared for Julie Crawford, McArthur River Mining Pty Ltd, McArthur River Mine.
URS, 2012a	URS, 2012a. 'MRM Phase 3 Development Project EIS – Groundwater' report reference 42213965/R001/C dated 16 January 2012. Unpublished report prepared by URS Australia Pty Ltd for Mining & Energy Technical Services Pty Ltd.
URS, 2012b	URS 2012. 'TSF EM34 Geophysical Surveillance Survey McArthur River Mine' report reference 42213991/R001/B dated 7 December 2012. Unpublished report prepared by URS Australia Pty Ltd for McArthur River Mining Ltd.
van den Hoek and Ewers, 2013	van den Hoek, D and Ewers, G. 2013. McArthur River and Barney Creek Rechannel Revegetation Monitoring 2013. Report prepared by EcOz Environmental Services for McArthur River Mining, Winnellie, NT.
van den Hoek, 2012	van den Hoek, D. 2012. McArthur River and Barney Creek Rechannel Revegetation Monitoring 2012. Report prepared by EcOz Environmental Services for McArthur River Mining, Winnellie, NT.
Western Australian Government, 2011	Western Australian Government (2011). Guidelines for Preparing Mine Closure Plans. Prepared by Department of Mines and Petroleum and Environment Protection Authority
WRC, 2000	WRC (Water and Rivers Commission), 2000. Reprinted Reference Water Note WN19: Flood proofing fencing for waterways, Perth: Department of Water, Government of Western Australia.
WRM, 2012a	WRM, 2012a. Phase 3 Development Project Surface Water Assessment, WRM Water and Environment report No 0790-01-D dated 23 January 2012, prepared for Mining and Technical Services Pty Ltd.
WRM, 2012b	WRM, 2012b, 2012/2013 Site Water Balances McArthur River Mine and Bing Bong Port Facility, WRM Water and Environment report No 0790-02-D dated 21 September 2012, prepared for McArthur River Mining Pty Ltd.
WRM, 2012c	WRM, 2012c. Review of the 'As-Designed' and 'As-Constructed' McArthur River and Barney Creek Diversions. Report prepared by WRM Water and Environment for McArthur River Mining, Winnellie, NT.
WRM, 2012d	WRM, 2012d. McArthur River Mine, Phase 3 Development Project, Surface Water Assessment. Report prepared for Mining and Energy Technical Services Pty Ltd. Report Number: 0790-01-D. 23 January 2012.
WRM, 2013a	WRM 2013a, 2013/2014 Site Water Balances McArthur River Mine and Bing Bong Port Facility, WRM Water and Environment report No 0790-10-E_DRAFT dated 23 October 2013, prepared for McArthur River Mining Pty Ltd.

WRM, 2013b	WRM 2013b, Update to the McArthur River Mine 2012/2013 Site Water Balance without the Tailings Storage Facility Cell 4 Water Management Dam and Proposed Irrigation Scheme , WRM Water and Environment report No 0790-08 dated 9 August 2013, prepared for McArthur River Mining Pty Ltd.
Xstrata & MRM, 2013	Xstrata & MRM. 2013. Sustainable Development Mining Management Plan 2012-2013, July 2013. Unpublished report prepared by Xstrata Zinc and McArthur River Mining.

9. Definitions

9.1 Acronyms and Abbreviations

µg/m³	microgram per cubic metre
ANC	acid neutralisation capacity
AMD	acid and metalliferous drainage
AMMP	annual marine monitoring program
ANCOLD	Australian national committee on large dams
ANFO	ammonium nitrate fuel oil
ANZECC	Australian and New Zealand Environment Conservation Council
ARI	average recurrence interval
AS	Australian Standard
AS/NZS	Australian/New Zealand Standard
BBDDP	Bing Bong dredge discharge point
BCM	bank cubic metre, representing the content of a cubic metre of material in place, before it is drilled and blasted
BPEM	best practice environmental management
DME	Department of Mines and Energy
EIS	environmental impact statement
EMP	environmental management plan
EMS	environmental management system
EPROD	NOEF East PAF runoff dam
IM	Independent monitor
ISSTV	interim site specific trigger values

ISQG	interim sediment quality guideline
L/s	litres per second
LWD	large woody debris
Mdmt	million dry metric tonnes
ML	megalitres
MLN	mining lease number
ML/d	megalitres per day
Mm^3	million cubic metres
MMP	mining management plan
MPA	maximum potential acidity
MPC	maximum permitted concentration
MRM	McArthur River Mine
Mt CO_2-e	megatonnes of carbon dioxide equivalent
Mtpa	million tonne per annum
NAF	non–acid-forming
NAG pH	net acid generation pH
NAPP	net acid production potential
NOEF	northern overburden emplacement facility
pa	per annum
PAF	potentially acid-forming
PM_{10}	particulates with aerodynamic diameter less than 10 μm
$PM_{2.5}$	particulates with aerodynamic diameter less than 2.5 μm
PPE	personal protective equipment

ppm	parts per million
RL	reduced level
ROM	run of mine
SEPI	Sir Edward Pellew Group of Islands
SPD	NOEF southern PAF sediment dam
SPROD	NOEF southern PAF runoff dam
SEPROD	NOEF southeast PAF runoff dam
t	tonne(s)
TDS	total dissolved solids
tpa	tonnes per annum
TSF	tailings storage facility
TSP	total suspended particulate matter
WDL	water discharge licence
WEOF	western overburden emplacement facility
WMP	water management plan

9.2 Glossary

abiotic	Not involving biological activity.
acid neutralising capacity (ANC)	The soils natural resistance to acid generation. It is the number of moles of protons per unit mass of soil required to raise the pH of the soil by one pH unit. ANC is measured as percentage $CaCO_3$.
acid sulfate soil (ASS)	A soil containing iron sulfides deposited during either the Pleistocene or Holocene geological epochs (Quaternary aged) as sea levels rose and fell.
acidify	An addition of acid to lower pH.
alluvial	Describes material deposited by, or in transit in, flowing water.

aquifer	A rock or sediment in a formation, group of formations, or part of a formation which is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.
background	The natural level of a property.
baseline	An initial value of a measure.
base metal	A general term applied to relatively less expensive metals, such as copper, zinc, nickel, lead, tin, iron and aluminum.
berm	A cross-slope earthen bank constructed on reshaped spoil areas, typically at horizontal intervals of approximately 50 m and 1% to 1.5% longitudinal gradient, to reduce the effective slope length and control the runoff flow rate
bioremediation	The use of naturally occurring micro-organisms for the restoration of polluted environments, in particular of contaminated land, and/or the groundwater associated with it.
bioaccumulation	A process of concentration or accumulation within a 'food chain' of organisms.
bore	A hydraulic structure that facilitates the monitoring of groundwater level, collection of groundwater samples, or the extraction (or injection) of groundwater. Also known as a well, monitoring well or piezometer, although piezometers are typically of small diameter and only used for measuring the groundwater elevation or potentiometric surface.
borehole.	An uncased well drill hole.
buffer	An ionic compound, usually a salt of a weak acid or base, added to a solution to resist changes in its acidity or alkalinity and thus stabilise its pH.
catchment area	A recharge area or drainage basin and all areas that contribute water to it. The area that contributes water to a particular watercourse; a watershed.
cation exchange capacity (CEC)	The maximum positive charge required to balance the negative charge on colloids (clays and other charged particles). The units are milliequivalents per 100 grams of material or centimoles of charge per kilogram of exchanger.
clay	A soil material composed of particles finer than 0.002 mm. When used as a soil texture group such soils contain at least 35% clay.
competent rock	Rock that has been proven by wetting and drying techniques to resist rapid weathering and thus maintain erosion resistant capability and durability

competent spoil	Non-acid, non-dispersive durable spoil with sufficient rock content to resist erosion
composite sample	The bulking and thorough mixing of soil samples collected from more than one sampling location to form a single soil sample for chemical analysis.
concentrate	The product of the milling process, enriched in the valuable metal or mineral relative to the ore; typically a fine powder. The waste product of the concentration process is typically discarded as tailings.
conductivity (EC)	Conductivity of water is an expression of its ability to conduct an electric current. This property is related to the ionic content of the sample, which is in turn a function of the total dissolved (ionisable) solids (TDS) concentration. An estimate of TDS in fresh water can be obtained by multiplying EC by 0.65.
confined aquifer	An aquifer that is confined between two low-permeability aquitards. The groundwater in these aquifers is usually under hydraulic pressure, i.e., its hydraulic head is above the top of the aquifer.
confining layer	A layer with low vertical hydraulic conductivity that is stratigraphically adjacent to one or more aquifers. A confining layer is an aquitard. It may lie above or below the aquifer.
contaminant	Generally, any chemical species introduced into the soil or water. More particularly relates to those species that render soil or water unfit for beneficial use.
contamination	Is considered to have occurred when the concentration of a specific element or compound is established as being greater than the normally expected (or actually quantified) background concentration.
controlled discharge	Release of water from the mining lease into receiving water under conditions that meet a predetermined water quality standards.
cover material	Soil, alluvium, weathered basalt or other suitable plant growth medium placed on reshaped spoil surfaces; typically non crusting and low salinity .
diversion channel	Structures for the controlled diversion of drainage lines and watercourses around open cut pits and infrastructure areas
diffusion	A process by which species in solution move, driven by concentration gradients (from high to low).
dilution	The mixing of a small volume of contaminated leachate with a large volume of uncontaminated water. The concentration of contaminants is reduced by

	the volume of the lower concentrated water. However the physical process of dilution often causes chemical disequilibria resulting in the destruction of ligand bonds, the alteration of solubility products and the alteration of water pH. This usually causes precipitation by different chemical means of various species.
discrete sample	Samples collected from different locations and depths that will not be composited but analysed individually.
dispersion	A process by which species in solution mix with a second solution, thus reducing in concentration. In particular, relates to the reduction in concentration resulting from the movement of flowing groundwater.
dissolved oxygen (DO)	Oxygen in the gaseous phase dissolved in water. Measured either as a concentration in mg/L or as a percentage of the theoretical saturation point, which is inversely related to temperature. At 19, 20 and 21 degrees Celsius, the oxygen concentrations in mg/L corresponding to 100% saturation are 9.4, 9.2 and 9.0 respectively.
drawdown	Lowering of hydraulic head.
ecosystem	A community of organisms and their immediate physical, chemical and biological environment.
electrical conductivity (EC)	The EC of water is a measure of its ability to conduct an electric current. This property is related to the ionic content of the sample, which is in turn a function of the total dissolved (ionisable) solids (TDS) concentration. An estimate of TDS in fresh water can be obtained by multiplying EC by 0.65.
erosional stability	The ability of a rehabilitated area to resist the natural forces of soil erosion
flow path	The direction in which groundwater is moving.
fluvial	A material deposited by, or in transit, in streams or watercourses.
fracture	A break in the geological formation, e.g., a shear or a fault.
geotechnical stability	Resistance of a slope to mass movement
gradient	The rate of inclination of a slope. The degree of deviation from the horizontal; also refers to pressure.

groundwater	The water held in the pores in the ground below the water table.
groundwater elevation	The elevation of the groundwater surface measured relative to a specified datum such as the Australian Height Datum (m AHD) or an arbitrary survey datum onsite, or 'reduced level' (m RL).
gully erosion	The displacement of soil by running water that forms clearly defined, narrow channels that generally carry water only during or after heavy rain.
head space	The air space at the top of a soil or water sample.
heavy metals	All metallic elements whose atomic mass exceeds that of calcium (20) and includes lead (Pb), copper (Cu), Zinc (Zn), cadmium (Cd), and tin (Sn).
hydraulic conductivity (K)	A coefficient describing the rate at which water can move through a permeable medium. It has units of length per time. The units for hydraulic conductivity are typically m3/day/m2 or m/day.
hydraulic continuity	A water bridge or connection between two or more geological formations.
hydraulic gradient (i)	The rate of change in total head per unit of distance of flow in a given direction – the direction is that which yields a maximum rate of decrease in head. Hydraulic Gradient is unitless.
hydraulic head (h)	The sum of the elevation head and the pressure head at a point in an aquifer. This is typically reported as an elevation above a fixed datum, such as sea level.
hydrocarbon	A molecule consisting of carbon and hydrogen atoms only, such as found in petroleum.
hydrocarbon, volatile	A hydrocarbon with a low boiling point (high vapour pressure). Normally taken to mean those with ten (or less) carbon atoms per molecule.
in situ bioremediation	Bioremediation of contaminated soil or (ground)water undertaken without excavation (i.e., removal); literally 'Bioremediation in place'.
infiltration	The passage of water, under the influence of gravity, from the land surface into the subsurface.
injection well	A groundwater bore constructed for the purpose of pumping water into an aquifer.
ionic exchange	Adsorption occurs when a particle with a charge imbalance, neutralises this charge by the attraction (and subsequent adherence of) ions of opposite

	charge from solution. There are two types of such a charge: pH dependent; and pH independent or crystalline charge. Metal hydroxides and oxy-hydroxides represent examples of the former type, whilst clay minerals are representative of the latter and are normally associated with cation exchange.
ions	An ion is a charged element or compound as a result of an excess or deficit of electrons. Positively charged ions are called cations, while negatively charged ions are called anions. The major aqueous ions are those that dominate total dissolved solids (TDS). These ions include: Cl^-, SO_4^{2-}, HCO^{3-}, Na^+, Ca_2^+, Mg_2^+, K^+, NH_4^+, NO_3^-, NO_2^-, F^-, PO_4^{3-} and the heavy metals.
iron concretions	The accumulation of dissolved iron which results in the formation of soft to hard orange to red to maroon nodules, can be diffuse of concentrated. A result of periodic wetting and drying.
leachate	Water that flows through waste material (or other material) will liberate soluble molecules to form leachate.
lysimeter	A device for collecting drainage passing through overlying material. The term lysimeter is primarily used for field test apparatus. Lysimeters are installed in waste rock to measure the quality and/or quantity of drainage.
massive	Refers to the condition of the soil layer in which the layer appears to be as a coherent or solid mass which is largely devoid of peds.
maximum potential acidity	Determined by multiplying the Sulfide-S values (in %) by 30.6, which accounts for the reaction stoichiometry for the complete oxidation of pyrrotite and pyrite by O_2 to $Fe(OH)^3$ and H_2SO_4. MPA does not take into account the effect of any acid consuming materials in the rock material.
metalloid	A class of elements chemically intermediate in properties between metals and non-metals including boron, silicon, germanium, arsenic and tellurium.
micro-organism	Literally 'small organisms' because they usually cannot be observed without magnification. Includes viruses, bacteria, yeasts and fungi, and others.
mottled masses	Are blobs or blotches of subdominant, varying colours in the soil matrix.
net acid generation potential (NAGP)	The difference between the maximum potential acidity and acid neutralisation capacity reported on a kilogram H_2SO_4 production per tonne of soil.
organics	Chemical compounds comprising atoms of carbon, hydrogen and others (commonly oxygen, nitrogen, phosphorous, sulfur). Opposite is inorganic,

	referring to chemical species not containing carbon.
overburden	The layers of clay, rock and similar covering or overlying a useful ore deposit. Also referred to as waste rock.
oxidation	Was originally referred only to the addition of oxygen to elements. However oxidation now encompasses the broader concept of the loss of electrons by electron transfer to other ions.
parameters	A population value of a particular characteristic, which is descriptive of the distribution of a random variable.
permeability (k)	Property of porous medium relating to its ability to transmit or conduct liquid (usually water) under the influence of a driving force. Where water is the fluid, this is effectively the hydraulic conductivity. A function of the connectivity of pore spaces.
piezometric or potentiometric surface	A surface that represents the level to which water will rise in cased bores. The water table is the potentiometric surface in an unconfined aquifer.
pH.	A logarithmic index for the concentration of hydrogen ions in an aqueous solution, which is used as a measure of acidity.
plume	The spreading of a contaminant from a point source, under the influence of dispersion, diffusion and the like.
precipitation (chemical)	There are two types of precipitation, pH dependent precipitation and solubility controlled precipitation. As the pH is raised beyond a threshold level the precipitation of metal cations such as oxy-hydroxides and hydroxides occur. As the pH is raised further precipitation continues until there are very few metal cations remaining in solution. This reaction is entirely reversible. Solubility controlled precipitation occurs between two ions when, at a given temperature and pressure, the concentration of one of the ions exceeds a certain level.
profile	The solum. This includes the soil A and B horizons and is basically the depth of soil to weathered rock.
purge (wells)	The pumping out of well water to remove drilling debris or impurities; also conducted to bring fresh groundwater into the casing for sample collection. The later ensures that a more representative sample of an aquifer is taken.
putrescible waste	Food waste, waste consisting of animal matter (including dead animals or animal parts) or biosolids categorised as Stabilisation Grade C in accordance with the criteria set out in the Biosolids Guidelines.

QA/QC	Methods used to assure the quality of information in the planning/testing stages (QA) and to check the quality of the resulting information from the execution stage (QC).
recharge area	Location of the replenishment of an aquifer by a natural process such as addition of water at the ground surface, or by an artificial system such as addition through a well
recovery	The rate at which a water level in a well rises after pumping ceases.
remediation	The restoration of land or groundwater contaminated by pollutants, to a state suitable for other, beneficial uses.
representative sample	Assumed not to be significantly different than the population of samples available. In many investigations samples are often collected to represent the worst case situation.
siderite	A carbonate form of iron (Fe^{2+}), chemical composition $FeCO_3$. Commonly found in presence of sideroplesite ($MgCO_3$) within carbonaceous rocks, or as precipitation from carbonaceous groundwater.
rock mulch	Durable or competent rock purposely placed on an area under rehabilitation to provide additional resistance to erosion
sediment pond	Natural or constructed drainage impoundment used to reduce the concentration of suspended particles in surface run-off water or mine effluent prior to re-use or discharge to the environment.
standing water level (SWL)	The depth to the groundwater surface in a well or bore measured below a specific reference point – usually recorded as metres below the top of the well casing or below the ground surface.
stratigraphy	A vertical sequence of geological units.
subaerial	Occurring on the land surface.
subaqueous	Occurring under water.
subsidence	The downward settling of material with little horizontal movement.
subsoil	Subsurface material comprising the B and C horizons of soils with distinct profiles. They often have brighter colours and higher clay content than topsoils.
sulfide oxidation	Exothermic oxidation of chemically reduced sulfide (S^{2-}) to a partially or fully oxidized form, such as sulfate (SO_4^{2-}). One indication of sulfide oxidation is

	elevated sulfate concentrations in minesite drainage.
suspended solids (SS)	Matter which is suspended in water which will not pass through a 0.45 µm filter membrane.
topsoil	Part of the soil profile, typically the A1 horizon, containing material which is usually darker, more fertile and better structured than the underlying layers.
total dissolved salts (TDS)	The total dissolved salts comprise dissociated compounds and undissociated compounds, but not suspended material, colloids or dissolved gases.
toxicity	The inherent potential or capacity of a material to cause adverse effects in a living organism.
transmissivity	The rate at which water is transmitted through a unit width aquifer under a unit hydraulic gradient.
turbidity	Describes the degree of opaqueness produced in water by suspended particulate matter.
volatile	Having a low boiling or subliming pressure (a high vapour pressure).
waste rock	Rock with insufficient amounts of the economically valuable elements to warrant its extraction, but which has to be removed to allow physical access to the ore. Waste rock is typically blasted into smaller particles to allow its removal by truck and shovel.
water balance	A term used in the context of mining to describe an inventory of drainage inputs and outputs, water volumes and the rate of flow.
water quality criteria	Maximum or minimum values of physical, chemical or biological characteristics of water, biota or sediment whose exceedance under specified conditions may result in detrimental effects to a water use.
water table	The interface between the saturated zone and unsaturated zones. The surface in an aquifer at which pore water pressure is equal to atmospheric pressure.
well	A hydraulic structure that facilitates the monitoring of groundwater level, collection of groundwater samples, or the extraction (or injection) of groundwater. Also known as a bore.

Appendix 1

List of Documents

LIST OF DOCUMENTS USED IN THE ASSESSMENT

DME-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
1AssessmentsAudits	Audit2012	-	01 MDOC20128650.VMBX
1AssessmentsAudits	Audit2012	-	02a MDOC20128700.VMBX
1AssessmentsAudits	Audit2012	-	02b MDOC20128700.pdf
1AssessmentsAudits	Audit2012	-	03a MDOC20129591.VMBX
1AssessmentsAudits	Audit2012	-	03b MDOC20129591.pdf
1AssessmentsAudits	Audit2012	-	04 MDOC201305603.PDF
1AssessmentsAudits	Audit2013	-	01 MDOC201307573.VMBX
1AssessmentsAudits	Audit2013	-	02 MDOC201307651.VMBX
1AssessmentsAudits	Audit2013	-	03 MDOC201308855.VMBX
1AssessmentsAudits	Audit2013	-	04a MDOC201308959.VMBX
1AssessmentsAudits	Audit2013	-	04b MDOC201308959.pdf
1AssessmentsAudits	Audit2013	-	05 Draft Audit Report - Incomplete.pdf
1AssessmentsAudits	-	-	IM Request 1.docx
1AssessmentsAudits	MMP2012	-	01a MR20110464.pdf
1AssessmentsAudits	MMP2012	-	01b MR20110464.pdf
1AssessmentsAudits	MMP2012	-	01c MR20110464.zip
1AssessmentsAudits	MMP2012	-	02 MDOC20121610.PDF
1AssessmentsAudits	MMP2012	-	03 MR20120250.ZIP
1AssessmentsAudits	MMP2012	-	04 MDOC20125784.PDF
1AssessmentsAudits	MMP2013	-	01b MR20120527.ZIP
1AssessmentsAudits	MMP2013	-	02 MDOC201301262.pdf
1AssessmentsAudits	MMP2013	-	03a MDOC201301982.pdf
1AssessmentsAudits	MMP2013	-	03b MDOC201301982.VMBX
1AssessmentsAudits	MMP2013	-	03c MDOC201302000.VMBX
1AssessmentsAudits	MMP2013	-	04 MDOC201302079.PDF
1AssessmentsAudits	MMP2013	-	05 MDOC201303165.pdf
1AssessmentsAudits	MMP2014	-	01a MR20130482.pdf
1AssessmentsAudits	MMP2014	-	01b MR20130482.pdf
1AssessmentsAudits	MMP2014	-	01c MR20130482.pdf
1AssessmentsAudits	MMP2014	Appendix 7.1 Risk Assessment Matrix	Glencore Corporate Risk Management Guideline V1c.pdf
1AssessmentsAudits	MMP2014	Appendix 7.2 1 MRM Phase 3 EIS OEF Plan	-
1AssessmentsAudits	MMP2014	Appendix 7.2 5 Golders Geophysical Survey Report NOEF	GOLDER~1.PDF
1AssessmentsAudits	MMP2014	Appendix 7.2 6 Concept Design SEPROD & CEPROD	0790-03-I_Concept_Sizing_of_CEPROD.pdf
1AssessmentsAudits	MMP2014	Appendix 7.2 6 Concept Design SEPROD & CEPROD	Design Report MRM SEPROD and Levee -B.pdf
1AssessmentsAudits	MMP2014	Appendix 7.2 6 Concept Design SEPROD & CEPROD	MRM SEPROD specification rev 1.pdf
1AssessmentsAudits	MMP2014	Appendix 7.2 Golders Stability Analysis	GOLDER~2.PDF
1AssessmentsAudits	MMP2014	Appendix 7.2 Golders Stability Analysis	Golders Stability Analysis of the WOEF slope.pdf
1AssessmentsAudits	MMP2014	Appendix 7.2.2 NOEF Cover Design Geochemistry Review	130328~1.PDF
1AssessmentsAudits	MMP2014	Appendix 7.2.3 OKC NOEF Rehabilitation Cost Estimate	OKCCOS~1.PDF
1AssessmentsAudits	MMP2014	Appendix 7.2.4 WRM NOEF Flood Study	WRM NOEF Flood Study.pdf
1AssessmentsAudits	MMP2014	Appendix 7.2.8 WMS Review- Intech	INTECH MRM WMS Upgrade Concept RevF.doc
1AssessmentsAudits	MMP2014	Appendix 7.2.9 Waste Management	Appendix 7.2.9 Waste Management (URS2005).pdf
1AssessmentsAudits	MMP2014	Appendix 7.2.10 Waste Classification Guide	APPEND~1.PDF
1AssessmentsAudits	MMP2014	Appendix 7.3 Security Calculations	2014 MMP Security_Calculation_Form Final.xlsx
1AssessmentsAudits	MMP2014	Appendix 7.3 Security Calculations	Appendix 4.1 Monitoring Programme.xlsx
1AssessmentsAudits	MMP2014	Appendix 7.3 Security Calculations	Appendix 4.2 Erosion Photomonitoring.pdf
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW90.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW91A.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW91B.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW92A.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW92B.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW93.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW94D.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW94S.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW95D.jpeg
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1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW97.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW98D.jpeg
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1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW99D.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW99S.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW100.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW101D.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW101S.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW102.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW103D.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW103S.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW104D.jpeg

DME-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW104S.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW105.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW106.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW107.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW108.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW109.jpeg
1AssessmentsAudits	MMP2014	Appendix 4.3 2013 Groundwater Bore Logs	GW110.jpeg
1AssessmentsAudits	MMP2014	-	02 MDOC201401534 .pdf
1AssessmentsAudits	MMP2014	-	03 MDOC201401591.pdf
1AssessmentsAudits	MMP2014	-	04 MDOC201401935.pdf
1AssessmentsAudits	MMP2014	-	05 MDOC201401936.PDF
1AssessmentsAudits	MMP2014	-	06a MDOC201402195.PDF
1AssessmentsAudits	MMP2014	-	06b MDOC201402195.ZIP
1AssessmentsAudits	MMP2014	-	07 MDOC201402374.pdf
1AssessmentsAudits	MMPAmend1	-	01a MDOC20125521.PDF
1AssessmentsAudits	MMPAmend1	-	01b MR20120354.ZIP
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1AssessmentsAudits	MMPAmend1	-	03 MDOC20127031.PDF
1AssessmentsAudits	MMPAmend1	-	04 MDOC20127085.PDF
1AssessmentsAudits	MMPAmend1	-	05MDOC20127090.PDF
1AssessmentsAudits	MMPAmend1	-	06 MDOC20126350.PDF
1AssessmentsAudits	MMPAmend1	-	07a MDOC20128076.PDF
1AssessmentsAudits	MMPAmend1	-	07b MR20120514.ZIP
1AssessmentsAudits	MMPAmend1	-	08 MDOC20129160.VMBX
1AssessmentsAudits	MMPAmend1	-	09a MDOC20129711.VMBX
1AssessmentsAudits	MMPAmend1	-	09b MDOC20129711.pdf
1AssessmentsAudits	MMPAmend1	-	10 MDOC20129892.PDF
1AssessmentsAudits	MMPAmend1	-	11 MDOC201301709.PDF
1AssessmentsAudits	MMPAmend1	-	12 MDOC201302340.PDF
1AssessmentsAudits	MMPAmend2	-	01 MDOC20125856.pdf
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1AssessmentsAudits	WMP2012	-	16 MDOC20124144.PDF
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2ProceduresAssessmentsAudits	-	-	CP4-002 Audit Checklist.doc
2ProceduresAssessmentsAudits	-	-	CP4-003 Incident Notification Management Procedure.docx
2ProceduresAssessmentsAudits	-	-	CP4-004 Audit Grading System.doc
2ProceduresAssessmentsAudits	-	-	IM Request 2.docx
3ProceduresAssessingWMPMMP	-	-	AP2-003 Document Review Procedure.doc
3ProceduresAssessingWMPMMP	-	-	CP1-001 Existing Authorisation Administrative Procedure.doc
3ProceduresAssessingWMPMMP	-	-	CP1-002 Existing Authorisations Checklist.doc
3ProceduresAssessingWMPMMP	-	-	IM Request 3.docx
4ProceduresCheckMonitoring	-	-	AA7-024 Ground Water Sampling Methodology.docx
4ProceduresCheckMonitoring	-	-	AA7-025 Surface Water Sampling Methodology.docx
4ProceduresCheckMonitoring	-	-	Environmental Monitoring Unit Field Manual (Updated 2013).doc
4ProceduresCheckMonitoring	-	-	Environmental Monitoring Unit Laboratory Safety Manual (Updated2013).doc
4ProceduresCheckMonitoring	-	-	IM Request 4.docx
4ProceduresCheckMonitoring	Manual	-	1.0a Procedures Title Page.doc
4ProceduresCheckMonitoring	Manual	-	1.0b Procedures Manual Table of Contents.doc
4ProceduresCheckMonitoring	Manual	-	1.1 Field Trip Paper trail.doc
4ProceduresCheckMonitoring	Manual	-	1.2 Flow Chart.doc
4ProceduresCheckMonitoring	Manual	-	1.3 Field Trip Check List.xls
4ProceduresCheckMonitoring	Manual	-	1.3.1 Rum Jungle Field Trip Check List RJM 2013_Final.xls
4ProceduresCheckMonitoring	Manual	-	1.4 Packing the Lab Truck.doc

DME-SUPPLIED DOCUMENTS			
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4ProceduresCheckMonitoring	Manual	-	1.5 Inventory for Lab Truck Mud Maps.xls
4ProceduresCheckMonitoring	Manual	-	1.5.1 Lab Truck Mud Map-Roof and Cabin.doc
4ProceduresCheckMonitoring	Manual	-	1.5.2 Lab Truck Mud Map-Laboratory Module.doc
4ProceduresCheckMonitoring	Manual	-	1.6 Electrical Conductivity Standard Selection for the Field.doc
4ProceduresCheckMonitoring	Manual	-	1.7 pH Standard Selection for the Field.doc
4ProceduresCheckMonitoring	Manual	-	1.8 Quality Control Check List.doc
4ProceduresCheckMonitoring	Manual	-	2.1 pH Standards Preparation.doc
4ProceduresCheckMonitoring	Manual	-	2.2 Zobells Standard Solution Preparation.doc
4ProceduresCheckMonitoring	Manual	-	2.3 Electrical Conductivity Standards Preparation.doc
4ProceduresCheckMonitoring	Manual	-	3.1 YSI DO200 Dissolved Oxygen Meter Calibration .doc
4ProceduresCheckMonitoring	Manual	-	3.2 pH Calibration-Bench TPS labCHEM-C.doc
4ProceduresCheckMonitoring	Manual	-	3.3 pH Calibration-Field YSI pH100.doc
4ProceduresCheckMonitoring	Manual	-	3.4 Pipette Calibration.doc
4ProceduresCheckMonitoring	Manual	-	3.4.1 Pipette Calibration Sheet.xls
4ProceduresCheckMonitoring	Manual	-	3.5 Electrical Conductivity Calibrations-Bench Meters.doc
4ProceduresCheckMonitoring	Manual	-	3.6 Electrical Conductivity Calibration-Field Meter YSI EC300.doc
4ProceduresCheckMonitoring	Manual	-	3.7 mV Calibration-Field Meter YSI pH100.doc
4ProceduresCheckMonitoring	Manual	-	3.8 Ground Water and Surface Water Field Sampling Sheets.xlsx
4ProceduresCheckMonitoring	Manual	-	3.9 Turbidity-Field Meter Orion AQ3010 Calibration.doc
4ProceduresCheckMonitoring	Manual	-	3.10 Calibration Hanna instrument held by DoR alice springs Hi98130.doc
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4ProceduresCheckMonitoring	Manual	-	4.2 Blank Sampling Procedure.doc
4ProceduresCheckMonitoring	Manual	-	4.3 Duplicate Sampling Procedure.doc
4ProceduresCheckMonitoring	Manual	-	4.4 Control Sampling Procedure.doc
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4ProceduresCheckMonitoring	Manual	-	4.6 Cyanide WAD and Total Sampling Procedures.doc
4ProceduresCheckMonitoring	Manual	-	4.7 Surface Water Sampling Procedure.doc
4ProceduresCheckMonitoring	Manual	-	4.8 Suspended Solids Procedure.doc
4ProceduresCheckMonitoring	Manual	-	4.9 Acidity Digital Titrator Test Method .doc
4ProceduresCheckMonitoring	Manual	-	4.10 Alkalinity Digital Titrator Test Method .doc
4ProceduresCheckMonitoring	Manual	-	4.11 Discharge or Flow Rate Procedure.doc
4ProceduresCheckMonitoring	Manual	-	4.11.1 Discharge or Flow Rate Calculation Sheet.xls
4ProceduresCheckMonitoring	Manual	-	4.11.2 Discharge or Flow Rate Record Field Sheet.xls
4ProceduresCheckMonitoring	Manual	-	4.13 Turbidity-Field Meter HI 93703 Operation .doc
4ProceduresCheckMonitoring	Manual	-	4.14 Dissolved Oxygen - DO200 Meter Operation.doc
4ProceduresCheckMonitoring	Manual	-	4.15 pH Operation-Field YSI pH100.doc
4ProceduresCheckMonitoring	Manual	-	4.16 Electrical Conductivity Operation-Field YSI EC300.doc
4ProceduresCheckMonitoring	Manual	-	4.17 mV Operation-Field YSI pH100.doc
4ProceduresCheckMonitoring	Manual	-	4.18 Alkalinity and Acidity Method.doc
4ProceduresCheckMonitoring	Manual	-	5.1 Inline Filtering Procedure.doc
4ProceduresCheckMonitoring	Manual	-	5.2 Syringe Filtering Procedure.doc
4ProceduresCheckMonitoring	Manual	-	5.3 Vacuum Filtering Procedure.doc
4ProceduresCheckMonitoring	Manual	-	5.4 Washing Filter Units in the Field.doc
4ProceduresCheckMonitoring	Manual	-	6.1 Preservation Techniques for Heavy Metal, Cation, Ammonium, Nutrient and Anion Samples.doc
4ProceduresCheckMonitoring	Manual	-	6.2 Sample Preservation and Storage.xls
4ProceduresCheckMonitoring	Manual	-	6.3 Sediment Sample Preparation Particle Separation .docx
4ProceduresCheckMonitoring	Manual	-	6.3 Sediments Sieving Calculation.xlsx
4ProceduresCheckMonitoring	Manual	-	7.1 Acid Dispensing.doc
4ProceduresCheckMonitoring	Manual	-	7.2 Acidification Notice.doc
4ProceduresCheckMonitoring	Manual	-	8.1 Entering Field Data into SLOG.doc
4ProceduresCheckMonitoring	Manual	-	8.2 Importing Data into SLOG.doc
4ProceduresCheckMonitoring	Manual	-	8.2.1 Importing Data Into SLOG-Trouble Shooting-Where Row 1 Contains cc After The Element.doc
4ProceduresCheckMonitoring	Manual	-	8.3 SLOG Site Naming Protocol.doc
4ProceduresCheckMonitoring	Manual	-	8.4 Importing Return Chemical Analysis Report Data into DEEP System Database.doc
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4ProceduresCheckMonitoring	Manual	-	10.3 Bottle Washing.doc
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4ProceduresCheckMonitoring	Manual	-	11.2 Lab Truck Daily Checks, Operational and Maintenance Procedures.doc
4ProceduresCheckMonitoring	Manual	-	11.3 Washroom Cleaning Procedure.doc
4ProceduresCheckMonitoring	Manual	-	11.4 Daily Checks.doc
4ProceduresCheckMonitoring	Manual	-	11.5 Emergency Eyewash and Shower Maintenance Record Sheets.xls
4ProceduresCheckMonitoring	Manual	-	11.6 Gallay Lab 999 Micro Washing Instructions Notice.doc
4ProceduresCheckMonitoring	Manual	-	11.7 Sample Bottles and Equipment Cleaning Procedure.doc
4ProceduresCheckMonitoring	Manual	-	12.1 Sample Security During a Cyclone Watch or Warning.doc
4ProceduresCheckMonitoring	Manual	-	12.2 Winch Operation, Safety and Maintenance.doc
4ProceduresCheckMonitoring	Manual	-	13.1 Environmental Monitoring Unit Overtime and TOIL Procedure.doc
4ProceduresCheckMonitoring	Manual	-	13.1.1 Overtime and TOIL Administration Procedure.doc
4ProceduresCheckMonitoring	Manual	-	13.1.2 Lodging an Overtime and TOIL Claim.doc
4ProceduresCheckMonitoring	Manual	-	13.2 Brother MFC-6490CW LAN Manual.pdf
4ProceduresCheckMonitoring	Manual	-	13.3 Ionic Balance Calculations.xlsx
4ProceduresCheckMonitoring	Manual	-	13.3 Purchasing Procedure_DRAFT.docx
4ProceduresCheckMonitoring	Manual	-	13.4 Motorola-9505-phone-user-guide.pdf
4ProceduresCheckMonitoring	Manual	-	13.5 EMU OBIS Field Visit Entry .docx
4ProceduresCheckMonitoring	Manual	-	13.6 EMU File and TRIM Documents.docx
4ProceduresCheckMonitoring	Manual	-	13.7 OK TO PAY NTEL Invoices.docx
4ProceduresCheckMonitoring	Manual	-	14.1 Logger Placement Procedure .docx
4ProceduresCheckMonitoring	Manual	-	BA_Eppendorf_Reference_4910_900_159-02_1010_en_online[1].pdf
4ProceduresCheckMonitoring	Manual	-	Digital Titrator Manual.pdf
4ProceduresCheckMonitoring	Manual	-	Field Trip Check List RJM 2013_CE edits.xls
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5CheckMonitoring	-	-	IM Request 5.docx
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6Section29	-	-	25MDOC201308930.msg
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6Section29	Diesel Spill	-	03 MDOC20112316.pdf
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6Section29	Diesel Spill	-	11 MDOC20112951.pdf
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6Section29	Diesel Spill	-	14 MDOC20113595.pdf
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6Section29	Diesel Spill	-	17G MR20110374.pdf
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6Section29	Diesel Spill	-	48 MDOC201307597.msg
6Section29	Diesel Spill	-	49 MDOC201307669.DOC
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6Section29	-	-	IM Request 6.docx
DME	2012 Compliance Audit		MRM 20121127 Legislative Compliance Audit Final.docx
DME	2012 Compliance Audit		MRM 201307 Draft Audit Report Cover Letter.doc
DME Letters to EPA 2013-2018MMP			01 Referral Letter to EPA NT - 2013 - 2018 MMP - McArthur River Mine - McArthur River Mining Pty Ltd (MRM).PDF
DME Letters to EPA 2013-2018MMP			02 Letter out - Request for Additional Information - MMP 2013-2018 - McArthur River Mine - 49089897019.PDF
DME Letters to EPA 2013-2018MMP			03a Letter in - Additional Waste Classification and NOEF design information from McArthur River Mine - MRM via EPA.PDF
DME Letters to EPA 2013-2018MMP			03b Attachments- Waste Classification and NOEF design information from McArthur River Mine - MRM via EPA.ZIP
DME Letters to EPA 2013-2018MMP			04 Response to EPA for the Assessment under~al Assessment Act - McArthur River Mine Project - McArthur River Mining Pty Ltd.PDF
DME Letters to EPA 2013-2018MMP			05 Letter out - MMP 2013-2018 - McArthur River Mine - 490898963011.PDF
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DMEdocumentsforIM	WMP2012		11b MR20120020.zip
DMEdocumentsforIM	WMP2012		12 MDOC20121064.pdf
DMEdocumentsforIM	WMP2012		13 MDOC20122161.pdf
DMEdocumentsforIM	WMP2012		14 MDOC20122317.pdf
DMEdocumentsforIM	WMP2012		15 MDOC20123558.pdf
DMEdocumentsforIM	WMP2012		16 MDOC20124144.PDF

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
1 Flora monitoring			2014 Propagation Target - Species Breakup.msg
1 Flora monitoring	Aerial Weed Spray Logs		130129 Spray Sheet MRM Devil Claw.pdf
1 Flora monitoring	Aerial Weed Spray Logs		130201 Spray Sheet MRM Airport.pdf
1 Flora monitoring	Aerial Weed Spray Logs		130515 Spray Map MRM Airport.kmz
1 Flora monitoring	Aerial Weed Spray Logs		130515 Spray Map MRM Devil Claw.kmz
1 Flora monitoring	Aerial Weed Spray Logs		140222 Spary Map MRM Devil Claw.kmz
1 Flora monitoring	Aerial Weed Spray Logs		140222 Spray Sheet MRM Devil Claw.pdf
1 Flora monitoring	Aerial Weed Spray Logs		140223 Spray Map MRM Airport.kmz
1 Flora monitoring	Aerial Weed Spray Logs		140223 Spray Sheet MRM Airport.pdf
1 Flora monitoring			GEN-ENV-PLN 6040-0006 Weed Management Plan 2012-2013 Issue 3.doc
1 Flora monitoring			GEN-ENV-PLN 6040-0006 Weed Management Plan 2013 -2014_v4.doc
1 Flora monitoring			GEN-ENV-PLN-6040-0005 Rechannel Rehabilitation Plan I005 Rev0.doc
1 Flora monitoring			McArthur and Barney Photomonitoring_2013 .xlsx
1 Flora monitoring			Nursery Stock Register 2014.xlsx
1 Flora monitoring			Planting Register 2013.xlsx
1 Flora monitoring			PO G69687 Seed Order 2014.pdf
1 Flora monitoring			PO G69836 Seed Order 2014.pdf
1 Flora monitoring			PO G69837 Seed Order 2014.pdf
1 Flora monitoring			PO G71914 Tubestock Order 2014.pdf
1 Flora monitoring	Revegetation monitoring		EZ12024-C0301-EC-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring 2012_0.pdf
1 Flora monitoring	Revegetation monitoring		MRM Reveg Monitoring 2012 Appendices.pdf
1 Flora monitoring	Revegetation monitoring		EZ13034-C0301-MON-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring_2013_0.pdf
1 Flora monitoring	Revegetation monitoring		MRM Revegetation Appendices 2013.pdf
1 Flora monitoring	Revegetation monitoring		ADM-ENV-PRO-6040-0027 Rechannel Revegetation Monitoring Procedure Rev 0.docx
1 Flora monitoring			Weeds Spraying Register 2013-14.xlsx
2 Fauna monitoring			12003 MRM Aquatic Monitoring ED 2012_Final to Client_280812_lock.pdf
2 Fauna monitoring			12003 MRM Aquatic Monitoring LD 2012_ FInal to Client_291012_with figs lock.pdf
2 Fauna monitoring			12004 Monitoring of metals and lead isotopes ratios in fish crustaceans and molluscs McArthur Rivers 2012_Final to Client_100314.pdf
2 Fauna monitoring			13002 MRM Aquatic Monitoring LD 2013_ Final to Client_100314.pdf
2 Fauna monitoring			13002_MRM_Aquatic_Monitoring_ED_2013__Final to client_231013.pdf
2 Fauna monitoring			13003 Monitoring of metals and lead isotopes ratios in fish crustaceaeans and molluscs of the McArthur River 2013_Final to Client_100314.pdf
2 Fauna monitoring			McArthur River Mine mosquito 11-12 Final report.pdf
2 Fauna monitoring			McArthur River Mine mosquito report 2012 2013.pdf
2 Fauna monitoring			MR Gouldian Finch Preliminary Assessment TSF 29 - 3 - 2013 FINAL.pdf
2 Fauna monitoring			MRM Macroinvertebrate Assessment FINAL 6 feb 2014 L.pdf
2 Fauna monitoring			MRM Macroinvertebrates 2012 FINAL 14 DEC 2012 L.pdf
2 Fauna monitoring			PM MIG BIRDS NSTAGE 2013 16-7-2013 FINAL REPORT L.pdf
2 Fauna monitoring			PM MIG BIRDS NTHN STAGE 2012 Rev~1 4-5-2012 l.pdf
2 Fauna monitoring			PM Mig Birds SUMMER 2013 FINAL 16-7-2013 L.pdf
2 Fauna monitoring			PM Migratory Birds WS 2012 1-3-2012 F.pdf
2 Fauna monitoring			Riparian Birds JUNE 2012 FINAL 14 DEC 2012 L.pdf
2 Fauna monitoring			Riparian Birds MAY 2013 FINAL AUG 2013 FD.pdf
2 Fauna monitoring			Riparian Birds NOV 2012 FINAL 20 December 2012 L.pdf
2 Fauna monitoring			Riparian Birds SEPT 2013 Final 10 - 3 - 2014 L.pdf
2 Fauna monitoring			Sawfish Management Plan 2009.pdf
3 Marine			12002_Bing Bong Near -shore Sediment_230912_To client.pdf
3 Marine			12005_Annual Marine Monitoring_040713_Final to client.pdf
3 Marine			120501 MRM annual report 2012 Draft for review.docx
3 Marine			13004_Bing Bong Near shore Sediment_051113_Final.pdf
3 Marine			13007 MRM Bing Bing Seagrass Suvery 2013_ Final to Client_100314.pdf
3 Marine			130809 R B20354 001 00 Coastal_Modelling_lowres.pdf
3 Marine			2012 BBLF annual seagrass monitoring report.pdf
3 Marine			2012 EZ12039-C0301-EIA-R-0002 Vegetation Monitoring of Dredge Spoil at Bing Bong Port_1_0.pdf
3 Marine			2013 EZ13031-C0301-MON-R-0001 Vegetation Monitoring of the Dredge Spoil Area at Bing Bong 2013_2.pdf
3 Marine			ADM-ENV-PRO-6040-0025 DGT Monitoring Procedure.pdf
3 Marine			Bing Bong Dredge Spoil Veg Monitoring 2013 Appendices.pdf
3 Marine			Investigation of discharge from Bing Bong Settlement Ponds y_Report_Final_20130819.pdf
3 Marine			LTR MRM Environmental Monitoring Program Review.pdf
3 Marine			MRM DGT 2011-12 final report 20120813.pdf
3 Marine			MRM DGT 2012-13 final report + app 20131004.pdf
3 Marine			Vibrio report Nov 2012 final.pdf
3 Marine			Vibrio report Sep 2013 final.pdf
4 Surface water and artificial water monitoring docs			130116 LTR MRM Environmental Monitoring Program Review.pdf
4 Surface water and artificial water monitoring docs			130213 LTR MRM Environmental Monitoring Program Review (2).pdf
4 Surface water and artificial water monitoring docs			2011-2012 MMP Appendix 1 Environmental Monitoring program.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120710MD	ASW-MONTHLY120710MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120710MD	ASW-MONTHLY120710MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120710MD	NT33068 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120710MD	NT33068 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120710MD	SRA NT33068 ASW-MONTHLY120710MD 11072012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120711MD	ASW-MONTHLY120711MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120711MD	Complete - ASW-MONTHLY120307MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120711MD	Field Sheets - ASW-MONTHLY120711MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120711MD	Field Sheets-ASWBB-MONTHLY120712MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120711MD	NT33145 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120711MD	NT33145 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120711MD	SRA NT33145 ASW-MONTHLY120711MD 13072012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120223MH	Complete - ASW120223MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120223MH	NT31429 MRM.xlsx

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120223MH	Sample Receipt MRM ASW120223MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120719FMD	ASW120719FMD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120719FMD	Feild sheet.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120719FMD	NT33225 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120719FMD	NT33225 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120719FMD	SRA NT33225 ASW120719FMD 20072012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120807MD	ASW120807MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120807MD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120807MD	NT33340 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120807MD	NT33340 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120807MD	SRA NT33340 ASW120807MD 08082012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120808MD	ASW120808MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120808MD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120808MD	NT33399 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120808MD	NT33399 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120808MD	SRA NT33399 ASW120808MD 0809082012 10082012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120815FMD	ASW120815FMD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120815FMD	Field Data - ASW120815FMD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120815FMD	NT33472 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120815FMD	NT33472 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120815FMD	SRA NT33472 ASW120815FMD 15082012 17082012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919FMD	ASW120919FMD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919FMD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919FMD	NT33826 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919FMD	NT33826 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919FMD	SRA NT33826 ASW120919FMD 20092012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MD	Field_Sheets_120918.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MD	NT33809 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MD	NT33809 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MD	SRA NT33809 ASW120919MD 19092012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MD	Submission_Form.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MD	Submission_Form_Field_Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MMD	ASW120919MMD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MMD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MMD	NT33827 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MMD	NT33827 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MMD	SRA NT33827 ASW120919MMD 20092012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120919MMD	Submission Form.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120927MMD	ASW120927MMD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120927MMD	Field Sheet ASW9 120930.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120927MMD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120927MMD	NT33874 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120927MMD	NT33874 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120927MMD	SRA NT33874 ASW120927MMD 28092012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121002FMD	ASW121002FMD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121002FMD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121002FMD	NT33954 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121002FMD	NT33954 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121002FMD	SRA NT33954 ASW121002FMD 03102012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121011MD	ASW121011MD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121011MD	Field Sheets 121011.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121011MD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121011MD	NT34039 MRM.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121011MD	NT34039 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121011MD	SRA NT34039 ASW121011MD 12102012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017FMD	ASW121017FMD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017FMD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017FMD	NT34120 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017FMD	NT34120 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017FMD	SRA NT34120 ASW121017FMD 18102012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017MD	ASW121017MD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017MD	Field Sheets 121016.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017MD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017MD	NT34121 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017MD	NT34121 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121017MD	SRA NT34121 ASW121017MD 18102012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121031MDF	ASW121031MDF.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121031MDF	Field Sheet.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121031MDF	NT34278 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121031MDF	NT34278 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121031MDF	SRA NT34278 ASW121031MDF 02112012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-BIAN	ASW121114MD-BIAN.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-BIAN	Field Sheets 121113.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-BIAN	Field Sheets 121114.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-BIAN	NT34448 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-BIAN	NT34448 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-BIAN	SRA NT34448 ASW121114MD-BIAN 15112012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-F	ASW121114MD-F.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-F	Field Sheets 121113.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-F	NT34447 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-F	NT34447 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-F	SRA NT34447 ASW121114MD-F 15112012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-M	ASW121114MD-M.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-M	Field Sheets 121113.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-M	Field Sheets 121114.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-M	NT34449 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-M	NT34449 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121114MD-M	SRA NT34449 ASW121114MD-M 15112012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121128MD-F	ASW121128MD-F.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121128MD-F	Field Sheet.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121128MD-F	NT34610 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121128MD-F	NT34610 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121128MD-F	SRA NT34610 ASW121128MD-F 29112012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121203MD-M	ASW121203MD-M.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121203MD-M	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121203MD-M	NT34626 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121203MD-M	NT34626 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121203MD-M	SRA NT34626 ASW121203MD-M 03-04122012 04122012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121204MD-M	ASW121204MD-M.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121204MD-M	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121204MD-M	NT34681 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121204MD-M	NT34681 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121204MD-M	SRA NT34681 ASW121204MD-M 06122012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD	ASW121212MD .docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD	Field Sheet.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD	NT34762 MRM.pdf

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Level 1	**Level 2**	**Level 3**	**Document File Name**
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD	NT34762 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD	SRA NT34762 ASW121212MD 13122012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD-F	ASW121212MD-F .docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD-F	Field Sheet.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD-F	NT34764 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD-F	NT34764 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121212MD-F	SRA NT34764 ASW121212MD-F 13122012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121226MD-F	ASW121226MD-F .docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121226MD-F	ASW121226MD-F Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121226MD-F	NT34900 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121226MD-F	NT34900 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121226MD-F	NT34900P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW121226MD-F	SRA NT34900 ASW121226MD-F 28122012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120906CH	ASWBB120906CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120906CH	Field Sheets BB.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120906CH	NT33678 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120906CH	NT33678 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120906CH	SRA NT33678 ASWBB120906CH 07092012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120705MH	ASWFORTNIGHTLY120705MH.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120705MH	Field Data - ASWFORTNIGHTLY120705MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120705MH	NT33043 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120705MH	NT33043 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120705MH	SRA NT33043 ASWFORTNIGHTLY120705MH 06072012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120802CH	ASWFORTNIGHTLY120802CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120802CH	Field Data - ASWFORTNIGHTLY120802CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120802CH	NT33325 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120802CH	NT33325 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120802CH	SRA NT33325 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120830MH	ASWFORTNIGHTLY120830MH.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120830MH	Field Data - ASWFORTNIGHTLY120830MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120830MH	NT33602 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120830MH	NT33602 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120830MH	SRA NT33602 ASWFORTNIGHTLY120830MH 29082012 31082012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120807CH	ASWMONTHLY120807CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120807CH	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120807CH	NT33330 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120807CH	NT33330 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120807CH	SRA NT33330 ASWMONTHLY120807CH 07082012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120821CH	ASWMONTHLY120821CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120821CH	ASWMONTHLY120821CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120821CH	NT33505 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120821CH	NT33505 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWMONTHLY120821CH	SRA NT33505 ASWMONTHLY120821CH 21082012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	VR200_120808MD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	VR200_120808MD	NT33398 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	VR200_120808MD	NT33398 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	VR200_120808MD	SRA NT33398 VR200_120808MD 08082012 10082012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	VR200_120808MD	VR200_120808MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120613MD	ASW-BIAN120613MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120613MD	ASW-BIAN120613MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120613MD	COMPLETE - ASW-BIAN120613MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120613MD	NT32827 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120613MD	NT32827 MRM.xls

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120613MD	SRA NT32827 ASW-BIAN120613MD 13062012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	ASW-BIAN120614MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	ASW-BIAN120614MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	ASW-BIAN120614MD[AMENDED].docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	COMPLETE - ASW-BIAN120614MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	data sheets BB.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	Field Data - ASWBIAN120614MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	NT32840 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	NT32840 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120614MD	SRA NT32840 ASW-BIAN120614MD 15062012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120619MD	ASW-BIAN120619MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120619MD	ASW-BIAN120619MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120619MD	COMPLETE - ASW-BIAN120619MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120619MD	NT32880 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120619MD	NT32880 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-BIAN120619MD	SRA NT32880 ASW-BIAN120619MD 20062012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-FORT120329CH	ASW-FORT120329CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-FORT120329CH	Complete - ASW-FORT120329CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-FORT120329CH	Field Data - ASW-FORT120329CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-FORT120329CH	Final Report - NT31990 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-FORT120329CH	NT31990 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-FORT120329CH	RECEIPT ASW-FORT120329CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MISC120111MD	ASW-MISC120111MD Receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MISC120111MD	ASW-MISC120111MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MISC120111MD	Complete - ASW-MISC120111MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MISC120111MD	Field Data - ASW-MISC120111MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MISC120111MD	Final Report - ASW-MISC120111MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MISC120111MD	NT30563 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120208MD	ASW-MONTHLY120208MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120208MD	Complete - ASW-MONTHLY120208MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120208MD	Field Data - ASW-MONTHLY120208MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120208MD	Final Report - ASW-MONTHLY120208MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120208MD	NT31053 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120208MD	Sample Receipt MRM ASW-MONTHLY120208MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120214MD	ASW-MONTHLY120214MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120214MD	Complete - ASW-MONTHLY120214MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120214MD	Field Data - ASW-MONTHLY120214MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120214MD	Final Report - ASW-MONTHLY120214MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120214MD	NT31099 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120214MD	Sample Receipt MRM ASW-MONTHLY120214MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120215MD	ASW-MONTHLY120215MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120215MD	Complete - ASW-MONTHLY120215MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120215MD	Field Data - ASW-MONTHLY120215MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120215MD	Final Report - ASW-MONTHLY120215MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120215MD	NT31117 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120215MD	Sample Receipt MRM ASW-MONTHLY120215MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120222MH	ASW-MONTHLY120222MH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120222MH	Complete - ASW-MONTHLY120222MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120222MH	Final Report- ASWmonthly120222MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120222MH	NT31434 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120222MH	Sample Receipt MRM ASW-MONTHLY120222MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120307MD	ASW-MONTHLY120307MD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120307MD	Complete - ASW-MONTHLY120307MD.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120307MD	Field Data - ASW-MONTHLY120307MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120307MD	NT31670 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120307MD	NT31670 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120307MD	SRA NT31670 ASW-MONTHLY120307MD 090312.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120308MH	ASW-MONTHLY120308MH.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120308MH	Complete - ASW-MONTHLY120308MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120308MH	Name change since sample collection.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120308MH	NT31668 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120308MH	NT31668 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120308MH	SRA NT31668 ASW-MONTHLY120308MH 090312.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120312MD	ASW-MONTHLY120312MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120312MD	Complete - ASW-MONTHLY120312MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120312MD	Field Data - ASW-MONTHLY120312MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120312MD	NT31699 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120312MD	NT31699 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120312MD	SRA NT31699 ASW-MONTHLY120312MD 13032012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120313MD	ASW-MONTHLY120313MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120313MD	Complete - ASW-MONTHLY120313MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120313MD	Field Data - ASW-MONTHLY120313MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120313MD	NT31787 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120313MD	NT31787 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120313MD	SRA NT31787 ASW-MONTHLY120313MD 14032012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120418MD	ASW-MONTHLY120418MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120418MD	COMPLETE - ASW-MONTHLY120418MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120418MD	Field Data - ASW-MONTHLY120418MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120418MD	NT32182 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120418MD	NT32182 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120418MD	SRA NT32182 ASW-MONTHLY120418MD 18042012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120515CH	ASW-MONTHLY120515CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120515CH	COMPLETE - ASW-MONTHLY120515CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120515CH	Field Data - ASW-MONTHLY120515CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120515CH	NT32484 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120515CH	NT32484 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120515CH	SRA NT32484 ASW-MONTHLY120515CH 15052012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120523MD	ASW-MONTHLY120523MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120523MD	COMPLETE - ASW-MONTHLY120523MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120523MD	Field Sheet - ASW-MONTHLY120523MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120523MD	NT32541 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120523MD	NT32541 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120523MD	receipt.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	ASW-MONTHLY120524MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	COMPLETE - ASW-MONTHLY120524MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	Field Data CRP, APP - ASW-MONTHLY120524MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	Field Data TSFLB2&3 - ASW-MONTHLY120524MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	Field Sheet - ASW-MONTHLY120524MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	Field Sheets BB - ASW-MONTHLY120524MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	NT32633 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	NT32633 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-MONTHLY120524MD	SRA 32633 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120116MD	ASW-QUARTERLY120116MD Receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120116MD	ASW-QUARTERLY120116MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120116MD	Complete - ASW-QUARTERLY120116MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120116MD	Field Data - ASW-QUARTERLY120116MD.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	**Level 2**	**Level 3**	**Document File Name**
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120116MD	Final Report - ASW-QUARTERLY120116MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120116MD	NT30668 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120117MD	ASW-QUARTERLY120117MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120117MD	ASW-QUARTERLY120117MDReceipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120117MD	Complete - ASW-QUARTERLY120117MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120117MD	Field Data - ASW-QUARTERLY120117MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120117MD	Final Report - ASW-QUARTERLY120117MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW-QUARTERLY120117MD	NT30682 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120104MD	ASW120104MD Receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120104MD	ASW120104MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120104MD	Complete - ASW120104MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120104MD	Field Data - ASW120104MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120104MD	Hard Copy Report - ASW120104MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120104MD	NT30443 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120105MD	ASW120105MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120105MD	Complete ASW120105MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120105MD	Field Data - ASW120105MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120105MD	Hard Copy Report - ASW120105MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120105MD	NT30461 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120105MD	SRA 30461 MRM - ASW120105MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120111MD	ASW120111MD - Receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120111MD	ASW120111MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120111MD	Complete - ASW120111MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120111MD	Field Data - ASW120111MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120111MD	Hard Copy Report - ASW120111MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120111MD	NT30565 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120111MD	NT30565P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120116MD	ASW120116MD Receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120116MD	ASW120116MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120116MD	Complete - ASW120116MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120116MD	Field Data - ASW120116MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120116MD	field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120116MD	Hard Copy Report - ASW120116MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120116MD	NT30664 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120116MD	NT30664P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120123MD	ASW120123MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120123MD	Complete - ASW120123MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120123MD	Field Data - ASW120123MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120123MD	Hard Copy Report - ASW120123MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120123MD	NT30714 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120123MD	NT30714P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120123MD	Sample Receipt MRM ASW120123MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120131MD	ASW120131MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120131MD	Complete - ASW120131MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120131MD	Field Data - ASW120131MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120131MD	Hard Copy Report - ASW120131MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120131MD	NT30892 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120131MD	Sample Receipt MRM ASW120131MD.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120214MD	ASW120214MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120214MD	Complete - ASW120214MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120214MD	Field Data - ASW120214MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120214MD	Hard Copy Report - ASW120214MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120214MD	NT31097 MRM.xls

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120214MD	NT31097P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120214MD	Sample Receipt MRM ASW120214MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120221AJD	ASW120221AJD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120221AJD	Complete - ASW120221AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120221AJD	Field Data - ASW120221AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120221AJD	Hard Copy Report - ASW120221AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120221AJD	NT31263 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120221AJD	Sample Receipt MRM ASW120221AJD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120228MD	ASW120228MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120228MD	Complete - ASW120228MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120228MD	Field Data - ASW120228MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120228MD	Final Report-ASW120228MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120228MD	NT31446 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120228MD	Sample Receipt MRM ASW120228MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120229MD	ASW120229MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120229MD	Complete - ASW120229MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120229MD	Field Data - ASW120229MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120229MD	Final Report - ASW120229MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120229MD	NT31531 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120229MD	Sample Receipt MRM ASW120229MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301AJD	ASW120301AJD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301AJD	Complete - ASW120301AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301AJD	Field Data - ASW120301AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301AJD	Final Report- ASW120301AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301AJD	NT31542 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301AJD	Sample Receipt MRM ASW120301AJD .xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301MH	ASW120301MH.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301MH	Complete - ASW120301MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301MH	Field Data - ASW120301MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301MH	Final Report ASW120301MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301MH	NT31543 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120301MH	Sample Receipt MRM ASW120301MH .xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120312MD	ASW120312MD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120312MD	Complete -ASW120312MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120312MD	Field Data - ASW120312MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120312MD	NT31700 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120312MD	NT31700 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120312MD	SRA NT31700 ASW120312MD 13032012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120315MD	ASW120315MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120315MD	Complete - ASW120315MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120315MD	Field Sheet - ASW120315MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120315MD	NT31804 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120315MD	NT31804 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120315MD	SRA NT31804 ASW120315MD 16032012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120319MD	ASW120319MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120319MD	Complete - ASW120319MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120319MD	Field Data - ASW120319MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120319MD	NT31829 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120319MD	NT31829 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120319MD	SRA NT31829 ASW120319MD 200312.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120320MD	ASW120320MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120320MD	Complete ASW120320MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120320MD	Field Data - ASW120320MD.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120320MD	NT31828 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120320MD	NT31828 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120320MD	SRA NT31828 ASW120320MD 200312.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120404MH	ASW120404MH.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120404MH	Complete - ASW120404MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120404MH	Field Data - ASW120404MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120404MH	Final Report - NT32092 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120404MH	NT32092 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120404MH	SRA NT32092 ASW120404MH 04042012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120416MD	ASW120416MD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120416MD	COMPLETE- ASW120416MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120416MD	Field Data - ASW120416MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120416MD	NT32167 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120416MD	NT32167 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120416MD	SRA NT32167 ASW120416MD 17042012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120417MD	ASW120417MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120417MD	COMPLETE - ASW120417MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120417MD	Field Data - ASW120417MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120417MD	NT32168 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120417MD	NT32168 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120417MD	SRA NT32168 ASW120417MD 17042012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120418MD	ASW120418MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120418MD	COMPLETE - ASW120418MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120418MD	Field Data - ASW120418MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120418MD	NT32183 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120418MD	NT32183 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120418MD	SRA NT32183 ASW120418MD 18042012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120424MD	ASW120424MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120424MD	COMPLETE - ASW120424MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120424MD	Field Sheets - ASW120424MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120424MD	NT32242 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120424MD	NT32242 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120424MD	SRA NT32242 ASW120424MD 24042012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120501TL	ASW120501TL.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120501TL	COMPLETE - ASW120501TL.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120501TL	Field Data - ASW120501TL.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120501TL	NT32308 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120501TL	NT32308 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120501TL	receipt.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120501TL	SRA NT32308 ASW120501TL 01052012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120508MD	ASW120508MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120508MD	COMPLETE - ASW120508MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120508MD	Field Sheet - ASW120508MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120508MD	NT32363 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120508MD	NT32363 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120508MD	SRA NT32363 ASW120508MD 09052012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MD	ASW120524MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MD	COMPLETE - ASW120524MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MD	Field Sheets - ASW120524MD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MD	NT32628 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MD	NT32628 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MD	SRA 32627 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MH	ASW120524MH.docx

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MH	COMPLETE - ASW120524MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MH	Field Data - ASW120524MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MH	NT32631 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MH	NT32631 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASW120524MH	SRA 32627 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120123AJD	ASWBB120123AJD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120123AJD	Complete - ASWBB120123AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120123AJD	Field Data - ASWBB120123AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120123AJD	Hard Copy Report - ASWBB120123AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120123AJD	NT30716 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120123AJD	Sample Receipt MRM ASWBB120123AJD.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120209CH	ASWBB120209CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120209CH	Complete - ASWBB120209CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120209CH	Field Data - ASWBB120209CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120209CH	field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120209CH	Hard Copy Report - ASWBB120209CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120209CH	NT31066 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWBB120209CH	Sample Receipt MRM ASWBB120209CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORT120209CH	ASWFORT120209CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORT120209CH	Complete - ASWFORT120209CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORT120209CH	Field Data - ASWFORT120209CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORT120209CH	Final Report - ASWFORT120209CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORT120209CH	NT31070 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORT120209CH	Sample Receipt MRM ASWFORT120209CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120412MH	ASWFORTNIGHTLY120412MH.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120412MH	COMPLETE - ASWFORTNIGHTLY120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120412MH	Field Data - ASW-FORTNIGHTLY120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120412MH	Field Data - ASWFORTNIGHTLY120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120412MH	NT32139 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120412MH	NT32139 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWFORTNIGHTLY120412MH	SRA NT32139 ASWFORTNIGHTLY120412MH 13042012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWfortnightly120607CH	ASWfortnightly120607CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWfortnightly120607CH	COMPLETE - ASWfortnightlty120607CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWfortnightly120607CH	Field Data - ASWfortnightly120607CH.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWfortnightly120607CH	field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWfortnightly120607CH	NT32761 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWfortnightly120607CH	NT32761 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC	ASWfortnightly120607CH	SRA NT32761 ASWfortnightly120607CH 08062012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		ASWBB121018CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		NT34133 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		NT34133 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		SRA NT34133 ASW121018CH 19102012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		ASWBIAN121108AJD.doc
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		NT34368 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		NT34368 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		SRA NT34368 ASWBIAN121108AJD 09112012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		BBASW121213CH.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		NT34775 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		NT34775 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		SRA NT34775 BBASW121213CH 14122012.pdf
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		MISC_PS_120322MD.docx
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		MISC_PS_120322MD.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		NT31936 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Artificial Surface Water COC		SRA NT31936 MISC_PS_120322MD 230312.pdf
4 Surface water and artificial water monitoring docs	2012 Quarterly data Groundwater		Q1 2012 GW - Lab & Field.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly data Groundwater		Q2 2012 GW Lab & Field Data.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly data Groundwater		Q3 2012 - GW Lab & Field.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly data Groundwater		Q4 2012 GW Field & Lab.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly Data SW & ASW		Q1 2012 ASW - Lab & Field.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly Data SW & ASW		Q1 2012 SW - Lab & Field.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly Data SW & ASW		ASW Lab & Field Data Q2 2012.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly Data SW & ASW		SW Lab Field Data Q2 2012.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly Data SW & ASW		Q3 2012 - ASW Lab & Field.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly Data SW & ASW		Q3 2012 - SW Lab & Field.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly Data SW & ASW		Q4 2012 ASW Field & Lab.xlsx
4 Surface water and artificial water monitoring docs	2012 Quarterly Data SW & ASW		Q4 2012 SW Field & Lab.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120702MH	Field Data - SW-MONTHLY120702MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120702MH	NT33015 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120702MH	NT33015 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120702MH	SRA NT33015 SW-MONTHLY120702MH 03072012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120702MH	SW-MONTHLY120702MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120705MH	Field Data - SW-MONTHLY120705MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120705MH	NT33042 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120705MH	NT33042 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120705MH	SRA NT33042 SW-MONTHLY120705MH 06072012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120705MH	SW-MONTHLY120705MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120920AJD	NT33833 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120920AJD	NT33833 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120920AJD	SRA NT33833 SW-MONTHLY120920AJD 21092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120920AJD	SW-MONTHLY120920AJD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120920AJD	SW-MONTHLY120920AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120711CH	Field Data - SW-WEEKLY120711CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120711CH	NT33067 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120711CH	NT33067 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120711CH	SRA NT33067 SW-WEEKLY120711CH 11072012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120711CH	SW-WEEKLY120711CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120717MH	Field Data - SW-WEEKLY120717MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120717MH	NT33163 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120717MH	NT33163 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120717MH	SRA NT33163 SW-WEEKLY120717MH 17072012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120717MH	SW-WEEKLY120717MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120718MH	Field Data - SW-WEEKLY120718MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120718MH	NT33172 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120718MH	NT33172 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120718MH	SRA NT33172 SW-WEEKLY120718MH 18072012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120718MH	SW-WEEKLY120718MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120724MH	Field Data - SW-WEEKLY120724MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120724MH	NT33236 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120724MH	NT33236 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120724MH	SRA NT33236 SW-WEEKLY120724MH 24072012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120724MH	SW-WEEKLY120724MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120725CH	Field Data - SW-WEEKLY120725CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120725CH	NT33245 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120725CH	NT33245 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120725CH	SRA NT33245 SW-WEEKLY120725CH 25072012.pdf

MRM-SUPPLIED DOCUMENTS			
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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120725CH	SW-WEEKLY120725CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120726CH	Field Data - SW-WEEKLY120726CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120726CH	NT33252 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120726CH	NT33252 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120726CH	SW-WEEKLY120726CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120815CH	CEASE TO FLOW SW18,SW19.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120815CH	Field Data - SW-WEEKLY120815CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120815CH	NT33418 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120815CH	NT33418 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120815CH	SRA NT33418 SW-WEEKLY120815CH 14082012 15082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120815CH	SW-WEEKLY120815CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120821MH	Field Data - SW-WEEKLY120821MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120821MH	NT33507 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120821MH	NT33507 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120821MH	SRA NT33507 SW-WEEKLY120821MH 21082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120821MH	SW-WEEKLY120821MH(SW8).pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120821MH	SW-WEEKLY120821MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120912AJD	NT33743 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120912AJD	NT33743 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120912AJD	SRA NT33743 SW120912AJD 14092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120912AJD	SW-WEEKLY120912AJD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120912AJD	SW-WEEKLY120912AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120917MD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120917MD	NT33759 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120917MD	NT33759 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120917MD	SRA NT33759 SW120917MD 18092012 (2).pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120917MD	SW120917MD.doc.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120927AJD	NT33911 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120927AJD	NT33911 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120927AJD	SRA NT33911 SW120927AJD 28092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120927AJD	SW120927AJD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120927AJD	SW120927AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121008MD	field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121008MD	NT34016 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121008MD	NT34016 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121008MD	SRA NT34016 SW121008MD 09102012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121008MD	SW121008MD.doc.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121029MD	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121029MD	NT34219 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121029MD	NT34219 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121029MD	SRA NT34219 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121029MD	SW121029MD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121105MD	Field Sheets SW121105MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121105MD	NT34337 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121105MD	NT34337 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121105MD	SRA NT34337 SW121105MD 06112012 (2).pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121105MD	SW121105MD.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121210AH-M	Field Sheets SW121210-M.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121210AH-M	NT34705 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121210AH-M	NT34705 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121210AH-M	SRA NT34705 SW121210AH 11122012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121210AH-M	SW121210AH-M.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121219MD-W	Field Sheets.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121219MD-W	NT34832 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121219MD-W	NT34832 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121219MD-W	SRA NT34832 SW121219MD-W 20122012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121219MD-W	SW121219MD-W.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121226MD-W	Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121226MD-W	NT34901 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121226MD-W	NT34901 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121226MD-W	SRA NT34901 SW121226MD-W 28122012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121226MD-W	SW121226MD-W Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121226MD-W	SW121226MD-W.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW121226MD-W	SW9.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW301212AH	NT34942 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW301212AH	NT34942 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW301212AH	SRA NT34942 SW121230AH 31122012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW301212AH	SW121230 Field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW301212AH	SW121230AH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120704CH	DATA SHEETS.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120704CH	Field Data - SWMONTHLY120704CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120704CH	NT33026 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120704CH	NT33026 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120704CH	SRA NT33026 SWMONTHLY120704CH 04072012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120704CH	SWMONTHLY120704CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120802CH	Field Data - SWmonthly120802CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120802CH	NT33323 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120802CH	NT33323 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120802CH	SRA NT33323 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120802CH	SWmonthly120802CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121023CH	NT34151 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121023CH	NT34151 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121023CH	SRA NT34151 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121023CH	SWMONTHLy121023AH Field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121023CH	SWMONTHLY121023CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121119CH	Field Sheets SWMONTHLY121119.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121119CH	NT34473 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121119CH	NT34473 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121119CH	SRA NT34473 SWMONTHLY121119CH 20112012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY121119CH	SWMONTHLY121119CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120710CH	Field Data - SWweekly120710CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120710CH	NT33058 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120710CH	NT33058 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120710CH	SRA NT33058 SWweekly120710CH 10072012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120710CH	SWweekly120710CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120712CH	Field Data - SWweekly120712CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120712CH	NT33147 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120712CH	NT33147 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120712CH	SRA NT33147 SWweekly120712ch.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWweekly120712CH	SWweekly120712CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120808CH	Field Data - SWWEEKLY120808CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120808CH	NT33339 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120808CH	NT33339 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120808CH	SRA NT33339 SWWEEKLY120808CH 08082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120808CH	SWWEEKLY120808CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120809CH	Field Data - SWWEEKLY120809CH.pdf

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Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120809CH	NT33400 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120809CH	NT33400 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120809CH	SRA NT33400 SWWEEKLY120809CH 0809082012 10082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120809CH	SWWEEKLY120809CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120822CH	FIELD SHEET.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120822CH	NT33516 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120822CH	NT33516 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120822CH	SRA NT33516 SWWEEKLY120822CH 22082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120822CH	SWWEEKLY120822CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120828CH	Field Data - SWWEEKLY120828CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120828CH	NT33581 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120828CH	NT33581 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120828CH	SRA NT33581 SWWEEKLY120828CH 27082012 28082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120828CH	SWWEEKLY120828CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120829CH	Field Data - SWWEEKLY120829MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120829CH	NT33588 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120829CH	NT33588 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120829CH	SRA NT33588 SWWEEKLY120829CH 28092012 29082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120829CH	SWWEEKLY120829CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120830MH	NT33603 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120830MH	NT33603 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120830MH	SRA NT33603 SWWEEKLY120830MH 29082012 31082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120830MH	SW-WEEKLY120830MH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120830MH	SW-WEEKLY120830MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120904CH	Field Data - SWWEEKLY120904CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120904CH	NT33617 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120904CH	NT33617 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120904CH	SRA NT33617 SWWEEKLY120904CH 03092012 04092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120904CH	SWWEEKLY120904CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120911CH	Field Data - SWWEEKLY120911CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120911CH	NT33693 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120911CH	NT33693 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120911CH	SRA NT33693 SWWEEKLY120911CH 10092012 11092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120911CH	SWWEEKLY120911CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120912CH	Field Data - SWWEEKLY120912CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120912CH	NT33736 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120912CH	NT33736 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120912CH	SRA NT33736 SWWEEKLY120912CH 11092012 12092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120912CH	SWWEEKLY120912CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120925CH	field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120925CH	NT33852 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120925CH	NT33852 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120925CH	SRA NT33852 SWWEEKLY120925CH 25092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120925CH	SWWEEKLY120925CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120926CH	25092012 field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120926CH	NT33862 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120926CH	NT33862 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120926CH	SRA NT33862 SWWEEKLY120926CH 26092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120926CH	SWWEEKLY120926CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121002CH	FIELD SHEETS.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121002CH	NT33930 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121002CH	NT33930 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121002CH	SRA NT33930 SWWEEKLY121002CH 02102012.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121002CH	SWWEEKLY121002CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121003CH	FIELD SHEETS.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121003CH	NT33953 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121003CH	NT33953 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121003CH	SRA NT33953 SWWEEKLY121003CH 03102012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121003CH	SWWEEKLY121003CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121016CH	FIELD SHEETS.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121016CH	NT34113 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121016CH	NT34113 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121016CH	SRA NT34113 SWWEEKLY121016CH 17102012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121016CH	SWWEEKLY121016CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121112CH	FieldSheets SWWEEKLY121112AH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121112CH	NT34387 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121112CH	NT34387 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121112CH	SRA NT34387 SWWEEKLY121112CH 13112012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121112CH	SWWEEKLY121112CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121126CH	Field Sheets SWWEEKLY 121226AH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121126CH	NT34553 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121126CH	NT34553 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121126CH	SRA NT34553 SWWEEKLY121126CH 27112012 (2).pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121126CH	SWWEEKLY121126CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121204CH	Field Sheets SW121204CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121204CH	NT34627 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121204CH	NT34627 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121204CH	SRA NT34627 SWWEEKLY121204CH 03-04122012 04122012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY121204CH	SWWEEKLY121204CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW MONTHLY120215CH	COMPLETE SCAN - SW MONTHLY120215CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW MONTHLY120215CH	Field Data - SWMONTHLY120215CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW MONTHLY120215CH	Sample Receipt MRM SWMONTHLY120215CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW MONTHLY120215CH	SWMONTHLY120215CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120320CH	COMPLETE SCAN - SW-BIAN120320CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120320CH	Final Report - NT31830 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120320CH	NT31830 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120320CH	SRA NT31830 SW-BIAN120320CH 200312.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120320CH	SW-BIAN120320CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120320CH	SW8FIELDSHEET120319AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120321MH	COMPLETE SCAN - SWBIAN120321MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120321MH	NT31844 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120321MH	NT31844 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120321MH	SRA NT31844 SW-BIAN120321MH 210312.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120321MH	SW-BIAN120321MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120613MH	full scan-SW-BIAN120613MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120613MH	NT32826 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120613MH	NT32826 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120613MH	SRA NT32826 SW-BIAN120613MH 13062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-BIAN120613MH	SW-BIAN120613MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120124CH	COMPLETE SW-MONTHLY120124CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120124CH	Field Data - SW-MONTHLY120124CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120124CH	NT30719 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120124CH	Sample Receipt MRM SW-MONTHLY120124CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120124CH	SW-MONTHLY120124CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120125CH	COMPLETE SCAN_SW-MONTHLY120125CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120125CH	Sample Receipt MRM SW-MONTHLY120125CH.xlsx

MRM-SUPPLIED DOCUMENTS			
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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120125CH	SW-MONTHLY120125CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120501CH	COMPLETE_SCAN_SW-MONTHLY120501CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120501CH	Field Data - SW-MONTHLY120501CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120501CH	NT32310 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120501CH	NT32310 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120501CH	receipt.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120501CH	SW-MONTHLY120501CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120502MH	COMPLETE - SWMONTHLY120502MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120502MH	Field Data - SW-MONTHLY120502MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120502MH	NT32323 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120502MH	NT32323 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120502MH	SRA NT32323 SW-MONTHLY120502MH 02052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120502MH	SW-MONTHLY120502MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120503CH	COMPLETE - SW-MONTHLY120503CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120503CH	Field Data - SW-MONTHLY120503CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120503CH	NT32344 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120503CH	NT32344 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120503CH	SRA NT32344 SW-MONTHLY120503CH 04052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120503CH	SW-MONTHLY120503CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120529MH	COMPLETE - SW-MONTHLY120529MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120529MH	Field Data - SW-MONTHLY120528MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120529MH	Field Sheet - SW8.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120529MH	NT32656 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120529MH	NT32656 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120529MH	SRA NT32656 SW-MONTHLY120529MH 29052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120529MH	SW-MONTHLY120529MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120530MH	COMPLETE - SW-MONTHLY120530MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120530MH	Field Data - SW-MONTHLY120530MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120530MH	NT32667 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120530MH	NT32667 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120530MH	SRA NT32667 SW-MONTHLY120530MH 30052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-MONTHLY120530MH	SW-MONTHLY120530MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120111MD	COMPLETE SCAN_SW-WEEKLY120111MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120111MD	SW-WEEKLY120111MD receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120111MD	SW-WEEKLY120111MD.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120116MD	COMPLETE SCAN_SWWEEKLY120116MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120116MD	SW-WEEKLY120116MD.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120116MD	SWWEEKLY120116MD receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120118CH	COMPLETE SW-WEEKLY120118CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120118CH	Field Data - SW-WEEKLY120118CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120118CH	Final Report - SW-WEEKLY120118CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120118CH	NT30683 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120118CH	SW-WEEKLY120118CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120118CH	SW-WEEKLY120118CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120119CH	COMPLETE SCAN_SW-WEEKLY120119CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120119CH	Sample Receipt MRM SW-WEEKLY120119CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120119CH	SW-WEEKLY120119CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120131CH	COMPLETE SCAN_SW-WEEKLY120131CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120131CH	Sample Receipt MRM SW-WEEKLY120131CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120131CH	SW-WEEKLY120131CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120201CH	COMPLETE SCAN_SW-WEEKLY120201CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120201CH	SW-WEEKLY120201CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120201CH	SW-WEEKLY120201CH.xlsx

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120202CH	COMPLETE SCAN_SW-WEEKLY120202CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120202CH	Sample Receipt MRM SW-WEEKLY120202CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120202CH	SW-WEEKLY120202CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120207CH	COMPLETE SCAN_SW-WEEKLY120207CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120207CH	Field Data - SW-WEEKLY120207CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120207CH	Sample Receipt MRM SW-WEEKLY120207CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120207CH	SW-WEEKLY120207CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120208CH	COMPLETE SCAN - SW-WEEKLY120208CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120208CH	Field Data - SW-WEEKLY120208CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120208CH	Sample Receipt MRM SW-WEEKLY120208CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120208CH	SW-WEEKLY120208CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120209CH	COMPLETE SCAN - SW-WEEKLY120209CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120209CH	Field Data - SW-WEEKLY120209CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120209CH	Sample Receipt MRM SW-WEEKLY120209CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120209CH	SW-WEEKLY120209CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120221MH	COMPLETE SCAN_SW-WEEKLY120221MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120221MH	Field Data - SW-WEEKLY120221MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120221MH	Sample Receipt MRM SW-WEEKLY120221MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120221MH	SW-WEEKLY120221MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120222MH	COMPLETE SCAN - SW-WEEKLY120222MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120222MH	FIELD SHEETS.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120222MH	FINAL REPORT SW-WEEKLY120222MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120222MH	NT31433 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120222MH	Sample Receipt MRM SW-WEEKLY120222MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120222MH	SW-WEEKLY120222MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120223	COMPLETE SCAN - SW-WEEKLY120223.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120223	Field Data - SW-WEEKLY120223MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120223	FINAL REPORT SW-WEEKLY120223.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120223	NT31430 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120223	Sample Receipt MRM SW-WEEKLY120223.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120223	SW-WEEKLY120223.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120228MH	COMPLETE SCAN - SW-WEEKLY120228MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120228MH	Field Data - SW-WEEKLY120228MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120228MH	FINAL REPORT SW-WEEKLY120228MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120228MH	NT31448 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120228MH	Sample Receipt MRM SW-WEEKLY120228MH.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120228MH	Sample Receipt SW-WEEKLY120228MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120228MH	SW-WEEKLY120228MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120229MH	COMPLETE SCAN - SW-WEEKLY120229MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120229MH	Field Data - SW-WEEKLY120229MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120229MH	FINAL REPORT SW-WEEKLY120229MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120229MH	NT31530 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120229MH	Sample Receipt MRM SW-WEEKLY120229MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120229MH	SW-WEEKLY120229MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120301MH	COMPLETE - SW-WEEKLY120301MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120301MH	Field Data - SW-WEEKLY120301MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120301MH	report NT31539 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120301MH	Sample Receipt MRM SW-WEEKLY120301MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120301MH	SW-WEEKLY120301MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120305CH	COMPLETE - SW-WEEKLY120305CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120305CH	Field Data - SW-WEEKLY120305CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120305CH	NT31561 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120305CH	report NT31561 MRM.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	**Level 2**	**Level 3**	**Document File Name**
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120305CH	Sample Receipt MRM SW-WEEKLY120305CH .xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120305CH	SW-WEEKLY120305CH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120307CH	COMPLETE - SW-WEEKLY120307CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120307CH	Field Data - SW-WEEKLY120307CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120307CH	NT31656 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120307CH	report NT31656 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120307CH	SRA NT31656 SW-WEEKLY120307CH 070312.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120307CH	SW-WEEKLY120307CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120308CH	COMPLETE - SW-WEEKLY120308CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120308CH	Field Data - SW-WEEKLY120308CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120308CH	NT31669 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120308CH	report NT31669 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120308CH	SRA NT31669 SW-WEEKLY120308CH 090312.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120308CH	SW-WEEKLY120308CH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120313CH	COMPLETE - SW-WEEKLY120313CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120313CH	Field Data - SW-WEEKLY120313CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120313CH	NT31695 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120313CH	report NT31695 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120313CH	SRA NT31695 SW-WEEKLY120313CH 13032012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120313CH	SW-WEEKLY120313CH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120313CH	SW8FIELDSHEET120312AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120314CH	COMPLETE - SW-WEEKLY120314CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120314CH	Field Data - SW-WEEKLY120314CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120314CH	NT31784 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120314CH	report NT31784 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120314CH	SRA NT31784 SW-WEEKLY120314CH 14032012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120314CH	SW-WEEKLY120314CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120315MH	COMPLETE - SW-WEEKLY120315MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120315MH	Field Data - SW-WEEKLY120315MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120315MH	NT31806 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120315MH	report NT31806 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120315MH	SRA NT31806 SW-WEEKLY120315MH 16032012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120315MH	SW-WEEKLY120315MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120326MH	COMPLETE SCAN_SW-WEEKLY120326MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120326MH	Field Data - SW-WEEKLY120326MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120326MH	NT31951 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120326MH	NT31951 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120326MH	SRA NT31951 SW-WEEKLY120326MH 270312.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120326MH	SW-WEEKLY120326MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120329CH	COMPLETE SCAN - SW-WEEKLY120329CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120329CH	Field Data - SW-WEEKLY120329CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120329CH	Final Report - NT31989 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120329CH	NT31989 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120329CH	RECEIPT SW-WEEKLY120329CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120329CH	SW-WEEKLY120329CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120402MH	COMPLETE SCAN - SW-WEEKLY120402MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120402MH	Field Data - SW-WEEKLY120402MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120402MH	NT32008 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120402MH	NT32008 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120402MH	RECEIPT SW-WEEKLY120402MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120402MH	SRA NT32008 SW-WEEKLY120402MH 03042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120402MH	SW-WEEKLY120402MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120404MH	COMPLETE SCAN - SW-WEEKLY120404MH.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120404MH	Field Data - SW-WEEKLY120404MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120404MH	NT32093 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120404MH	NT32093 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120404MH	SRA NT32093 SW-WEEKLY120404MH 04042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120404MH	SW-WEEKLY120404MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120405CH	COMPLETE SCAN - SW-WEEKLY120405CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120405CH	Field Data - SW-WEEKLY120405CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120405CH	Final Report - NT32101 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120405CH	NT32101 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120405CH	SRA NT32101 SW-WEEKLY120405CH 10042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120405CH	SW-WEEKLY120405CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120424CH	COMPLETE - SW-WEEKLY120424CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120424CH	Field Data - SW-WEEKLY120424CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120424CH	NT32243 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120424CH	NT32243 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120424CH	SRA NT32243 SW-WEEKLY120424CH 24042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120424CH	SW-WEEKLY120424CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120425MH	COMPLETE - SW-WEEKLY120425MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120425MH	Field Data - SW-WEEKLY120425MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120425MH	NT32248 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120425MH	NT32248 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120425MH	SRA NT32248 SW-WEEKLY120425MH 26042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120425MH	SW-WEEKLY120425MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120426CH	COMPLETE - SW-WEEKLY120426CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120426CH	Field Data - SW-WEEKLY120426CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120426CH	NT32256 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120426CH	NT32256 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120426CH	SRA NT32256 SW-WEEKLY120426CH 27042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120426CH	SW-WEEKLY120426CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120508CH	COMPLETE - SW-WEEKLY120508CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120508CH	Field Data - SW-WEEKLY120508CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120508CH	NT32356 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120508CH	NT32356 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120508CH	SRA NT32356 SW-WEEKLY120508CH 09052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120508CH	SW-WEEKLY120508CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120509MH	COMPLETE - SW-WEEKLY120509MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120509MH	Field Data - SW-WEEKLY120509MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120509MH	NT32362 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120509MH	NT32362 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120509MH	SRA NT32362 SW-WEEKLY120509MH 09052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120509MH	SW-WEEKLY120509MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120510MH	COMPLETE - SW-WEEKLY120510MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120510MH	Field Data - SW-WEEKLY120510MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120510MH	NT32425 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120510MH	NT32425 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120510MH	SRA NT32425 SW-WEEKLY120510MH 11052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120510MH	SW-WEEKLY120510MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120515CH	COMPLETE - SW-WEEKLY120515CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120515CH	Field Data - SW-WEEKLY120515CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120515CH	NT32483 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120515CH	NT32483 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120515CH	SRA NT32483 SW-WEEKLY120515CH 15052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120515CH	SW-WEEKLY120515CH.docx

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120516CH	COMPLETE_SCAN_SW-WEEKLY120516CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120516CH	Field Data - SW-WEEKLY120516CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120516CH	NT32492 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120516CH	NT32492 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120516CH	SRA NT32492 SW-WEEKLY120516CH 16052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120516CH	SW-WEEKLY120516CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120517CH	COMPLETE - SW-WEEKLY120517CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120517CH	Field Data - SW-WEEKLY120517CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120517CH	NT32510 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120517CH	NT32510 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120517CH	SRA NT32510 SW-WEEKLY120517CH 18052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120517CH	SW-WEEKLY120517CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120521MH	COMPLETE - SW-WEEKLY120521MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120521MH	Field Data - SW-WEEKLY120521MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120521MH	NT32526 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120521MH	NT32526 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120521MH	SRA 32526 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120521MH	SW-WEEKLY120521MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120523MH	COMPLETE - SW-WEEKLY120523MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120523MH	Field Data - SW-WEEKLY120523MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120523MH	NT32542 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120523MH	NT32542 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120523MH	receipt.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120523MH	SW-WEEKLY120523MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120524MH	COMPLETE - SW-WEEKLY120524MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120524MH	Field Data - SW-WEEKLY120524MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120524MH	Field Sheet - SW8 - SW-WEEKLY120524MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120524MH	NT32632 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120524MH	NT32632 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120524MH	SRA 32632 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120524MH	SW-WEEKLY120524MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120606MH	Field Data - SWWEEKLY120606MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120606MH	full scan - SW-WEEKLY120606MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120606MH	NT32747 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120606MH	NT32747 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120606MH	SRA NT32747 SW-WEEKLY120606MH 06062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120606MH	SW-WEEKLY120606MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120607CH	Field Data - SW-WEEKLY120607CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120607CH	full scan - SW-WEEKLY120607CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120607CH	NT32762 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120607CH	NT32762 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120607CH	SRA NT32762 SW-WEEKLY120607CH 08062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120607CH	SW-WEEKLY120607CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120618MD	COMPLETE_SCAN_SW-WEEKLY120618MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120618MD	NT32864 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120618MD	NT32864 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120618MD	SRA NT32864 SW-WEEKLY120618MD 19062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120618MD	SW-WEEKLY120618MD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120618MD	SW-WEEKLY120618MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120619MD	Field SSheets - SW-WEEKLY120619MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120619MD	full scan - SW-WEEKLY120619MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120619MD	NT32882 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120619MD	NT32882 MRM.xls

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120619MD	SRA NT32882 SW-WEEKLY120619MD 20062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120619MD	SW-WEEKLY120619MD.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120619MD	SW8 Field Sheet - SW-WEEKLY120619MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120625MD	Field Data - SW-WEEKLY120625MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120625MD	full scan - SW-WEEKLY120625MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120625MD	NT32941 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120625MD	NT32941 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120625MD	SRA NT32941 SW-WEEKLY120625MD 26052012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120625MD	SW-WEEKLY120625MD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120626MH	Field Data - SW-WEEKLY120626MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120626MH	full scan - SW-WEEKLY120626MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120626MH	NT32943 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120626MH	NT32943 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120626MH	SRA NT32943 SW-WEEKLY120626MH 26062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120626MH	SW-WEEKLY120626MH-AMENDED.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120626MH	SW-WEEKLY120626MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	Field Data - SW-WEEKLY120627MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	full scan - SW-WEEKLY120627MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT32953 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT32953 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SRA NT32953 SW-WEEKLY120627MD 27062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	COMPLETE SCAN - SW MONTHLY120215CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	Field Data - SWMONTHLY120215CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	Sample Receipt MRM SWMONTHLY120215CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SWMONTHLY120215CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	COMPLETE SCAN - SW-BIAN120320CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	Final Report - NT31830 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT31830 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SRA NT31830 SW-BIAN120320CH 200312.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW-BIAN120320CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW8FIELDSHEET120319AJD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	COMPLETE SCAN - SWBIAN120321MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT31844 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT31844 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SRA NT31844 SW-BIAN120321MH 210312.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW-BIAN120321MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	full scan-SW-BIAN120613MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT32826 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT32826 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SRA NT32826 SW-BIAN120613MH 13062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW-BIAN120613MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	Field Data - SW-WEEKLY120626MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	full scan - SW-WEEKLY120626MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT32943 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT32943 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SRA NT32943 SW-WEEKLY120626MH 26062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW-WEEKLY120626MH-AMENDED.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW-WEEKLY120626MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW-WEEKLY120627MD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	COMPLETE SCAN_SW120110CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW120110CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW120110CH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	COMPLETE SCAN_SW120112CH.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW120110CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW120112CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	COMPLETE SCAN_SW120116CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW120116CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SW120116CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	Field Data - SWBIAN120614CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	full scan - SWBIAN120614CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT32839 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT32839 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SRA NT32839 SWBIAN120614CH 15062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SWBIAN120614CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	SWCHLA120322CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	W12E0084.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	COMPLETE SCAN - SWMONTHLY120216CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	Field Data - SWmonthly120216CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	FINAL REPORT SWmonthly120216CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120627MD	NT31140 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120628MD	full scan - SW-WEEKLY120628MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120628MD	NT32964 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120628MD	NT32964 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120628MD	SRA NT32964 SW-WEEKLY120628MD 29062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120628MD	SW-WEEKLY120628MD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW-WEEKLY120628MD	SW-WEEKLY120628MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120110CH	COMPLETE SCAN_SW120110CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120110CH	SW120110CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120110CH	SW120110CH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120112CH	COMPLETE SCAN_SW120112CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120112CH	SW120110CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120112CH	SW120112CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120216CH	COMPLETE SCAN_SW120116CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120216CH	SW120116CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SW120216CH	SW120116CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWBIAN120614CH	Field Data - SWBIAN120614CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWBIAN120614CH	full scan - SWBIAN120614CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWBIAN120614CH	NT32839 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWBIAN120614CH	NT32839 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWBIAN120614CH	SRA NT32839 SWBIAN120614CH 15062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWBIAN120614CH	SWBIAN120614CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWCHLA120322CH	SWCHLA120322CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWCHLA120322CH	W12E0084.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120216CH	COMPLETE SCAN - SWMONTHLY120216CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120216CH	Field Data - SWmonthly120216CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120216CH	FINAL REPORT SWmonthly120216CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120216CH	NT31140 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120216CH	Sample Receipt MRM SWmonthly120216CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWmonthly120216CH	SWmonthly120216CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120411CH	COMPLETE SCAN - SWMONTHLY.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120411CH	Field Data - SWMONTHLY120411CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120411CH	Final Report - NT32120 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120411CH	NT32120 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120411CH	SRA NT32120 SWMONTHLY120411CH 11042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWMONTHLY120411CH	SWMONTHLY120411CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120105CH	COMPLETE SWWEEKLY120105CH.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120105CH	Field Data - SWWEEKLY120105CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120105CH	Final Report - SWWEEKLY120105CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120105CH	NT30460 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120105CH	NT30460P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120105CH	SRA 30460 #2 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120105CH	SWWEEKLY120105CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120112CH	Complete - SWWEEKLY120112CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120112CH	NT30575 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120112CH	NT30575P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120112CH	Sample Receipt MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120112CH	SW-WEEKLY120112CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120412MH	COMPLETE - SWWEEKLY120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120412MH	Field Data - SWWEEKLY120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120412MH	NT32140 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120412MH	NT32140 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120412MH	SRA NT32140 SWWEEKLY120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120412MH	SWWEEKLY120412MH.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120417CH	COMPLETE - SWWEEKLY120417CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120417CH	Field Data - SWWEEKLY120417CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120417CH	NT32166 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120417CH	NT32166 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120417CH	SRA NT32166 SWWEEKLY120417CH 17042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120417CH	SWWEEKLY120417CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120418CH	COMPLETE - SWWEEKLY120418CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120418CH	Field Data - SWWEEKLY120417MD.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120418CH	Field Data - SWWEEKLY120418CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120418CH	NT32184 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120418CH	NT32184 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120418CH	SRA NT32184 SWWEEKLY120418CH 18042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120418CH	SWWEEKLY120418CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120419CH	COMPLETE - SWWEEKLY120419CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120419CH	Field Data - SWWEEKLY120419CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120419CH	NT32190 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120419CH	NT32190 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120419CH	SRA NT32190 SWWEEKLY120419CH 20042012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120419CH	SWWEEKLY120419CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120605CH	Field Data - SWWEEKLY120605CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120605CH	full scan - SWWEEKLY120605CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120605CH	NT32733 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120605CH	NT32733 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120605CH	SRA NT32733 SWWEEKLY120605CH 05062012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC	SWWEEKLY120605CH	SWWEEKLY120605CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		COMPLETE SCAN_SWMONTHLY120214CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		Field Data - SWMONTHLY120214CH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		Sample Receipt MRM SWMONTHLY120214CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SWMONTHLY120214CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		Copy of NT33473 MRM (2).csv
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		EB1309606_2_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT33473 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT33473 RNGE.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT33473 SW-WEEKLY120815MD 15082012 17082012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW-WEEKLY120815MD.docx

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW8.msg
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		Field Data - SW-WEEKLY120905MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT33666 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT33666 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT33666 SW-WEEKLY120905MH 04092012 05092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW-WEEKLY120905MH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT33679 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT33679 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT33679 SW-WEEKLY120906MH 07092012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW-WEEKLY120906MH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW-WEEKLY120906MH.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34027 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34027 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT34027 SWWEEKLY121009AJD 10102012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SWWEEKLY121009AJD.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34838 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34838 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT34838 SW-WEEKLY121220AJD 21122012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW-WEEKLY121220AJD.doc
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW8 FIELD SHEET.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34367 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34367 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT34367 SW121108AJD 09112012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW121108AJD.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		sw8 field sheet.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34693 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34693 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT34693 SW121206CH-W 10122012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW121206CH-W.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW8 FIELD SHEET.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34500 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34500 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT34500 SWMONTHLY121122CH 23112012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SWMONTHLY121122CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34132 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34132 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT34132 SWWEEKLY121018CH 19102012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SWWEEKLY121018CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34437 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34437 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT34437 SWWEEKLY121114CH 14112012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		sw8 field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SWWEEKLY121114CH.docx
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34680 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		NT34680 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SRA NT34680 SWWEEKLY121205CH 06122012.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SW18,SW19 FIELD SHEET.pdf
4 Surface water and artificial water monitoring docs	2012 Surface Water 2012 COC		SWWEEKLY121205CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-CHELEX120704CH	Field Data - WDL-CHELEX120704CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-CHELEX120704CH	NT33025 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-CHELEX120704CH	NT33025 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-CHELEX120704CH	NT33025#2 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-CHELEX120704CH	NT33025P MRM.xls

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-CHELEX120704CH	SRA NT33025 WDL-CHELEX120704CH 04072012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-CHELEX120704CH	WDL-CHELEX120704CH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120717MH	Field Data - WDL-WEEKLY120717MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120717MH	NT33164 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120717MH	NT33164 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120717MH	NT33164P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120717MH	SRA NT33164 WDL-WEEKLY120717MH 17072012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120717MH	WDL-WEEKLY120717MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120724MH	Field Data - WDL-WEEKLY120724MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120724MH	NT33235 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120724MH	NT33235 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120724MH	SRA NT33235 WDL-WEEKLY120724MH 24072012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120724MH	WDL-WEEKLY120724MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120815CH	Field Data - WDL-WEEKLY120815CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120815CH	NT33417 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120815CH	NT33417 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120815CH	NT33417P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120815CH	SRA NT33417 WDL-WEEKLY120815CH 14082012 15082012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120815CH	WDL-WEEKLY120815CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120821MH	Field Data - WDL-WEEKLY120821MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120821MH	NT33503 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120821MH	NT33503 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120821MH	NT33503P MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120821MH	SRA NT33503 WDL-WEEKLY120821MH 21082012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDL-WEEKLY120821MH	WDL-WEEKLY120821MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120710CH	Field Data - WDL-WEEKLY120710CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120710CH	NT33061 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120710CH	NT33061 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120710CH	NT33061#2 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120710CH	NT33061P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120710CH	SRA NT33061 WDLWEEKLY120710CH 10072012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120710CH	WDLWEEKLY120710CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120808CH	Field Data - WDLWEEKLY120808CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120808CH	NT33338 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120808CH	NT33338 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120808CH	NT33338P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120808CH	SRA NT33338 WDLWEEKLY120808CH 08082012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120808CH	WDLWEEKLY120808CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120828CH	Field Data - WDLWEEKLY120828CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120828CH	NT33582 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120828CH	NT33582 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120828CH	NT33582P MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120828CH	NT33582P#2 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120828CH	SRA NT33582 WDLWEEKLY120828CH 27082012 28082012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120828CH	WDLWEEKLY120828CH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120904CH	Field Data - WDLWEEKLY120904CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120904CH	NT33618 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120904CH	NT33618 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120904CH	NT33618P MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120904CH	SRA NT33618 WDLWEEKLY120904CH 03092012 04092012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120904CH	WDLWEEKLY120904CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120911CH	Field Data - WDLWEEKLY120911CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120911CH	NT33692 MRM.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120911CH	NT33692 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120911CH	NT33692P MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120911CH	SRA NT33692 WDLWEEKLY120911CH 10092012 11092012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY120911CH	WDLWEEKLY120911CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY121002CH	FIELD SHEET.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY121002CH	NT33928 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY121002CH	NT33928 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY121002CH	NT33928P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY121002CH	SRA NT33928 WDLWEEKLY121002CH 02102012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC	WDLWEEKLY121002CH	WDLWEEKLY121002CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE_WDL-bian120320CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-bian120320CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		FINAL REPORT WDL-bian120320CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31825 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31825P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31825 WDL-bian120320CH 200312.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-bian120320CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDLBIAN120614CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32838 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32838 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32838P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32838 WDL-BIAN120614CH 15062012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-BIAN120614CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDL-CHELEX120214MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-CHELEX120214MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-CHELEX120214MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDL-CHELEX120606MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32748 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32748 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32748P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32748 WDL-CHELEX120606MH 06062012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-CHELEX120606MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-SW120305CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report WDL-SW120305CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31560 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31560P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-SW120305CH .xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-SW120305CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN - WDL-WEEKLY120105CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT30460 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT30460P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA 30460 #2 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120105CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN - WDL-WEEKLY120117MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120117MD receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120117MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN - WDL-WEEKLY120131CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-WEEKLY120131CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120131CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120201CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-WEEKLY120201CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120201CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120207CH.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-WEEKLY120207CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120207CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120208MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-WEEKLY120208MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120208MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE_WDL-WEEKLY120221MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-WEEKLY120221MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120221MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDL-WEEKLY120222MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		FINAL REPORT WDL-WEEKLY120222MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31278 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-WEEKLY120222MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120222MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDL-WEEKLY120228MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		FINAL REPORT WDL-WEEKLY120228MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31447 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-WEEKLY120228MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120228MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE_WDL-WEEKLY120301MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report WDL-Weekly120301MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31539 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31540 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31540P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL-WEEKLY120301MH.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120301MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDL-WEEKLY120306MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report- WDL-weekly120307CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31655 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31655P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31655 WDL-WEEKLY120307CH 070312.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120306MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120307CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_ASW120312MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - ASW120312MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report- WDL-weekly120313CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31697 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31697P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31697 WDL-WEEKLY120313CH 13032012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120313CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120313MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report- WDL-WEEKLY120313MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31786 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31786P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31786 WDL-WEEKLY120313MD 14032012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120313MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120313MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120319MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120319MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report- WDL-weekly120319MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31827 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31827P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31827 WDL-WEEKLY120319MD 200312.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120319MD.docx

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Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Complete - WDL-WEEKLY120326MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		DOC190712.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31952 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31952P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31952 WDL-WEEKLY120326MH 270312.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120326MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN - WDL-WEEKLY120402CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120402CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report - NT32007 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32007 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32007P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		RECEIPT WDL-WEEKLY120402CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32007 WDL-WEEKLY120402CH 03042012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120402CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120417CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120417CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32165 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32165 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32165P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32165 WDL-WEEKLY120417CH 17042012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120417CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120424CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120424CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32241 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32241 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32241P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32241 WDL-WEEKLY120424CH 24042012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120424CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120501CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120501CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32305 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32305 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32305P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		receipt.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32305 WDL-WEEKLY120501CH 01052012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120501CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120509MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120509MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32361 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32361 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32361P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32361 WDL-WEEKLY120509MH 09052012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120509MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120510MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32423 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32423 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32423P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32423 WDL-WEEKLY120510MH 11052012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120510MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL-WEEKLY120516CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120516CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32491 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32491 MRM.xls

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32491P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32491 WDL-WEEKLY120516CH 16052012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120516CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDL-WEEKLY120517CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32509 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32509 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32509P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32509 WDL-WEEKLY120517CH 18052012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120517CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120521MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDL-WEEKLY120521MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32525 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32525 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32525P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA 32525 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120521MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120524MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDL-WEEKLY120524MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32627 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32627 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32627P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA 32627 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120524MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120529MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDL-WEEKLY120529MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32655 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32655 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32655P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32655 WDL-WEEKLY120529MH 29052012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120529MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120618MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDL-WEEKLY120618MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32862 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32862 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32862P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32862 WDL-WEEKLY120618MD 19062012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120618MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32952 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32952 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32952#2 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32952P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32952 WDL-WEEKLY120627MD 27062012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120627MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120627MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDL-WEEKLY120628MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDL-WEEKLY120628MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33001 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33001 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33001#2 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33001P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT33001 WDL-WEEKLY120628MD 29062012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120628MD.docx

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN - WDL120104MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Hard Copy Report - WDL120104MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT30444 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT30444P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120104MD receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120104MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDL120110CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		FINAL REPORT WDL120210CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120110CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120110CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDL120110MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		FINAL REPORT WDL120111MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL1201111MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120111MD receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDL120112CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		FINAL REPORT WDL120112CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		RECEIPT.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120112CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120112CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDL120123MD.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDL120123MD.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120123MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33760 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33760 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT33760 WDL120917MD 18092012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL120917MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34015 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34015 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34015 WDL121008MD 09102012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121008MD.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34218 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34218 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34218P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34218 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121029MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Sheet.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34763 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34763 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34763 WDL121212MD 13122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121212MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34941 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34941 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34941P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34941 WDL301212AH 31122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SUBMISSION FORM WDL301212.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL301212AH FIELD SHHETS.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN-WDLCHELEX120116CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120116CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120116CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDLCHELEX120118CH.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120118CH receipt.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120118CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN_WDLCHELEX120119CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDLCHELEX120119CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120119CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDL120313CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDLCHELEX120313CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		FINAL REPORT WDLCHELEX120313CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31696 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31696P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31696 WDLCHELEX120313CH 13032012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120313CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDLCHELEX120314CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDLCHELEX120314CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report - WDLCHELEX120314CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31788 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31788P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31788 WDLCHELEX120314CH 14032012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120314CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN - WDLCHELEX120411CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDLchelex120411CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report - NT32119 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32119 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32119P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32119 WDLchelex120411CH 11042012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLchelex120411CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Complete - WDLCHELEX120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Data - WDLCHELEX120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32136 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32136 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32136P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120412MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEX120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE - WDLCHELEXmonthly120215CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Sample Receipt MRM WDLCHELEXmonthly120215CH.xlsx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLCHELEXmonthly120215CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report - NT31976 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		full scan - WDLweekly120328CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31976 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT31976P.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT31976 WDLweekly120328CH 280312.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLweekly120328CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		COMPLETE SCAN - WDLWEEKLY120412MH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Final Report - NT32137 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32137 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT32137P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT32137 WDLWEEKLY120412MH 13042012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLWEEKLY120412MH.doc
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		FIELD SHEET.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34112 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34112 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34112P MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34112 WDLWEEKLY121016CH 17102012.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLWEEKLY121016CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SW11 field sheet 121105.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34336 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34336 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34336 WDL121105MD-CHELEX 06112012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121105MD-CHELEX.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34704 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34704 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34704 WDL121210AH-CHELEX 11122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121210AH-CHELEX.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34831 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34831 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34831_CSV_Report_1.csv
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34831 WDL121219MD-W 20122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121219MD-W.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		ASW121226MD-F Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34899 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34899 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34899P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121226MD.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Field Sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34898 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34898 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34898P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34898 WDL121226MD-W 28122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121226MD-W.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34907 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34907 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34907P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34907 WDL121227AH 28122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121227AH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34939 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34939 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34939P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34939 WDL121230AH-W 31122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121230AH-W Field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL121230AH-W.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34940 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34940 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34940P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34940 WDL301212AH 31122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		Submission form
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34149 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34149 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34149P MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34149 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLMONTHLY121023CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34471 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34471 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34471P MRM.xls

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34471 WDLMONTHLY121119CH 20112012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLMONTHLY121119CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33324 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33324 MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33324P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT33324 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDL-WEEKLY120802CH.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLWEEKLY120802CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33851 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33851 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT33851P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT33851 WDLWEEKLY120925CH 25092012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLWEEKLY120925CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34385 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34385 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34385P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34385 WDLWEEKLY121112CH 13112012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLWEEKLY121112CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34554 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34554 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34554P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34554 WDLWEEKLY121126CH 27112012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLWEEKLY121126CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		field sheets.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34628 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34628 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34628P MRM.xls
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34628 WDLWEEKLY121204CH 03-04122012 04122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLWEEKLY121204CH.docx
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34644 MRM.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		NT34644 MRM.XLS
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SRA NT34644 WDLWEEKLY121205CH 06122012.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		SW21 field sheet.pdf
4 Surface water and artificial water monitoring docs	2012 Waste Discharge Licence SW COC		WDLWEEKLY121205CH.docx
4 Surface water and artificial water monitoring docs			2013 2014 Waste Discharge Licence Approval.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130109AJD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130109AJD.doc
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35030 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35030 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35030 ASW130109AJD 10012013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130113AH.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35056 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35056 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35056P MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35056 ASW130114AH 14012013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130115AH Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130115AH Fieldsheet_2.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130115AH.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35083 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35083 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35083 ASW130115AH 16012013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130115CH-F Fieldsheet_1.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130115CH-F.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35073 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35073 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35073 ASW130115CH-F 15012013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130116CH-M Fieldsheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130116CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35090 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35090 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35090 ASW130116CH-M 17012013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130121MD-F .docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130121MD-F Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35120 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35120 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35120P MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35120 ASW130121MD-F 22012013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130131CH-F.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35212 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35212 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35212 ASW130131CH-F 01022013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		BARNEY CEASE TO FLOW.txt
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35233 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35233 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		Submiission form.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SW130203AH-W Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SW130203AH-W Fieldsheet_2.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SW130203AH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130203AH Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130203AH.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35235 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35235 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35235 ASW130203 04022013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130213MD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130213MD.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM ID INCORRECT.txt
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35233 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35328 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35328 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35328 ASW130203 13022013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130207MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130207MD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35271 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35271 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35271 ASW130207MD-M 08022013 (2).pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130211AJD-MISC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35337 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35337 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35337P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35337 ASW130211AJD-MISC 14022013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130213AJD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130213AJD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35348 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35348 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35348 ASW130213AJD-M 15022013.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130219AJD-MISC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35382 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35382 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35382 ASW130219AJD-MISC 20022013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130226AJD-MISC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35444 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35444 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35444P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35444 ASW130226AJD-MISC 27022013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130227MD-F Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130227MD-F.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35457 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35457 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35457 ASW130227MD-F 28022013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130304MD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130304MD.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35502 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35502 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35502 ASW130304MD 06032013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130304MD-ICPMS Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130304MD-ICPMS Fieldsheet_2.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130304MD-ICPMS.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35503 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35503 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35503 ASW130304MD-ICPMS 06032013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130306MD-24H Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130306MD-24H.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35515 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35515 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35515 ASW130306MD-24H 07032013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130306MD-ICPMS Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130306MD-ICPMS.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35516 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35516 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35516 ASW130306MD-ICPMS 07032013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130307CH-ICPMS Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130307CH-ICPMS.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35524 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35524 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35524 ASW130307CH-ICPMS 08032013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130313MD-ICPMS Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130313MD-ICPMS.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35585 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35585 MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35585 ASW130313MD-ICPMS 14032013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130326MD-F .docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130326MD-F Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130326MD-F Data Sheet_2.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130326MD-F Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35699 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35699 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35699 ASW130326MD-F 27032013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130328AJD-MISC.docx

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35748 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35748 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35748 ASW130328AJD-MISC 03042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130328TL Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130328TL.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35725 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35725 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35725 ASW130328TL 02042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130331MD-M Field Data_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130331MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130331MD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35739 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35739 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35739 ASW130331MD-M 02042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130402MD-M Field Data_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130402MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130402MD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35747 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35747 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35747 ASW130402MD-M 03042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130402MD-WMD Field Data_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130402MD-WMD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130402MD-WMD NT35749 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130402MD-WMD.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35749 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35749 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35749 ASW130402MD-WMD 03042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130403AJD-MISC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35768 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35768 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35768 ASW130403AJD-MISC 04042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130410CD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130410CD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130410CD-M.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35820 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35820 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35820 ASW130410CD-M 11042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130410CH-F Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130410CH-F.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35805 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35805 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35805 ASW130410CH-F 10042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130415AJD-MISC Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130415AJD-MISC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35863 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35863 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35863 ASW130415AJD-MISC 16042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130424CH-F Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130424CH-F.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35962 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT35962 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT35962 ASW130424CH-F 26042013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130501AJD-M Fieldsheet_1.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130501AJD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT36019 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT36019 MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT36019 ASW130501AJD-M 03052013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130507MD-M Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130507MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130507MD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130507MD-M.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT36056 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT36056 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT36056 ASW130507MD-M 08052013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130508MD-M Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130508MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130508MD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT36065 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT36065 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT36065 ASW130508MD-M 09052013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130701MD Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130701MD Data Sheet_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130701MD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130701MD.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130701MD.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130701MD.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_INV_Invoice_E934476.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_SRN_130703153921.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_SRN_130703171809.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_1_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_1_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_1_ENMRG_Amended.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_1_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_1_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_1_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_1_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_1_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1315862_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		RE .msg
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		Report Date Error.txt
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130702MD Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130702MD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130702MD.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130702MD.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130702MD.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_0_INV_Invoice_E935377.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_0_MONPRO.MPR

MRM-SUPPLIED DOCUMENTS			
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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_0_SRN_130706113054.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316082_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		OCBP Looking North-West .JPG
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		OCBP Looking South-East.JPG
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130704AD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130704AD.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130704AD.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_0_INV_Invoice_E935843.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_0_SRN_130708213608.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1316196_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130807MD-M Data Sheet_1.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130807MD-M Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130807MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130807MD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130807MD-M.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_INV_Invoice_E943840.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_SRN_130812102813.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319247_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130808MD-M Data Sheet_1.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130808MD-M Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130808MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130808MD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130808MD-M.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_INV_Invoice_E943890.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_SRN_130812155324.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1319355_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NOEFED130808.jpg
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130819AJD-M Fieldsheet_1.pdf

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Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
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4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130819AJD-M.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW190813AJD-M.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_INV_Invoice_E946394.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_SRN_130821184243.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1320077_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130827AJD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130827AJD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_INV_Invoice_E948884.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_SRN_130830124429.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321016_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130905CH-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130905CH-M Fieldsheet_2.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130905CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130905CH-M.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_INV_Invoice_E950527.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_SRN_130909154644.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1321834_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130918MD COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130918MD COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130918MD Field Data_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130918MD Field Data_2.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130918MD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1323089_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1323089_0_INV_Invoice_E953545.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1323089_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1323089_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1323089_0_SRN_130921134123.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1323089_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1323089_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1323089_COC.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130917MD Field Data_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130917MD Field Data_1.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130917MD Field Data_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130918MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130918MD-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_CRN_Invoice_E967441_254576.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_INV_Invoice_E953321.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_INV_Invoice_E967443.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_SRN_130920081726.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1322936_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NOEFED NOEFED SUMP.msg
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		RE McArthur River Mine COCs 130918.msg
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131001MD COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131001MD COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131001MD Field Data_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131001MD Field Data_1.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131001MD Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1324107_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1324107_0_INV_Invoice_E957225.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1324107_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1324107_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1324107_0_SRN_131004083328.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1324107_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1324107_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1324107_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131017CH-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131017CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131017CH-M.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_0_INV_Invoice_E960746.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_0_SRN_131021210407.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1325479_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131028MD-M COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131028MD-M COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131028MD-M Data Sheet_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131028MD-M Data Sheet_1.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131028MD-M Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131028MD-M Fieldsheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326567_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326567_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326567_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326567_0_SRN_131101120520.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326567_0_XSTRA.MPR

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Level 1	Level 2	Level 3	Document File Name
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4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326567_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MIMEX PUMP.jpg
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MIMEX VALVE 131028.jpg
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SPRD 131028.jpg
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131029MD-M COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131029MD-M COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131029MD-M Field Data_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131029MD-M Fieldsheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131029MD-M.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326664_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326664_0_INV_Invoice_E964100.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326664_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326664_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326664_0_SRN_131101135209.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326664_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326664_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1326664_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131120MD-48HR COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131120MD-48HR COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131120MD-48HR Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328814_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328814_0_INV_Invoice_E969308.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328814_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328814_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328814_0_SRN_131122184206.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328814_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328814_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328814_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131120MD-M COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131120MD-M COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131120MD-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328815_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328815_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328815_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328815_0_SRN_131123125649.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328815_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328815_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328815_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121CH-M Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328989_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328989_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328989_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328989_0_SRN_131126075844.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328989_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328989_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328989_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121MD-M COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121MD-M COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121MD-M Data Sheet_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121MD-M Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121MD-M Data Sheet_2.csv

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Level 1	Level 2	Level 3	Document File Name
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4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121MD-M.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131121MD-M2.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328990_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328990_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328990_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328990_0_SRN_131126075730.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328990_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328990_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1328990_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131125CD-MISC COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131125CD-MISC COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131125CD-MISC Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		Copy of NT38175 MRM.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		FW NT38175.msg
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38175 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38175 MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38175P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT38175 ASW131125CD-MISC 26112013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131127MD-24HR Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131127MD-24HR Fieldsheet_2.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131127MD-24HR.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131127MD-MISC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38209 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38209 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT38209 ASW131127MD-MISC 28112013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131202MD-MISC COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131202MD-MISC COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131202MD-MISC Field Data_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131202MD-MISC Field Data_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131202MD-MISC Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131202MD-MISC.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38235 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38235 MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT38235 ASW131202MD-MISC 03122013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131203AD-MISC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131203AD-MISC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38239 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38239 MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT38239 ASW131203AD-MISC 03122013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131204CH Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131204CH.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131204CH.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330299_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330299_0_INV_Invoice_E975467.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330299_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330299_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330299_0_SRN_131209105001.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330299_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330299_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330299_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205CH COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205CH COC.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205CH Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330619_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330619_0_INV_Invoice_E974559.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330619_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330619_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330619_0_SRN_131211111653.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330619_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330619_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330619_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205MD-BB Data Sheet_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205MD-BB Data Sheet_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205MD-BB Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205MD-BB.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205MD-BB.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131205MD-BB.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330460_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330460_0_INV_Invoice_E973767.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330460_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330460_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330460_0_SRN_131210075739.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330460_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330460_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330460_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131210CH Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131210CH.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131210CH.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330889_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330889_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330889_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330889_0_SRN_131213085509.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330889_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330889_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1330889_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131211CH.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131211CH.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1331030_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1331030_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1331030_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1331030_0_SRN_131214121009.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1331030_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1331030_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		EB1331030_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131211CH-MISC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131211CH-MISC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38352 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38352 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38352P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT38352 ASW131211CH-MISC 12122013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		AQUA EXPORT KML.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131216MD-MISC COC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131216MD-MISC COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131216MD-MISC Data Sheet_1.txt
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131216MD-MISC Data Sheet_1.xls

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131216MD-MISC Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38405 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38405 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38405P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT38405 ASW131216MD-MISC 17122013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131223TL-MISC .docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131223TL-MISC Data Sheet_1.csv
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131223TL-MISC Fieldsheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38480 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38480 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT38480 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131229WJ-MISC Fieldsheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131229WJ-MISC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW131230WJ-MISC.docx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38491 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		NT38491 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		SRA NT38491 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		02092013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		11092013.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130604 COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130604 COC.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130604 Data Sheet_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130604 Fieldsheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130604 Fieldsheets_2.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130604 Fieldsheets_3.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130604.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		ASW130604MD.kml
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130605 COC.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130605 COC.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130605 Field Data_1.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130605 Field Data_2.xlsx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130605 Fieldsheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130606 COC.xls
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130606 Field Data_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130606 Fieldsheet_1.pdf
4 Surface water and artificial water monitoring docs	2013 Artificial Surface Water COC		MRM130606.kml
4 Surface water and artificial water monitoring docs	2013 Quarterly data Groundwater		2013 Q2 GW data (Field & Lab).xlsx
4 Surface water and artificial water monitoring docs	2013 Quarterly data Groundwater		2013 Q1 GW Data (Field & Lab).xls
4 Surface water and artificial water monitoring docs	2013 Quarterly data Groundwater		2013 Q3 GW Data (Field & Lab).xlsx
4 Surface water and artificial water monitoring docs	2013 Quarterly data Groundwater		2013 Q4 GW Data (Field and Lab).xlsx
4 Surface water and artificial water monitoring docs	2013 Quarterly Data SW & ASW		2013 Q2 ASW & SW data (Field & Lab).xlsx
4 Surface water and artificial water monitoring docs	2013 Quarterly Data SW & ASW		2013 Q1 ASW Data (Field & Lab).xls
4 Surface water and artificial water monitoring docs	2013 Quarterly Data SW & ASW		2013 Q1 SW Data (Field & Lab).xls
4 Surface water and artificial water monitoring docs	2013 Quarterly Data SW & ASW		2013 Q3 ASW & SW Data (Field & Lab).xlsx
4 Surface water and artificial water monitoring docs	2013 Quarterly Data SW & ASW		2013 Q4 ASW & SW Data (Field and Lab).xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT34960 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT34960 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT34960 SW-WEEKLY130101AJD 03012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW-WEEKLY130101AJD.doc
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT34982 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT34982 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT34982 SW-WEEKLY130107WJ 07012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW-WEEKLY130107AJD.doc

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW-WEEKLY130107AJD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35055 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35055 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35070 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35070 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35055 SW-WEEKLY130114AH-H 14012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35070 SW-WEEKLY130113AH-H 15012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		Submission_SW-WEEKLY130113AH.txt
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW-WEEKLY130113AH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW-WEEKLY130113AH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35026 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35026 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35026 SW130110CH-W 10012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130110CH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130110CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35074 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35074 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35074 SW130115CH-W 15012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130115CH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130115CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35119 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35119 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35119 SW130122CH-W 22012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130122CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130122CH_W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35135 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35135 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35135 SW130123CH-W 23012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130123CH-W FIELDSHEET_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130123CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35147 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35147 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35147 SW130124CH-W 25012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130124CH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130124CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35186 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35186 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35186 SW130129AH-M 30012013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130129AH-M
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130129AH-M FieldSheets_1
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130129AH-M FIELDSHEETS_2.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130129AH-M.doc
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		BARNEY CEASE TO FLOW.txt
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		Copy of NT35233 MRM.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35233 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35233 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35233 SW130203AH-W 04022013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130203AH-W
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130203AH-W FieldSheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130203AH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35256 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35256 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35256 SW130206CH-M 06022013.pdf

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4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130206CH-M FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130206CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35289 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35289 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35289 SW130211AH-M 11022013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130211AH-M
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130211AH-M.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35366 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35366 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35366 SW130217WJ-M 18022013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130217WJ-M FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130217WJ-M.doc
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35416 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35416 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35416 SW130224AH-W 25022013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130224AH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130224AH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35492 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35492 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35492 SW130304CH-W 05032013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130304-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130304CH-W original.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130304CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130304CH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35523 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35523 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35523 SW130307CH-M 08032013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130307CH-M FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130307CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35551 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35551 MRM.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35551 SW130311CH-W 12032013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130311CH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130311CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35621 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35621 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35621 SW130319CD-W 20032013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130319CD-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130319CD-W FIELDSHEETS_2.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130319CD-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		Copy of NT35665 MRM (2)ammended.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35665 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35665 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35665P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35665 SW130324CD-W 26032013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130324CD-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130324CD-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130324CD-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35741 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35741 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35741 SW130401TL 02042013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130401TL COC.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130401TL FIELD DATA_1.csv

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130401TL FIELD DATA_2.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130401TL FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130401TL FIELDSHEETS_2.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35796 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35796 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35796 SW130408CH-W 09042013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130408CH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130408CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130408CH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35806 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35806 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35806 SW130410CH-ICPMS 10042013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130410CH-ICPMS FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130410CH-ICPMS.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35861 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35861 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35861 SW130415CH-W 16042013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130415CH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130415CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35905 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35905 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130421CD-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130421CD-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130421CD-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		Track_2013-04-21 131430.gpx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35976 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT35976 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT35976 SW130428WJ-W 29042013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130428WJ-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130428WJ-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36018 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36018 MRM.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT36018 SW130501AJD-M 03052013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130501AJD-M FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130501AJD-M.doc
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36067 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36067 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT36067 SW130509CH-W 09052013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130509CH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130509CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36115 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36115 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT36115 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130515CH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130515CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130515CH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36156 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36156 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36156P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT36156 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130520CH-MISCPB.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130520CH-MISCPB.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36199 MRM.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36199 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT36199 SW130521CH-W 23052013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130521CH FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130521CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130521CH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36265 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT36265 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT36265 SW130527AH-W 28052013.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130527AH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130527AH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130527AH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_0_INV_Invoice_E932116.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_0_SRN_130626111856.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315185_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130623WJ-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130624WJ-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130624WJ-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_0_INV_Invoice_E934119.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_0_SRN_130702175629.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_COC_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1315745_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130701AH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130701AH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130701AH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_0_INV_Invoice_E935846.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_0_SRN_130708213003.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316193_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130704AD-M FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130704AD-M.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130704AD-M.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_0_ENMRG.CSV

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_0_INV_Invoice_E935553.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_0_SRN_130710090641.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316302_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130708AH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130708AH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130708AH_W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_0_INV_Invoice_E937365.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_0_SRN_130716230840.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1316897_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130715WJ-W FIELD DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130715WJ-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130715WJ-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130715WJ-W.kml
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130715WJ-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_0_SRN_130724090011.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1317569_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130722WJ-W CHECKLIST_1.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130722WJ-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130722WJ-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130722WJ-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_INV_Invoice_E941135.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_SRN_130730142757.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1318172_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130729AH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130729AH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130729AH-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_COA.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_INV_Invoice_E943930.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_SRN_130812103604.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319252_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130808WJ-W FIELD DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130808WJ-W FIELD DATA_2.kml
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130808WJ-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130808WJ-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130808WJ-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_INV_Invoice_E945238.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_SRN_130816212614.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_SRN_130819165536.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319769_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130813MD-W Checklist_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130813MD-W FIELD DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130813MD-W FIELD SHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130813MD-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130813MD-W.kml
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130813MD-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_INV_Invoice_E946061.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_SRN_130821130926.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1319986_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130819-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130819AH-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130819AH-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_INV_Invoice_E946400.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_SRN_130821184229.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320080_COC.pdf

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4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130819AJD-M FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130819AJD-M.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130819AJD-M.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_0_SRN_130828181732.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1320708_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130825WJ-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130825WJ-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130825WJ-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_INV_Invoice_E949697.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_SRN_130904141536.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321385_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130902WJ-W FIELD DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130902WJ-W FIELD DATA_2.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130902WJ-W FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130902WJ-W.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130902WJ-W.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_0_COA.pdf
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4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_0_INV_Invoice_E950528.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_0_SRN_130909155310.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1321835_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130905CH-M FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130905CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130905CH-M.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_INV_Invoice_E952025.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_SRN_130913103539.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322300_COC.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130911CH FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130911CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130911CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322934_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322934_0_INV_Invoice_E953319.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322934_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322934_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322934_0_SRN_130920081112.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322934_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322934_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1322934_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		RE McArthur River Mine COCs 130918.msg
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130918MD FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130918MD FIELD DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130918MD.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_0_INV_Invoice_E955363.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_0_SRN_130926143813.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_0_XTAB-AMMENDED.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1323385_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130924CH FIELD DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130924CH FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130924CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130924CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324018_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324018_0_INV_Invoice_E958640.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324018_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324018_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324018_0_SRN_131004001454.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324018_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324018_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324018_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130930CH FIELD DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130930CH FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130930CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW130930CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_0_INV_Invoice_E958006.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_0_SRN_131008165235.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_0_XTAB.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1324309_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131007CH FIELD DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131007CH FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131007CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131007CH.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_0_SRN_131017080629.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_0_XTAB.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_0_XTAB_Ammended.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325129_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SUBMISSION.txt
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131014CH FIELD DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131014CH FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131014CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_0_INV_Invoice_E960741.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_0_SRN_131021210457.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325475_COC_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131017CH-M FEILDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131017CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131017CH-M.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325910_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325910_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325910_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325910_0_SRN_131024150016.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325910_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325910_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1325910_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131023CH FIELD DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131023CH FIELD SHEET_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131023CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131023CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1326665_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1326665_0_INV_Invoice_E964101.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1326665_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1326665_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1326665_0_SRN_131101135326.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1326665_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1326665_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1326665_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131029CH FIELD SHEET_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131029CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131029CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327168_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327168_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327168_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327168_0_SRN_131106184039.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327168_0_XTAB.XLS

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Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327168_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131105CH FIELD DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131105CH FIELD SHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131105CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131105CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327807_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327807_0_INV_Invoice_E967041.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327807_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327807_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327807_0_SRN_131114091736.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327807_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327807_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1327807_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131111MD CHECKLIST_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131111MD FIELD DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131111MD FIELD DATA_2.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131111MD FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131111MD.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131111MD.kml
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131111MD.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328674_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328674_0_INV_Invoice_E969247.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328674_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328674_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328674_0_SRN_131122091105.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328674_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328674_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328674_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131119AJD.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131119AJD.kml
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131119AJD.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131119AJD_CHECKLIST_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131119AJD_FIELD_DATA_1.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131119AJD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328991_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328991_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328991_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328991_0_SRN_131126102456.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328991_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328991_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1328991_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131121CH-M.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131121CH-M.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131121CH-M_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1329398_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1329398_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1329398_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1329398_0_SRN_131129192026.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1329398_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1329398_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1329398_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131125CD.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131125CD.kml

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Level 1	**Level 2**	**Level 3**	**Document File Name**
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131125CD.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131125CD_FIELD_DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131125CD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330180_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330180_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330180_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330180_0_SRN_131207083527.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330180_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330180_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330180_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131203CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131203CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131203CH_FIELD_DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131203CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330302_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330302_0_INV_Invoice_E973434.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330302_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330302_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330302_0_SRN_131209073446.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330302_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330302_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330302_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131204AD CHECKLIST.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131204AD FIELDSHEETS.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131204AD.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131204AD.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330298_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330298_0_INV_Invoice_E973432.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330298_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330298_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330298_0_SRN_131209074035.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330298_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330298_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330298_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131204CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131204CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330455_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330455_0_INV_Invoice_E973764.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330455_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330455_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330455_0_SRN_131210074506.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330455_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330455_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330455_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131205AD FIELDSHEET.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131205AD.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131205AD.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330887_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330887_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330887_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330887_0_SRN_131213090033.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330887_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330887_0_XTAB.XLS

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1330887_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131210CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131210CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131210CH_FIELD_DATA_1.xlsx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131210CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331023_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331023_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331023_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331023_0_SRN_131214121246.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331023_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331023_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331023_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131211CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131211CH.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331686_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331686_0_INV_Invoice_E977033.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331686_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331686_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331686_0_SRN_131220111700.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331686_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331686_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		EB1331686_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131217CH.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131217CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131217CH_FIELDSHEETS_2.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT38481 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT38481 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT38481 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131223TL.docx
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131223TL.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131223TL_FIELD_DATA_1.csv
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131223TL_Field_sheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT38493 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		NT38493 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SRA NT38493 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131229WJ-W_FIELD_DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131229WJ-W_FIELD_DATA_2.kml
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131229WJ-W_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Surface Water 2013 COC		SW131230WJ-W.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT34983 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT34983 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT34983P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT34983 WDL130107TL 07012013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130107TL.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35057 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35057 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35057P MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35057 WDL130114AH 14012013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130113AH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130113AH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35118 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35118 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35118P MRM.XLS

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35118 WDL130121CH-W 22012013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130121CH-W.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130121CH-W_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130121CH-W_FIELDSHEETS_2.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35148 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35148 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35148P MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35148 WDL130124TL 25012013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130124TL.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130124TL_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35172 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35172 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35172P MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35172 WDL130129CH 29012013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130129CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35234 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35234 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35234P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35234 WDL130203 04022013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130203AH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130203AH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35290 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35290 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35290P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35290 WDL130211TL 11022013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130211_FIELDSHEETS_1
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130211TL.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35365 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35365 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35365P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35365 WDL130217WJ 18022013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130217WJ.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130217WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35415 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35415 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35415P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35415 WDL130224AH-W 25022013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130224AH-W.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130224AH-W_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		Copy of NT35473 MRM.csv
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		Incorrect dates on NTEL report WDL130304AH.msg
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35473 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35473 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35473P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35473 WDL130304AH 04032013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130304AH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130304AH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35540 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35540 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35540P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35540 WDL130311WL 11032013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SW130311CH-W_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130311WJ.docx

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130311WJ_FIELDSHEETS_2.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130311WJ_FIELDSHEETS_3.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35609 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35609 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35609P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35609 WDL130318WJ 19032013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130318WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL13O318WJ.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		Copy of NT35664#2 MRMammended.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		Copy of NT35664#3 MRMammended.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		Copy of NT35664P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35664 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35664 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35664#2 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35664#2 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35664#3 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35664#3 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35664P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35664 WDL130324CD 26032013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130324CD.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130324CD.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130324CD_CONNOTE_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130324CD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35740 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35740 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35740 WDL130401TL 02042013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130401TL.xlsx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130401TL_FIELD_DATA_1.csv
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130401TL_FIELD_DATA_2.csv
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130401TL_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35795 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35795 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35795 WDL130408CD 09042013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130408CD.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130408CD.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130408CD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35860 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35860 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35860 WDL130415CD 16042013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130415CD SRA NT35860.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130415CD.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130415CD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35906 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35906 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35906P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		Track_2013-04-21 131430.gpx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130421CD.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130421CD.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130421CD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35977 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT35977 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT35977 WDL130428WJ 29042013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130428WJ.docx

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130428WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT36057 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT36057 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT36057 WDL130507CH 08052013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130507CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130507CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130507CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT36100 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT36100 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT36100 WDL130514CH 14052013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130514CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130514CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130514CH_FIELDSHEETS_2.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT36168 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT36168 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT36168 WDL130521CH 21052013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130521CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130521CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130521CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT36262 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT36262 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT36262 WDL130527AH 28052013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130527AH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130527AH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130527AH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_0_INV_Invoice_E932096.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_0_SRN_130626113721.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315182_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130623WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130624WJ.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130624WJ.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_INV_Invoice_E934034.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_SRN_130702174711.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_SRN_130703090237.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_SRN_130703171714.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1315726_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130701AH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130701AH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130701AH_FIELDSHEETS_1.pdf

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_0_INV_Invoice_E936413.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_0_SRN_130710081911.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316276_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130708AH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130708AH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130708AH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_0_INV_Invoice_E937366.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_0_SRN_130716230056.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_1_CRN_Invoice_E965963_254576.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_1_INV_Invoice_E965966.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1316898_XSTRATA.mpr
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SW130715WJ-W_FIELD_DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130715WJ.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130715WJ.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130715WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_0_SRN_130724090707.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_1_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_1_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_1_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_1_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_1_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_1_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_1_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1317567_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130722WJ.docx
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4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130722WJ_CHECKLIST_1.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130722WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_INV_Invoice_E941618.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_MONPRO.MPR

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Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_SRN_130730143152.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1318169_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SW11 Note.txt
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130729AH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130729AH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130729AH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_INV_Invoice_E943844.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_SRN_130812103600.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319256_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130808WJ.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130808WJ.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130808WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_INV_Invoice_E945237.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_SRN_130816211259.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_SRN_130819163308.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319767_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SW130813MD-W_FIELD_DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130813MD.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130813MD.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130813MD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_INV_Invoice_E946058.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_SRN_130821115319.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1319983_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130819AH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130819AH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130819AH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_0_ENMRG.CSV

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_0_SRN_130828181454.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1320709_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130825WJ.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130825WJ.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130825WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_INV_Invoice_E949696.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_SRN_130904142703.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1321376_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130902WJ.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130902WJ.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130902WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_ENMRG.CSV
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_INV_Invoice_E952020.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_SRN_130913102824.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_1_COA.pdf
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4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_1_MONPRO.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_1_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_1_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_1_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_1_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322293_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130911CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130911CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130911CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_0_CRN_Invoice_E966260_254576.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_0_INV_Invoice_E953317.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_0_SRN_130920083240.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1322932_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		RE McArthur River Mine COCs 130918.msg

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130918CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130918CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323088_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323088_0_INV_Invoice_E953543.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323088_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323088_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323088_0_SRN_130921134555.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323088_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323088_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323088_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130918MD.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130918MD.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130918MD_FIELD_DATA_1.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130918MD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323384_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323384_0_INV_Invoice_E955362.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323384_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323384_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323384_0_SRN_130926143900.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323384_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323384_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1323384_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130924CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130924CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130924CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324016_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324016_0_INV_Invoice_E957156.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324016_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324016_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324016_0_SRN_131004001422.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324016_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324016_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324016_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		Issues with lab data ASW2 and ASW6.txt
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130930CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130930CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL130930CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_0_INV_Invoice_E958012.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_0_SRN_131008170204.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_0_XTAB.csv
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1324335_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131007CH.docx
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4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131007CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325128_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325128_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325128_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325128_0_SRN_131017080853.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
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4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325128_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325128_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SUBMISSION.txt
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131014CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131014CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		ASW6 dry - downstream of sample point.JPG
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		ASW6 dry- upstream of sample point.JPG
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325913_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325913_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325913_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325913_0_SRN_131024145628.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325913_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325913_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1325913_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131023CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131023CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131023CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1326654_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1326654_0_INV_Invoice_E964097.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1326654_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1326654_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1326654_0_SRN_131101131253.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1326654_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1326654_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1326654_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131029CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131029CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131029CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327167_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327167_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327167_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327167_0_SRN_131106183945.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327167_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327167_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327167_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131104CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131104CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131104CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_0_INV_Invoice_E967038.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_0_SRN_131114090939.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_1_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_1_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_1_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_1_SRN_131122121844.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_1_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_1_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1327805_COC.pdf

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Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131111MD.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131111MD.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131111MD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1328671_0_COA.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1328671_0_INV_Invoice_E969246.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1328671_0_QC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1328671_0_QCI.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1328671_0_SRN_131122115155.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1328671_0_XSTRA.MPR
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1328671_0_XTAB.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		EB1328671_COC.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131119AJD.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131119AJD.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131119AJD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38197 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38197 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38197P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT38197 WDL131126CD 27112013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131126CD.DOCX
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131126CD.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131126CD_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38250 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38250 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT38250 WDL131203CH 04122013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131203CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131203CH.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131203CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38259 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38259 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38259P MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT38259 WDL131204AD 04122013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131204AD FIELDSHEETS.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131204AD.docx
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4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38327 MRM.pdf
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4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38327P MRM.xls
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4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131210CH_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38434 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38434 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38434P MRM.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT38434 WDL131217CH 18122013.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131217_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131217CH.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131217CH_FIELDSHEETS_2.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		Copy of NT38479 MRM CSV.csv
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38479 MRM CSV.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38479 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SCANNED SUBMISSION.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT38479 MRM.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131223TL.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131223TL_FIELD_DATA_1.csv
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131223TL_FIELD_DATA_2.xls
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131223TL_field_sheets_1.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38492 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		NT38492 MRM.XLS
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		SRA NT38492 MRM.pdf
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WDL131230WJ.docx
4 Surface water and artificial water monitoring docs	2013 Waste Discharge Licence SW COC		WSL131229WJ_FIELDSHEETS_1.pdf
4 Surface water and artificial water monitoring docs			Bing Bong Wet Season Water Management 2013.xlsx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		1116 MRM WMS Upgrade Concept RevG.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Donkey 2013 Works Information V1.pptx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		20130820 CEPROD BOQ -b.xlsx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		ceprod storage.rpt
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		ds ceprod fs.dwg
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		A450B.P001.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		A450B_R001b.docx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Fig 3.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Fig 4.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Fig 5.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Fig 6.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		0790-03-I_Concept_Sizing_of_CEPROD.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Intech Drawings Borefifield & Evase.zip
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		0790-09-E.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		0790-12-A_N1_Drain_Outlet.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		0790-09-E.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		BOQ v2b.xlsx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-021-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-022-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-023-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-024-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-025-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-026-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-027-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-028-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-029-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM-REE-030-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Ochrewest Drainage Report & Drawings_1.zip
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Ochrewest Drainage Report & Drawings_2.zip
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	1110C0040 Rev D.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	1110C0041 Rev D.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	Clay core dam - typical section.jpg
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-001-C.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-002-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-002-B1.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-003-A.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-004-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-004-C.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-005-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-006-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-007-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-008-B.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-009-B.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-010-C.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-011-D.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-012-C.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-013-C.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	1110C0040 Rev D.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	1110C0041 Rev D.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-001-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-002-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-003-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-004-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-005-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-006-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-007-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-008-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-009-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-010-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-011-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-012-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-013-0.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Drawings	MRM-REE-014-A.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		MRM17JAN14 SEPROD Ascon.dxf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		mrmseprod_mar24.dgd.isis
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		mrmseprod_mar24.dgd.isix
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Quantities	1145CU0001 Rev B SEPROD Rock Quantities By Chainage 130716.xlsx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Quantities	20130313 Levee BOQ v2.xlsx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Quantities	20130324 SEPROD BOQ v2.xlsx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls	Quantities	storage seprod.rpt
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		SEPROD south batter spillway overtip.gif
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		SEPROD south batter spillway overtip.snag
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		1110-SP-003 SEPROD Earthworks _ Specification Rev I 20130614.docx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		20130228 Review of Seepage Rates.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		A254G_R002B final.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Design Report MRM SEPROD and Levee -B - DH review.pdf
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		GEN-SD-FRM-6040-009 Risk Assessment Worksheet - NOEF Rev B 130719.xlsx
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Rock donut windrow compaction.gif
4 Surface water and artificial water monitoring docs	Design implentation of surface water controls		Rock donut windrow compaction.snag
4 Surface water and artificial water monitoring docs			Ecotoxicity _MRM trigger value development plan_R1_V2-0.pdf
4 Surface water and artificial water monitoring docs			MDOC201302190ConditionalApprovalMonitoring Program Changes.pdf
4 Surface water and artificial water monitoring docs			MRM Waste Discharge Licence Report September 2013.pdf
4 Surface water and artificial water monitoring docs			TPH Data SW, WDL, ASW.xlsx
4 Surface water and artificial water monitoring docs			Vibrio report Nov 2012 final.pdf
4 Surface water and artificial water monitoring docs			Vibrio report Sep 2013 final.pdf
4 Surface water and artificial water monitoring docs	Water Balance		0790-10-E DRAFT Water Balance Report - DH review + TL comments.pdf
4 Surface water and artificial water monitoring docs	Water Balance		130812 Memo WRM Water Balance update.pdf
4 Surface water and artificial water monitoring docs	Water Balance		130827 PROPOSAL WRM Water Balance 2013.pdf
4 Surface water and artificial water monitoring docs	Water Balance		2012 WRM 0790-02- Water_Balance_Report.doc
4 Surface water and artificial water monitoring docs	Water Balance		Gary's comments on balance report.pdf
5 Groundwater monitoring	2		130612 Notification of Proposed Monitoring Bore installation_JC.docx
5 Groundwater monitoring	2		131118 LTTR additional information MRM Drilling Program.pdf
5 Groundwater monitoring	2		2013 Bore Logs.zip
5 Groundwater monitoring	2		Additional Information MRM Drilling Program.msg
5 Groundwater monitoring	2		Figure 1.JPG
5 Groundwater monitoring	2		FW Environmental Drilling Response to Government.msg
5 Groundwater monitoring	2		RE NOEF GW assessment bores.msg
5 Groundwater monitoring	3		MRM 2012 EM Survey.pdf
5 Groundwater monitoring	3		MRM 2013 EM Survey Data.pdf
5 Groundwater monitoring	4		Deep Groundwater Investigation RPS.pdf
5 Groundwater monitoring	4		Groundwater Assessment Around OEF RPS.pdf
5 Groundwater monitoring	4		Groundwater modelling of Seepage from EPROD.pdf

MRM-SUPPLIED DOCUMENTS			
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Level 1	Level 2	Level 3	Document File Name
5 Groundwater monitoring	4		Groundwater modelling of Seepage from SEPROD.pdf
5 Groundwater monitoring	4		I001 PAF Dam seepage remediation works.pdf
5 Groundwater monitoring	4		Shallow Groundwater Investigation RPS.pdf
5 Groundwater monitoring	6		URS Phase 3 GW Model.pdf
5 Groundwater monitoring	7		MRM REPORT Water Inflow Interdiction Containment Open Pit 12092012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FIELD SHEETS.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-ICPMS121004CH.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT33970 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33970 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33970 GW-ICPMS121004CH 05102012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data (GW3A) - GW120709TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data (GW5A) - GW120709TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120709TL.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT33060 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33060 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33060 GW120709TL 10072012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120823CH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120823CH.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT33565 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33565 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33565 GW120823CH 22082012 24082012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FIELD SHEETS.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120831AJD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT33610 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33610 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33610 GW120831AJD 03092012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FIELD SHEETS.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120904AJD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT33665 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33665 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33665 GW120904AJD 05092012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120918CH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120918CH.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT33761 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33761 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33761 GW120918CH 18092012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120919CH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120919CH.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT33810 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33810 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33810 GW120919CH 19092012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120920CH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120920CH.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT33834 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33834 MRM.XLS
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5 Groundwater monitoring	Groundwater data	01 Complete	NT33870 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33870 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33870 GW120926CH 27092012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Sheets.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW121002MD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT33929 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33929 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33929 GW121002MD 02102012.pdf
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5 Groundwater monitoring	Groundwater data	01 Complete	NT34501 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT34501 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT34501 GWfull-ICPMS121122CH 23112012.pdf
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5 Groundwater monitoring	Groundwater data	01 Complete	NT33413 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33413 MRM.XLS
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33413 GWMONTHLY120814CH 13082012 14082012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW-QUARTERLY120112MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120112MD receipt.xlsx
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5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY120116MD.pdf
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5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-Quarterly120116TL.pdf
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5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120116TL.docx
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY120124TL.pdf
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5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY120126TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120126TL.doc
5 Groundwater monitoring	Groundwater data	01 Complete	Sample Receipt MRM GW-QUARTERLY120126TL.xlsx
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY120201AJD.pdf
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5 Groundwater monitoring	Groundwater data	01 Complete	Sample Receipt MRM GW-QUARTERLY120201AJD.xlsx
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY120201MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120201MD.docx
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120201MD.xlsx
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY120503.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	DOC030512.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW-QUARTERLY120503.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120503.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT32342 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT32342 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT 32342 GW-QUARTERLY120503.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-Quarterly120510TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	DOC100512.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW-QUARTERLY120510TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120510TL.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT32424 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT32424 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT32424 GW-QUARTERLY120510TL 11052012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY120517TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW-QUARTERLY120517TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120517TL.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT32511 MRM.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
5 Groundwater monitoring	Groundwater data	01 Complete	NT32511 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT32511 GW-QUARTERLY120517TL 18052012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW-QUARTERLY120522TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW-QUARTERLY120522TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Sheet
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120522TL.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT32534 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT32534 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA 32534 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW-Quarterly120524.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Sheets - GW-QUARTERLY120524MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120524MD.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT32630 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT32630 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA 32630 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW-QUARTERLY120529MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Sheets - GW-QUARTERLY120529MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120529MD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT32670 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT32670 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT32670 GW-QUARTERLY120529MD 30052012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW-QUARTERLY120529TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW-QUARTERLY120529TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Sheet - GW-QUARTERLY120529TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	field sheets.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW-QUARTERLY120529TL.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT32657 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT32657 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT32657 GW-QUARTERLY120529TL 29052012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW-QUARTERLY120531TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field shhets
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY1205112MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW-QUARTERLY1250131MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Sheet - GW-QUARTERLY1250131MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Sample Receipt MRM GW-QUARTERLY1250131MD.xlsx
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW120306AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120306AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FINAL REPORT.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120306AJD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT31657 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT31657 GW120303AJD 070312.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETEGW120308.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FINAL REPORT GW120308AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120308AJD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT31671 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT31671 GW120308AJD 090312.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW120313AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120313AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FINAL REPORT.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120313AJD.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT31785 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT31785 GW120313AJD 14032012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW120322MH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120322MH.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT31935 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT31935 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT31935 GW120322MH 230312.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW120327CH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120327CH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Final Report - NT31965 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120327CH.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT31965 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT31965 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT31965 GW120327CH 270312.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW120405TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120405TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW120306AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120306AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FINAL REPORT.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120306AJD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT31657 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT31657 GW120303AJD 070312.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETEGW120308.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FINAL REPORT GW120308AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120308AJD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT31671 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT31671 GW120308AJD 090312.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW120313AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120313AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	FINAL REPORT.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120313AJD.docx
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW120327CH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120327CH.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Final Report - NT31965 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120327CH.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT31965 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT31965 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT31965 GW120327CH 270312.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120405TL.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT32102 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT32102 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT32102 GW120405TL 10042012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW120412TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120412TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Final Report - NT32138 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120412TL.doc
5 Groundwater monitoring	Groundwater data	01 Complete	NT32138 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT32138 GW120412TL 13042012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GW120502TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	DOC020512.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Field Data - GW120502TL.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GW120502TL.docx
5 Groundwater monitoring	Groundwater data	01 Complete	NT32324 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT32324 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT32324 GW120502TL 02052012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	Complete - GW120628MD.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
5 Groundwater monitoring	Groundwater data	01 Complete	GW120628MD.docx
5 Groundwater monitoring	Groundwater data	01 Complete	GW120628MD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33000 MRM.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	NT33000 MRM.xls
5 Groundwater monitoring	Groundwater data	01 Complete	SRA NT33000 GW120628MD 29062012.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GWBIAN120206AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GWBIAN120206AJD.doc
5 Groundwater monitoring	Groundwater data	01 Complete	Sample Receipt MRM GWBIAN120206AJD.xlsx
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GWBIAN120208AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GWBIAN120208AJD.docx
5 Groundwater monitoring	Groundwater data	01 Complete	Sample Receipt MRM GWBIAN120208AJD.xlsx
5 Groundwater monitoring	Groundwater data	01 Complete	COMPLETE - GWBIAN120209AJD.pdf
5 Groundwater monitoring	Groundwater data	01 Complete	GWBIAN120209AJD.docx
5 Groundwater monitoring	Groundwater data	01 Complete	Sample Receipt MRM GWBIAN120209AJD.xlsx
5 Groundwater monitoring	Groundwater data		DECEMBER CHECKLIST.pdf
5 Groundwater monitoring	Groundwater data	GW-FULLICPMS121115CH	FIELD SHEETS.pdf
5 Groundwater monitoring	Groundwater data	GW-FULLICPMS121115CH	GW-FULLICPMS121115CH.docx
5 Groundwater monitoring	Groundwater data	GW-FULLICPMS121115CH	NT34457 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW-FULLICPMS121115CH	NT34457 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW-FULLICPMS121115CH	SRA NT34457 GW-FULLICPMS121115CH 16112012.pdf
5 Groundwater monitoring	Groundwater data	GW-ICPMS121011TL	201210251241.pdf
5 Groundwater monitoring	Groundwater data	GW-ICPMS121011TL	GW-ICPMS121011TL.docx
5 Groundwater monitoring	Groundwater data	GW-ICPMS121011TL	NT34037 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW-ICPMS121011TL	NT34037 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW-ICPMS121011TL	SRA NT34037 GW-ICPMS121011TL 12102012.pdf
5 Groundwater monitoring	Groundwater data	GW120705AJD	Field Data - GW120705AJD.pdf
5 Groundwater monitoring	Groundwater data	GW120705AJD	GW120705AJD.doc
5 Groundwater monitoring	Groundwater data	GW120705AJD	NT33041 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW120705AJD	NT33041 MRM.xls
5 Groundwater monitoring	Groundwater data	GW120705AJD	SRA NT33041 GW120705AJD 06072012.pdf
5 Groundwater monitoring	Groundwater data	GW120709AJD	Field Data - GW120709AJD.pdf
5 Groundwater monitoring	Groundwater data	GW120709AJD	GW120709AJD.doc
5 Groundwater monitoring	Groundwater data	GW120709AJD	NT33059 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW120709AJD	NT33059 MRM.xls
5 Groundwater monitoring	Groundwater data	GW120709AJD	SRA NT33059 GW120709AJD 10072012.pdf
5 Groundwater monitoring	Groundwater data	GW120712AJD	GW120712AJD.doc
5 Groundwater monitoring	Groundwater data	GW120712AJD	GW120712AJD.pdf
5 Groundwater monitoring	Groundwater data	GW120712AJD	NT33144 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW120712AJD	NT33144 MRM.xls
5 Groundwater monitoring	Groundwater data	GW120712AJD	SRA NT33144 GW120712AJD 13072012.pdf
5 Groundwater monitoring	Groundwater data	GW120719AJD	GW120719AJD.doc
5 Groundwater monitoring	Groundwater data	GW120719AJD	GW120719AJD.pdf
5 Groundwater monitoring	Groundwater data	GW120719AJD	NT33226 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW120719AJD	NT33226 MRM.xls
5 Groundwater monitoring	Groundwater data	GW120719AJD	SRA NT33226 GW120719AJD 20072012.pdf
5 Groundwater monitoring	Groundwater data	GW120726AJD	120725 Field Sheets.pdf
5 Groundwater monitoring	Groundwater data	GW120726AJD	120726 Field Sheets6.pdf
5 Groundwater monitoring	Groundwater data	GW120726AJD	GW120726AJD.doc
5 Groundwater monitoring	Groundwater data	GW120726AJD	NT33251 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW120726AJD	NT33251 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW120726AJD	SRA NT33251 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW120731AJD	GW120731AJD.doc
5 Groundwater monitoring	Groundwater data	GW120731AJD	GW120731AJD.pdf
5 Groundwater monitoring	Groundwater data	GW120731AJD	NT33272 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW120731AJD	NT33272 MRM.xls
5 Groundwater monitoring	Groundwater data	GW120731AJD	SRA NT33272 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW120927CH	Field Sheets.pdf
5 Groundwater monitoring	Groundwater data	GW120927CH	GW120927CH.docx
5 Groundwater monitoring	Groundwater data	GW120927CH	NT33912 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW120927CH	NT33912_Report.pdf
5 Groundwater monitoring	Groundwater data	GW120927CH	SRA NT33912 GW120927CH 28092012.pdf
5 Groundwater monitoring	Groundwater data	GW121009AJD	GW121009AJD.doc
5 Groundwater monitoring	Groundwater data	GW121009AJD	NT34028 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121009AJD	NT34028 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121009AJD	SRA NT34028 GW121009AJD 10102012.pdf
5 Groundwater monitoring	Groundwater data	GW121011TL	201210251242.pdf
5 Groundwater monitoring	Groundwater data	GW121011TL	GW121011TL.docx
5 Groundwater monitoring	Groundwater data	GW121011TL	NT34038 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121011TL	NT34038 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121011TL	SRA NT34038 GW121010TL 12102012.pdf
5 Groundwater monitoring	Groundwater data	GW121119TL	201211201703.pdf
5 Groundwater monitoring	Groundwater data	GW121119TL	GW121119TL.docx
5 Groundwater monitoring	Groundwater data	GW121119TL	NT34474 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121119TL	NT34474 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121119TL	SRA NT34474 GW121119TL 20112012.pdf
5 Groundwater monitoring	Groundwater data	GW121129MD-ICPMS	Field Sheets.pdf
5 Groundwater monitoring	Groundwater data	GW121129MD-ICPMS	GW121129MD-ICPMS.docx
5 Groundwater monitoring	Groundwater data	GW121129MD-ICPMS	NT34616 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121129MD-ICPMS	NT34616 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121129MD-ICPMS	SRA NT34616 GW121129MD-ICPMS 30112012.pdf
5 Groundwater monitoring	Groundwater data	GW121206AH	Field sheets.pdf
5 Groundwater monitoring	Groundwater data	GW121206AH	GW121206AH Field sheets.pdf
5 Groundwater monitoring	Groundwater data	GW121206AH	GW121206AH.doc
5 Groundwater monitoring	Groundwater data	GW121206AH	NT34687 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121206AH	NT34687 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121206AH	SRA NT34687.pdf
5 Groundwater monitoring	Groundwater data	GW121207AH	GW121207AH Field sheets.pdf
5 Groundwater monitoring	Groundwater data	GW121207AH	GW121207AH.docx
5 Groundwater monitoring	Groundwater data	GW121207AH	NT34692 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121207AH	NT34692 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121207AH	SRA NT34692.pdf
5 Groundwater monitoring	Groundwater data	GW121217TL	Field Sheets GW121216AH.pdf
5 Groundwater monitoring	Groundwater data	GW121217TL	GW121217TL.docx
5 Groundwater monitoring	Groundwater data	GW121217TL	NT34796 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121217TL	NT34796 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121217TL	SRA NT34796 GW121217TL 18122012.pdf
5 Groundwater monitoring	Groundwater data	GW121220AH	Field Sheets GW121220AH.pdf
5 Groundwater monitoring	Groundwater data	GW121220AH	GW121220AH.docx
5 Groundwater monitoring	Groundwater data	GW121220AH	NT34837 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121220AH	NT34837 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121220AH	SRA NT34837 GW121220AH 21122012.pdf
5 Groundwater monitoring	Groundwater data	GW121228AH	GW121228AH Field Sheets.pdf
5 Groundwater monitoring	Groundwater data	GW121228AH	GW121228AH.docx
5 Groundwater monitoring	Groundwater data	GW121228AH	NT34922 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW121228AH	NT34922 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW121228AH	SRA NT34922 GW121228AH 31122012.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
5 Groundwater monitoring	Groundwater data	GWBB-BIAN120927AJD	Field Sheet.pdf
5 Groundwater monitoring	Groundwater data	GWBB-BIAN120927AJD	GWBB-BIAN120927AJD.doc
5 Groundwater monitoring	Groundwater data	GWBB-BIAN120927AJD	NT33910 MRM.pdf
5 Groundwater monitoring	Groundwater data	GWBB-BIAN120927AJD	NT33910 MRM.XLS
5 Groundwater monitoring	Groundwater data	GWBB-BIAN120927AJD	SCANNED FIELD SHEETS GWBB-BIAN120927AJD.pdf
5 Groundwater monitoring	Groundwater data	GWBB-BIAN120927AJD	SRA NT33910 GWBB-BIAN120927AJD 28092012.pdf
5 Groundwater monitoring	Groundwater data	GWBI-ANNUAL121025CH	FIELD SHEETS.pdf
5 Groundwater monitoring	Groundwater data	GWBI-ANNUAL121025CH	GWBI-ANNUAL121025CH.docx
5 Groundwater monitoring	Groundwater data	GWBI-ANNUAL121025CH	NT34199 MRM.pdf
5 Groundwater monitoring	Groundwater data	GWBI-ANNUAL121025CH	NT34199 MRM.XLS
5 Groundwater monitoring	Groundwater data	GWBI-ANNUAL121025CH	SRA NT34199 MRM.pdf
5 Groundwater monitoring	Groundwater data	GWcommitted-fullICPMS121119CH	fIELD Sheets GWcommitted-fullcpms.pdf
5 Groundwater monitoring	Groundwater data	GWcommitted-fullICPMS121119CH	GWcommitted-fullICPMS.docx
5 Groundwater monitoring	Groundwater data	GWcommitted-fullICPMS121119CH	NT34472 MRM.pdf
5 Groundwater monitoring	Groundwater data	GWcommitted-fullICPMS121119CH	NT34472 MRM.XLS
5 Groundwater monitoring	Groundwater data	GWcommitted-fullICPMS121119CH	SRA NT34472 GWcommitted-fullICPMS121119CH 20112012.pdf
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121108CH	FIELD SHEETS.pdf
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121108CH	GWFULL-ICPMS121108CH.docx
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121108CH	NT34366 MRM.pdf
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121108CH	NT34366 MRM.XLS
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121108CH	SRA NT34366 GWFULL-ICPMS121108CH 09112012.pdf
5 Groundwater monitoring	Groundwater data	GWfull-ICPMS121121AH	Field sheets GW121120AH.pdf
5 Groundwater monitoring	Groundwater data	GWfull-ICPMS121121AH	GWfull-ICPMS121121AH.docx
5 Groundwater monitoring	Groundwater data	GWfull-ICPMS121121AH	NT34487 MRM.pdf
5 Groundwater monitoring	Groundwater data	GWfull-ICPMS121121AH	NT34487 MRM.XLS
5 Groundwater monitoring	Groundwater data	GWfull-ICPMS121121AH	SRA NT34487 GWfull-ICPMS121121AH 21112012.pdf
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121123TL	GWFULL-ICPMS121123TL.docx
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121123TL	NT34544 MRM.pdf
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121123TL	NT34544 MRM.XLS
5 Groundwater monitoring	Groundwater data	GWFULL-ICPMS121123TL	SRA NT34544 GWFULL-ICPMS121123CTL 26112012.pdf
5 Groundwater monitoring	Groundwater data	GWicpms120926CH	Field Sheets.pdf
5 Groundwater monitoring	Groundwater data	GWicpms120926CH	GWicpms120926CH.docx
5 Groundwater monitoring	Groundwater data	GWicpms120926CH	NT33871 MRM.pdf
5 Groundwater monitoring	Groundwater data	GWicpms120926CH	NT33871 MRM.XLS
5 Groundwater monitoring	Groundwater data	GWicpms120926CH	SRA NT33871 GWicpms120926CH 27092012.pdf
5 Groundwater monitoring	Groundwater data		Q1 2012 GW - Lab & Field.xlsx
5 Groundwater monitoring	Groundwater data		Q2 2012 GW Lab & Field Data.xlsx
5 Groundwater monitoring	Groundwater data		Q3 2012 - GW Lab & Field.xlsx
5 Groundwater monitoring	Groundwater data		Q4 2012 GW Field & Lab.xlsx
5 Groundwater monitoring	Groundwater data		03 March Checklist.pdf
5 Groundwater monitoring	Groundwater data		04 April Checklist.pdf
5 Groundwater monitoring	Groundwater data		07 July Checklist.pdf
5 Groundwater monitoring	Groundwater data		8 August Checklist.pdf
5 Groundwater monitoring	Groundwater data	GW130102AH	GW130102AH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130102AH	GW130102AH FIELDSHEETS_2.pdf
5 Groundwater monitoring	Groundwater data	GW130102AH	GW130102AH.docx
5 Groundwater monitoring	Groundwater data	GW130102AH	NT34959 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130102AH	NT34959 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130102AH	SRA NT34959 GW130102AH 03012013.pdf
5 Groundwater monitoring	Groundwater data	GW130104TL	DW130104TL FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130104TL	GW130104TL.docx
5 Groundwater monitoring	Groundwater data	GW130104TL	NT34974 MRM.pdf
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5 Groundwater monitoring	Groundwater data	GW130104TL	SRA NT34974 GW130104TL 07012013.pdf
5 Groundwater monitoring	Groundwater data	GW130107TL	GW130107TL FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130107TL	GW130107TL.docx
5 Groundwater monitoring	Groundwater data	GW130107TL	NT34984 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130107TL	NT34984 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130107TL	SRA NT34984 GW130107TL 07012013.pdf
5 Groundwater monitoring	Groundwater data	GW130110CH	GW100111CH FIELDSHEETS_2.pdf
5 Groundwater monitoring	Groundwater data	GW130110CH	GW130110CH.docx
5 Groundwater monitoring	Groundwater data	GW130110CH	GW130111CH FIELD SHEETS_3.pdf
5 Groundwater monitoring	Groundwater data	GW130110CH	GW130111CH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130110CH	NT35033 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130110CH	NT35033 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130110CH	SRA NT35033 GW130110CH 11012013.pdf
5 Groundwater monitoring	Groundwater data	GW130206AH-M	GW130206AH-M FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130206AH-M	GW130206AH-M.docx
5 Groundwater monitoring	Groundwater data	GW130206AH-M	NT35262 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130206AH-M	NT35262 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130206AH-M	SRA NT35262 GW130206AH-M 07022013.pdf
5 Groundwater monitoring	Groundwater data	GW130210AH-NC	GW130210AH-NC FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130210AH-NC	GW130210AH-NC.docx
5 Groundwater monitoring	Groundwater data	GW130211AH	GW130211AH.docx
5 Groundwater monitoring	Groundwater data	GW130211AH	NT35288 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130211AH	NT35288 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130211AH	SRA NT35288 GW130211AH 11022013.pdf
5 Groundwater monitoring	Groundwater data	GW130307CH-BB	GW130307CH-BB.docx
5 Groundwater monitoring	Groundwater data	GW130307CH-BB	NT35525 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130307CH-BB	NT35525 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130307CH-BB	SRA NT35525 GW130307CH-BB 08032013.pdf
5 Groundwater monitoring	Groundwater data	GW130424-CH	GW130424-CH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130424-CH	GW130424-CH.docx
5 Groundwater monitoring	Groundwater data	GW130424-CH	NT35961 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130424-CH	NT35961 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130424-CH	SRA NT35961 GW130424-CH 26042013.pdf
5 Groundwater monitoring	Groundwater data	GW130424CH	GW130424CH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130424CH	GW130424CH.docx
5 Groundwater monitoring	Groundwater data	GW130424CH	NT35944 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130424CH	NT35944 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130424CH	SRA NT35944 GW130424CH 24042013.pdf
5 Groundwater monitoring	Groundwater data	GW130424CH-FULLICPMS	GW130424CH-FULLICPMS FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130424CH-FULLICPMS	GW130424CH-FULLICPMS.docx
5 Groundwater monitoring	Groundwater data	GW130424CH-FULLICPMS	NT35943 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130424CH-FULLICPMS	NT35943 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130424CH-FULLICPMS	SRA NT35943 GW130424CH-FULLICPMS 24042013.pdf
5 Groundwater monitoring	Groundwater data	GW130430CH	GW130430CH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130430CH	GW130430CH.xlsx
5 Groundwater monitoring	Groundwater data	GW130430CH	NT35999 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130430CH	NT35999 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130430CH	SRA NT35999 GW130430CH 01052013.pdf
5 Groundwater monitoring	Groundwater data	GW130507AH	GW130507AH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130507AH	GW130507AH FIELDSHEETS_2.pdf
5 Groundwater monitoring	Groundwater data	GW130507AH	GW130507AH.docx
5 Groundwater monitoring	Groundwater data	GW130507AH	NT36042 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130507AH	NT36042 MRM.XLS

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
5 Groundwater monitoring	Groundwater data	GW130507AH	NT36042#2 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW130507AH	NT36042#2 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW130507AH	SRA NT36042 GW130507AH 07052013.pdf
5 Groundwater monitoring	Groundwater data	GW130617AH	MRM130617 Field Sheet.pdf
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_0_ENMRG.CSV
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_0_INV_Invoice_E931011.pdf
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_0_MONPRO.MPR
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_0_SRN_130621102851.pdf
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_COC.pdf
5 Groundwater monitoring	Groundwater data	GW130618CD	EB1314847_XSTRATA.mpr
5 Groundwater monitoring	Groundwater data	GW130618CD	GW130618CD FIELD DATA_1.csv
5 Groundwater monitoring	Groundwater data	GW130618CD	GW130618CD FIELD DATA_2.csv
5 Groundwater monitoring	Groundwater data	GW130618CD	GW130618CD FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW130618CD	GW130618CD.xlsx
5 Groundwater monitoring	Groundwater data	GW130619CD	DO.amf
5 Groundwater monitoring	Groundwater data	GW130619CD	EB1314951_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW130619CD	EB1314951_0_ENMRG.CSV
5 Groundwater monitoring	Groundwater data	GW130619CD	EB1314951_0_INV_Invoice_E931096.pdf
5 Groundwater monitoring	Groundwater data	GW130619CD	EB1314951_0_MONPRO.MPR
5 Groundwater monitoring	Groundwater data	GW130619CD	EB1314951_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW130619CD	EB1314951_0_QCI.pdf
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Level 1	Level 2	Level 3	Document File Name
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5 Groundwater monitoring	Groundwater data	GW131003AH-NC	EB1324301_0_XSTRA.MPR
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5 Groundwater monitoring	Groundwater data	GW131003AH-NC	EB1324301_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131003AH-NC	EB1324301_COC_1.pdf
5 Groundwater monitoring	Groundwater data	GW131003AH-NC	GW131003AH-NC FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131003AH-NC	GW131003AH-NC.docx
5 Groundwater monitoring	Groundwater data	GW131003AH-NC	GW131003AH-NC.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	EB1324344_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	EB1324344_0_INV_Invoice_E958049.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	EB1324344_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	EB1324344_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	EB1324344_0_SRN_131008161104.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	EB1324344_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	EB1324344_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	EB1324344_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	GW131003CH-FULL-ICPMS FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	GW131003CH-FULL-ICPMS.docx
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS	GW131003CH-FULL-ICPMS.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	EB1324311_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	EB1324311_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	EB1324311_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	EB1324311_0_SRN_131008163350.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	EB1324311_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	EB1324311_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	EB1324311_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	GW131003CH-FULL-ICPMS-2.docx
5 Groundwater monitoring	Groundwater data	GW131003CH-FULL-ICPMS-2	GW131003CH-FULL-ICPMS-2.pdf
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	EB1324672_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	EB1324672_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	EB1324672_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	EB1324672_0_SRN_131014102144.pdf
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	EB1324672_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	EB1324672_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	EB1324672_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	GW131003CH-FULL-ICPMS.docx
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	GW131003CH-FULL-ICPMS.pdf
5 Groundwater monitoring	Groundwater data	GW131009CH-FULL-ICPMS	GW131009CH-FULL-ICPMS FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH	EB1324708_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH	EB1324708_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH	EB1324708_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH	EB1324708_0_SRN_131011151650.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH	EB1324708_0_XSTRA.MPR

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
5 Groundwater monitoring	Groundwater data	GW131010CH	EB1324708_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131010CH	EB1324708_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH	GW131010CH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH	GW131010CH.docx
5 Groundwater monitoring	Groundwater data	GW131010CH	GW131010CH.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	EB1324711_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	EB1324711_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	EB1324711_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	EB1324711_0_SRN_131011152847.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	EB1324711_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	EB1324711_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	EB1324711_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	GW131010CH-FULL-ICPMS.docx
5 Groundwater monitoring	Groundwater data	GW131010CH-FULL-ICPMS	GW131010CH-FULL-ICPMS.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	EB1324710_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	EB1324710_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	EB1324710_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	EB1324710_0_SRN_131011152741.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	EB1324710_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	EB1324710_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	EB1324710_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	GW131010CH-NON COMMITTED FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	GW131010CH-NON COMMITTED.docx
5 Groundwater monitoring	Groundwater data	GW131010CH-NON COMMITTED	GW131010CH-NON COMMITTED.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_0_INV_Invoice_E969330.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_0_SRN_131122115300.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_0_SRN_131123135709.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131120CH	EB1328650_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	GW131120CH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131120CH	GW131120CH.docx
5 Groundwater monitoring	Groundwater data	GW131120CH	GW131120CH.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH	EB1328816_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH	EB1328816_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH	EB1328816_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH	EB1328816_0_SRN_131123130251.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH	EB1328816_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131121CH	EB1328816_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131121CH	EB1328816_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH	GW131121CH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH	GW131121CH.docx
5 Groundwater monitoring	Groundwater data	GW131121CH	GW131121CH.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	EB1328992_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	EB1328992_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	EB1328992_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	EB1328992_0_SRN_131126103340.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	EB1328992_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	EB1328992_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	EB1328992_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	GW131121CH-PM FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	GW131121CH-PM.docx
5 Groundwater monitoring	Groundwater data	GW131121CH-PM	GW131121CH-PM.pdf
5 Groundwater monitoring	Groundwater data	GW131125CD-C	GW131125CD-C FILDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131125CD-C	GW131125CD-C.DOCX
5 Groundwater monitoring	Groundwater data	GW131125CD-C	GW131125CD-C.pdf
5 Groundwater monitoring	Groundwater data	GW131125CD-C	NT38176 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW131125CD-C	NT38176 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW131125CD-C	NT38176P MRM.xls
5 Groundwater monitoring	Groundwater data	GW131125CD-C	SRA NT38176 GW131125CD-D 26112013.pdf
5 Groundwater monitoring	Groundwater data	GW131125CD-NC	GW131125CD-NC FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131125CD-NC	GW131125CD-NC.DOCX
5 Groundwater monitoring	Groundwater data	GW131125CD-NC	GW131125CH-NC.pdf
5 Groundwater monitoring	Groundwater data	GW131125CD-NC	NT38177 MRM.pdf
5 Groundwater monitoring	Groundwater data	GW131125CD-NC	NT38177 MRM.XLS
5 Groundwater monitoring	Groundwater data	GW131125CD-NC	NT38177P MRM.xls
5 Groundwater monitoring	Groundwater data	GW131125CD-NC	SRA NT38177 GW131125CD-NC 26112013.pdf
5 Groundwater monitoring	Groundwater data	GW131128AH-C	EB1329607_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131128AH-C	EB1329607_0_INV_Invoice_E971817.pdf
5 Groundwater monitoring	Groundwater data	GW131128AH-C	EB1329607_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131128AH-C	EB1329607_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131128AH-C	EB1329607_0_SRN_131202161120.pdf
5 Groundwater monitoring	Groundwater data	GW131128AH-C	EB1329607_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131128AH-C	EB1329607_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131128AH-C	EB1329607_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131128AH-C	GW131128AH-C FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131128AH-C	GW131128AH-C.docx
5 Groundwater monitoring	Groundwater data	GW131128AH-C	GW131128AH-C.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_0_INV_Invoice_E973090.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_0_SRN_131206081454.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	EB1330011_COC_1.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	GW131203AD-C FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131203AD-C	GW131203AD-C.docx
5 Groundwater monitoring	Groundwater data	GW131203AD-C	GW131203AD-C.pdf
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	EB1331759_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	EB1331759_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	EB1331759_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	EB1331759_0_SRN_131221115019.pdf
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	EB1331759_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	EB1331759_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	EB1331759_COC.pdf
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	GW131218AH-NC FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	GW131218AH-NC. FIELD DATA_1.xls
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	GW131218AH-NC.docx
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	GW131218AH-NC.pdf
5 Groundwater monitoring	Groundwater data	GW131218AH-NC	GW131218AH. FIELD DATA_1.kml
5 Groundwater monitoring	Groundwater data	GWBB131204CH	EB1330297_0_COA.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
5 Groundwater monitoring	Groundwater data	GWBB131204CH	EB1330297_0_INV_Invoice_E973249.pdf
5 Groundwater monitoring	Groundwater data	GWBB131204CH	EB1330297_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GWBB131204CH	EB1330297_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GWBB131204CH	EB1330297_0_SRN_131209072726.pdf
5 Groundwater monitoring	Groundwater data	GWBB131204CH	EB1330297_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GWBB131204CH	EB1330297_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GWBB131204CH	EB1330297_COC.pdf
5 Groundwater monitoring	Groundwater data	GWBB131204CH	GWBB131204CH FIELD DATA_1.csv
5 Groundwater monitoring	Groundwater data	GWBB131204CH	GWBB131204CH FIELD DATA_1.xls
5 Groundwater monitoring	Groundwater data	GWBB131204CH	GWBB131204CH FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GWBB131204CH	GWBB131204CH.docx
5 Groundwater monitoring	Groundwater data	GWBB131204CH	GWBB131204CH.kml
5 Groundwater monitoring	Groundwater data	GWBB131204CH	GWBB131204CH.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	EB1330457_0_COA.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	EB1330457_0_INV_Invoice_E975404.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	EB1330457_0_QC.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	EB1330457_0_QCI.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	EB1330457_0_SRN_131210075237.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	EB1330457_0_XSTRA.MPR
5 Groundwater monitoring	Groundwater data	GWBB131205MD	EB1330457_0_XTAB.XLS
5 Groundwater monitoring	Groundwater data	GWBB131205MD	EB1330457_COC.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	Groundwater Checklist December BB.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	GWBB131205MD FIELD DATA_1.csv
5 Groundwater monitoring	Groundwater data	GWBB131205MD	GWBB131205MD FIELD DATA_1.xls
5 Groundwater monitoring	Groundwater data	GWBB131205MD	GWBB131205MD FIELDSHEETS_1.pdf
5 Groundwater monitoring	Groundwater data	GWBB131205MD	GWBB131205MD.docx
5 Groundwater monitoring	Groundwater data	GWBB131205MD	GWBB131205MD.kml
5 Groundwater monitoring	Groundwater data	GWBB131205MD	GWBB131205MD.pdf
5 Groundwater monitoring	Groundwater data		September SS bore checklist.pdf
5 Groundwater monitoring	Groundwater data		2013 Q1 GW Data (Field & Lab).xls
5 Groundwater monitoring	Groundwater data		2013 Q2 GW Data (Field & Lab).xlsx
5 Groundwater monitoring	Groundwater data		2013 Q3 GW Data (Field& Lab).xlsx
5 Groundwater monitoring	Groundwater data		2013 Q4 GW Data (Field & Lab).xlsx
6 Sediment monitoring including dust and soil			130116 LTR MRM Environmental Monitoring Program Review.pdf
6 Sediment monitoring including dust and soil			130213 LTR MRM Environmental Monitoring Program Review (2).pdf
6 Sediment monitoring including dust and soil			2012-2013 Dust Data.xlsx
6 Sediment monitoring including dust and soil			2012-2013 Fluvial Sediment data.xlsx
6 Sediment monitoring including dust and soil			2012-2013 Soil Data.xlsx
6 Sediment monitoring including dust and soil			2013 Capital Projects Dustless Street Sweeper docs.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30019_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30020_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30021_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30022_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30023_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30024_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30025_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30026_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30027_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C30030_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C40030_3.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C40031_3.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C40032_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C40033_3.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C40037_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C40041_3.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C40045_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		3200C40055_2.pdf
6 Sediment monitoring including dust and soil	Bing Bong Concentrate shed schematics		Survey Set Out Certificate.pdf
6 Sediment monitoring including dust and soil	Consultant reports		12002_Bing Bong Sediment_230912_To client.pdf
6 Sediment monitoring including dust and soil	Consultant reports		13004_Bing Bong Sediment_051113_Final.pdf
6 Sediment monitoring including dust and soil	Consultant reports		2012 MRM Macroinvertebrates 2012 FINAL 14 DEC 2012 L.pdf
6 Sediment monitoring including dust and soil	Consultant reports		2013 MRM Macroinvertebrate Assessment FINAL 6 feb 2014 L.pdf
6 Sediment monitoring including dust and soil	Consultant reports		Investigation of discharge from Bing Bong Settlement Ponds y_Report_Final_20130819.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG120913CH COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG120913CH Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG120913CH Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG120913CH Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG120913CH Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203535_0_COA.pdf

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Level 1	Level 2	Level 3	Document File Name
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203535_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203535_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203535_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203535_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203535_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2012 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2012 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2012 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2012 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2012 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203783_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203783_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203783_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203783_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203783_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1203783_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		121017_MEMO.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		colorschememapping.xml
6 Sediment monitoring including dust and soil	Dust Analysis COC		Correspondance with Lear Siegler.htm
6 Sediment monitoring including dust and soil	Dust Analysis COC		filelist.xml
6 Sediment monitoring including dust and soil	Dust Analysis COC		image001.jpg
6 Sediment monitoring including dust and soil	Dust Analysis COC		themedata.thmx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_OCT2012.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		Field Sheet.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2012 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2012 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2012 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2012 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2012 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2012 Fieldsheet_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1204572_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1204572_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1204572_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1204572_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1204572_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1204572_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2012 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2012 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2012 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2012 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2012 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300202_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300202_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300202_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300202_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300202_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust-Jan2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust-Jan2013 Fieldsheets_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust-Jan2013 Fieldsheets_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust-Jan2013 Fieldsheets_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust-Jan2013 Fieldsheets_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust-Jan2013 Fieldsheets_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300493_0_COA.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300493_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300493_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300493_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300493_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300493_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_FEB2013 Checklist_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_FEB2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_FEB2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_FEB2013 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_FEB2013 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_FEB2013 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_FEB2013 Fieldsheet_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300669_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300669_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300669_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300669_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300669_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1300669_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_MAR2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_MAR2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_MAR2013 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_MAR2013 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_MAR2013 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301134_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301134_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301134_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301134_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301134_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301134_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_APRIL2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_APRIL2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_APRIL2013 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_APRIL2013 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_APRIL2013 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_APRIL2013 Fieldsheet_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_APRIL2013 Fieldsheet_6.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_APRIL2013 Fieldsheet_7.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301745_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301745_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301745_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301745_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301745_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1301745_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_MAY2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_MAY2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_MAY2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_MAY2013 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_MAY2013 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_MAY2013 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_MAY2013 Fieldsheet_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		Dust_MAY2013 Fieldsheet_6.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302099_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302099_0_ENMRG.CSV

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302099_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302099_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302099_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302099_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JUNE2013 Checklist.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JUNE2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JUNE2013 Fieldsheets_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JUNE2013 Fieldsheets_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JUNE2013 Fieldsheets_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JUNE2013 Fieldsheets_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JUNE2013 Fieldsheets_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302155_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302155_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302155_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302155_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302155_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302155_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 Checklist_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 Checklist_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 Fieldsheets_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 Fieldsheets_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 Fieldsheets_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 Fieldsheets_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 Fieldsheets_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_JULY2013 Fieldsheets_6.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302576_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302576_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302576_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302576_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302576_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1302576_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG2013 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG2013 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG2013 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG2013 Fieldsheet_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST-AUG2013 Fieldsheet_6.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_AUG2013 Checklist_1.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303097_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303097_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303097_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303097_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303097_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303097_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2013 Fieldsheets_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2013 Fieldsheets_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2013 Fieldsheets_3.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2013_2 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_SEPT2013_2 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303396_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303396_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303396_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303396_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303396_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303396_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303527_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303527_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303527_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303527_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303527_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303527_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_OCT_2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_OCT_2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_OCT_2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_OCT_2013 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_OCT_2013 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_OCT_2013 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303944_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303944_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303944_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303944_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303944_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1303944_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_12NOV2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_21NOV2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_21NOV2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304285_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304285_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304285_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304285_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304285_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304285_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_6NOV2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_6NOV2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_6NOV2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_6NOV2013 Void samples.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304146_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304146_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304146_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304146_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304146_0_XTAB.XLS
6 Sediment monitoring including dust and soil	Dust Analysis COC		BOM_121127.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_NOV2013 Fieldsheets_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304515_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304515_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304515_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304515_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304515_0_SRN.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304515_COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2013 COC.docx
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2013 COC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2013 Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2013 Fieldsheet_2.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2013 Fieldsheet_3.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2013 Fieldsheet_4.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		DUST_DEC2013 Fieldsheet_5.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304644_0_COA.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304644_0_QC.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304644_0_QCI.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304644_0_SRN.pdf
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304644_0_XTAB.XLS
6 Sediment monitoring including dust and soil	Dust Analysis COC		EN1304644_COC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1215933_0_COA.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1215933_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1215933_0_QC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1215933_0_SRN.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1215933_0_XTAB.XLS
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1215933_COC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS120614CH.docx
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1302012 PSD.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1302012_0_COA.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1302012_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1302012_0_QC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1302012_0_SRN.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1302012_COC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130124CH COC.docx
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130124CH Fieldsheet_1.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319363_1_COA.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319363_1_ENMRG.CSV
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319363_1_QC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319363_1_QCI.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319363_1_SRN_.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319363_COC_1.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319363_PSD.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130808MD Scanned COC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130808MD.docx
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319820_1_COA.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319820_1_ENMRG.CSV
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319820_1_QC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319820_1_QCI.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319820_1_SRN.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319820_COC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1319820_PSD.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130813MD Checklist.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130813MD Scanned COC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130813MD.docx
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1321017_0_COA.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1321017_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1321017_0_QC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1321017_0_QCI.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1321017_0_SRN.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1321017_COC.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		EB1321017_PSD.pdf
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130827AJD-A.docx
6 Sediment monitoring including dust and soil	Fluvial Analysis COC		FS130827AJD-A.pdf
6 Sediment monitoring including dust and soil			Invoice ROOFMASTER 1.pdf
6 Sediment monitoring including dust and soil			Invoice ROOFMASTER 2.pdf
6 Sediment monitoring including dust and soil			Invoice ROOFMASTER 3.pdf
6 Sediment monitoring including dust and soil			MDOC201302190ConditionalApprovalMonitoring Program Changes.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1228160 PSD.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1228160_0_COA.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1228160_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1228160_0_QC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1228160_0_QCI.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1228160_0_SRN.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1228160_COC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL-SEPTEMBER121025CH.docx
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1229390 PSD.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1229390_0_COA.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1229390_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1229390_0_QC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1229390_0_QCI.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1229390_0_XTAB.XLS
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1229390_COC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL-SEPTEMBER121108CH.docx
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1231295_0_COA.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1231295_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1231295_0_QC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1231295_0_QCI.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1231295_0_SRN.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1231295_COC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL121128MD-BBVM.docx
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1318458_0_COA.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1318458_0_ENMRG.CSV
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1318458_0_QC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1318458_0_QCI.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1318458_0_SRN.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1318458_COC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1318458_PSD.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL130730BBVM COC.docx
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL130730BBVM COC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1325419_0_COA.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1325419_0_QC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1325419_0_QCI.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1325419_0_SRN.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1325419_0_XTAB.XLS
6 Sediment monitoring including dust and soil	Soil Analysis COC		EB1325419_COC.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL131015CH FieldSheet_1.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL131015CH.docx
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL131015CH.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		NT38454 MRM PSD.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		NT38454 MRM TS.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		NT38454 MRM.pdf
6 Sediment monitoring including dust and soil	Soil Analysis COC		NT38454 MRM.XLS

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
6 Sediment monitoring including dust and soil	Soil Analysis COC		SOIL131219CH.docx
6 Sediment monitoring including dust and soil	Soil Analysis COC		SRA NT38454 SOIL131219CH.pdf
7 Tailings storage facility			1155-03 Tailings Dam Cell 2 Dec 2012 (drawing).pdf
7 Tailings storage facility			2012 daily water balance.xlsx
7 Tailings storage facility	2012 TSF Monthly reports		2012 1 January TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 10 October TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 11 November TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 12 December TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 2 February TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 3 March TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 4 April TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 5 May TSF Monthly Report.doc
7 Tailings storage facility	2012 TSF Monthly reports		2012 6 June TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 7 July TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 8 August TSF Monthly Report.docx
7 Tailings storage facility	2012 TSF Monthly reports		2012 9 September TSF Monthly Report.docx
7 Tailings storage facility			2013 daily water balance.xlsx
7 Tailings storage facility	2013 TSF Monitoring Reports		MET-120820-MECH TAILS LINE STATUTORY THICKNESS TESTING INSPECTION LISTINGS.xlsx
7 Tailings storage facility	2013 TSF Monitoring Reports		MET-130808-MECH TAILS DISPOSAL LINE STATUTORY THICKNESS TEST.pdf
7 Tailings storage facility	2013 TSF Monitoring Reports		MET-130911-PROD TSF 6 MONTHLY SURVEYORS REPORT.pdf
7 Tailings storage facility	2013 TSF Monitoring Reports		MET-140208-MECH TAILS DISPOSAL LINE STATUTORY THICKNESS TEST.pdf
7 Tailings storage facility	2013 TSF Monthly Reports		2013 01 January TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 02 February TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 03 March TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 04 April TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 05 May TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 06 June TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 07 July TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 08 August TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 09 September TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 10 October TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 11 November TSF Monthly Report.docx
7 Tailings storage facility	2013 TSF Monthly Reports		2013 12 December TSF Monthly Report.docx
7 Tailings storage facility	Cell 2 Lift		04 Construction Inspection Report.pdf
7 Tailings storage facility	Cell 2 Lift		05 Construction Inspection Report.pdf
7 Tailings storage facility	Cell 2 Lift		06 Construction Inspection Report.pdf
7 Tailings storage facility	Cell 2 Lift		2013 TSF Annual Dam Safety Review Report.pdf
7 Tailings storage facility	Consultant reports		130827Memo KCB TSF Seepage Review.pdf
7 Tailings storage facility	Consultant reports		140305 Tailings Classification Review KCB.pdf
7 Tailings storage facility	Consultant reports		2011 Hydrogeochemical Investigation final Golders.pdf
7 Tailings storage facility	Consultant reports		2012 TSF Annual Dam Safety Review Report.pdf
7 Tailings storage facility	Consultant reports		2013 OKC Rpt #750-7-01 - Interim Cover Design for TSF Cell#1 June 2013.pdf
7 Tailings storage facility			ICAM - TSF cell one overflow.pdf
7 Tailings storage facility			MET-GEN-GDL-2800-0001 TSF Operating Guidelines I008 Rev 0.pdf
7 Tailings storage facility			MET-MGR-REPORT-130701-CONSTRUCTION REPORT FOR CELL 2 STAGE 2 EMBANKMENT LIFT.pdf
7 Tailings storage facility			MRM_Floc Screen thickening Project.pdf
7 Tailings storage facility			Product assay Final Tails raw data.xlsx
7 Tailings storage facility	Water Balance		0790-10-E DRAFT Water Balance Report - DH review + TL comments.pdf
7 Tailings storage facility	Water Balance		130812 Memo WRM Water Balance update.pdf
7 Tailings storage facility	Water Balance		130827 PROPOSAL WRM Water Balance 2013.pdf
7 Tailings storage facility	Water Balance		2012 WRM 0790-02- Water_Balance_Report.doc
7 Tailings storage facility	Water Balance		Gary's comments on balance report.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		Clay Liner Specifications.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF 2008 design URS.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10.10.12	Report for NOEF Clay Liner _10.10.12.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10.10.12	Rip Lines Photos and Sample Locations.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10.10.12	Rip Lines Photos and Sample Locationsv02.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	August	08.08.12.csv
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	August	08.08.12.xlsx
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	August	Plot of Results.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	July	31.07.12.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	July	Random Clay Sampling 31 07 12 - actuals.csv
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	July	Random Clay Sampling 31 07 12.csv
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	July	Random Clay Sampling 31 07 12.xlsx
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	November	Sample Points-10.11.12.csv
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	4-Apr	West OEF - Clay Sampling -26-04.09.docx
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	8-Aug	NOEF - Clay Sampling -08-10-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9-Sep	West OEF - Clay Sampling -26-04.09rev02.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9-Sep	NOEF - Clay Sampling -13-09-13.docx
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9-Sep	NOEF - Clay Sampling -16-09-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9-Sep	NOEF - Clay Sampling -18-09-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10-Oct	NOEF - Clay Sampling -17-10-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10-Oct	NOEF - Clay Sampling -22-10-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11-Nov	envisage.jpg
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11-Nov	NOEF - Clay Signoff-14-11-13.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	**Level 2**	**Level 3**	**Document File Name**
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12-Dec	Clay Liner Report -West Clay Block C- 121206.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12-Dec	envisage.jpg
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12-Dec	131029-PSD_ATTERBERGS.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12-Dec	131102-DENSITY.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12-Dec	131203.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12-Dec	201312061546.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12-Dec	201312061804.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		12.04.05-s4.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		12.06.05.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		12.06.11.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		12.07.31.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		12.08.15.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		12.08.18.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		12.11.10.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		12.12.17.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.02.02.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.05.19.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.06.06.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.06.24-nwclaylayer.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.06.28_clay_sampling_130628.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.07.08.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.07.14.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.07.25.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.08.10.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.08.24.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.08.26.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.09.03.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.09.09_west_noef.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.09.25_density.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.10.08_density.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.10.18_psd.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.10.19_density.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.10.29_density_psd.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.11.02_density.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.11.18_density.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.11.20_density2.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.11.22_density.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		13.12.03_density.arch_d
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF TestingDatabase.rev01.xlsx
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11.06.12	MRM JN1016-65.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11.06.12	MRM JN1016-66.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11.06.12	MRM JN1016-67.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11.06.12	MRM JN1016-68.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11.06.12	MRM JN1016-69.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12.11.12	Density Checks.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12.11.12	PSD-PI.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12.11.12	Samples For NOEF 6-8 STOCKPILE BATTER- 10.11.12.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	img-X19114119-0001.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-78.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-79.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-80.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-81.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-82.pdf

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Level 1	Level 2	Level 3	Document File Name
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-83.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-84.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-85.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-86.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	15.08.12	MRM JN1016-87.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	17.12.12	DOC140113-14012013110020.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	17.12.12	DOC140113-14012013123316.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	17.12.12	DOC270213-27022013094616.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	17.12.12	IUN130245.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.08.12	MRM JN1016-88.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.08.12	MRM JN1016-89.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.08.12	MRM JN1016-90.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.08.12	MRM JN1016-91.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.08.12	MRM JN1016-92.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.08.12	MRM JN1016-93.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Clay Liner that was sampled 66000m2.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-1.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-10.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-11.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-12.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-14.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-15.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-16.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-17.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-18.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-19.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-2.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-3.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-4.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-5.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-6.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-7.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-8.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	Mcarthur JN1016-9.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-20.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-21.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-22.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-23.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-24.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-25.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-26.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-27.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-28.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	18.1.2012	MRM JN1016-29.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-37.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-38.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-39.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-40.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-41.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-42.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-43.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-44.pdf

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Level 1	Level 2	Level 3	Document File Name
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-51.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	30.04.12	MRM JN1016-52.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM JN1016-70.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM JN1016-71.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM Jn1016-72.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM JN1016-73.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM JN1016-74.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM JN1016-75.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM JN1016-76.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM JN1016-77.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	MRM JN1016-86.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	Tri-Lab External report 12090251-FHPT TN75061 Oct 11 2012.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	Tri-Lab External report 12090252-FHPT TN75123 Oct 11 2012.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	31.07.12	Tri-Lab External report 12090253-FHPT TN75058 Oct 11 2012.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.04.12	img-518091152-0001.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.04.12	img-518091200-0001.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.04.12	MRM JN1016-33.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.04.12	MRM JN1016-34.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.04.12	MRM JN1016-35.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.04.12	MRM JN1016-36.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-53.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-54.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-55.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-56.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-57.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-58.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-59.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-60.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-61.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-62.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-63.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	5.06.12	MRM JN1016-64.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	MRM JN1016-45.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	MRM JN1016-46.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	MRM JN1016-47.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	MRM JN1016-48.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	MRM JN1016-49.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	MRM JN1016-50.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	Tri-Lab External report 12060202-FHPT TN73824 July 23 2012-Sample 5.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	Tri-Lab External report 12060202-FHPT TN73824 July 23 2012.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	Tri-Lab External report 12060203-FHPT TN73825 July 23 2012-Sample 6.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	9.05.12	Tri-Lab External report 12060203-FHPT TN73825 July 23 2012.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	img-X17090635-0001.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	img-X17090648-0001.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	img-X17090708-0001.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	img-X17090730-0001.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-1.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-10.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-11.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-2.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-3.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-4.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-5.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-6.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-7.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-8.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	MRM JN1106-9.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	TN75338 SYD1212234 perm.PDF
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	TN75339 SYD1212235 perm.PDF
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	TN75340 SYD1212236 perm.PDF
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	TN75341 SYD1212237 perm.PDF
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	SEPROD	TN75342 SYD1212238 perm.PDF
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	02 Feburary	NW Clay Liner Sample Locations - 2.2.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	02 Feburary	Plasticity Chart-NW Clay - 2.2.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	02 Feburary	PSD-NW Clay - 2.2.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	04 April	DOC240413-24042013090016.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	04 April	NOEF Atterbery Limits-8.04.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	04 April	NOEF Particle Size Distribution-8.04.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	04 April	NOEF-CLAYLINER-8.4.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	04 April	Soil QC Location.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	04 April	West OEF - Clay Sampling -26-04.09.docx
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	05 May	DOC020613-02062013075424.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	05 May	MRM1241.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	06 June	Points - Design.csv
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	06 June	201309051527.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	06 June	DOC080913-08092013123334.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	06 June	DOC080913-08092013123353.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	06 June	24.06.13.csv
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	07 July	Atterbergs Chart - 25.07.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	07 July	PSD Chart - 25.07.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	07 July	Sample Locations 25.07.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	08 August	10.08.13 - Shortcut.lnk
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	08 August	20131008- cardno's report.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	08 August	DOC230813-23082013103010.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	08 August	Sample shedule 25-26.09.13.xlsx
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	08 August	Vulcan Plotfile.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	08 August	Western - Clay- 21 samples location-approved zones.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	08 August	Western - Clay- 21 samples location.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	08 August	Western - Clay- 7-Samples -Compaction.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	09 September	Coordinates.xlsx
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	09 September	Recompaction Required - 05.09.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	09 September	Western Clay Block OEF - 03.09.13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	09 September	090913 densities.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10 October	Clay results 17-10-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10 October	201310251547.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10 October	DOC201013-20102013121036.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	10 October	131029-PSD_ATTERBERGS.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11 November	131102-DENSITY.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11 November	201312061546.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11 November	131122.csv
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	11 November	201312061804.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners	12 December	131203.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		Report for NOEF Clay Liner _10.10.12.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		Clay Liner Report -West Clay Block C- 121206.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF - Clay Sampling -08-10-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF - Clay Sampling -13-09-13.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF - Clay Sampling -16-09-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF - Clay Sampling -17-10-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF - Clay Sampling -18-09-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF - Clay Sampling -22-10-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF - Clay Signoff-14-11-13.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		NOEF _WEST CLAY C - Clay Sampling -04.09.13rev02.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		Test Pits - Levee.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		140214 Memo NOEF western clay Block C testing.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		140301 Memo NOEF western clay Block D -area 2 testing.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Clay Liners		140303 Memo NOEF western Clay Block D - Area 3 testing.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		120920M Static Testing Results NOEF.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		121211M PAF NAF Criteria.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		131213Dr MRM Spon Con Investigation.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		131223Dr MRM Clay Assessment.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		140307R-MRM_ClayAssessment.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		140310eL Additional Static Testing.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		140310eL Field Leach Column Design.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		140310LR Low Grade Ore Characterisation.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		140310R Geochem Desktop Review (reduced).pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		17022014 Waste Classification Guide.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		20140310 Waste classification field results.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (KCB)		AMD Block Model.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (URS)		110203 Stage 7 KLC Program Update_M002_R002.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (URS)		Larger-Scale Field Weathering Trials for Waste Rock Review (Letter) Rev1.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (URS)		R001-A (KLC Phase 1).pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (URS)		R001-a MRM KLC Stage 2 DRAFT_290611 Copy_Full.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (URS)		R001-Stage5 KLC-rev0 complete.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (URS)		RPRT 051024 URS Kinetic Leach Colum Stage 3.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (URS)		RPRT 061102 URS Kinetic Leach Column_Stage 4.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geochemistry (URS)		Stage 7 KLC 110510 Stage 7 KLC Program Update - April 2011_M003_R001.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	Geology procedures		MIN-TEC-PRO-1000-0002 Pit Wall and Face Markup I001 Rev 2.doc
8 Waste Rock (Overburden Emplacement Facility OEF)	Geology procedures		MIN-TEC-PRO-1000-0003 Pit Wall and Face Sampling I001 Rev 2.doc
8 Waste Rock (Overburden Emplacement Facility OEF)	Geology procedures		MIN-TEC-PRO-1000-0015-EOM NOEF Sampling procedure I001 Rev 4.doc
8 Waste Rock (Overburden Emplacement Facility OEF)	Geology procedures		MIN-TEC-PRO-1000-0025 NOEF Asbuilt Review and Sign Off Procedure I001 Rev 0.doc
8 Waste Rock (Overburden Emplacement Facility OEF)	Geology procedures		MIN-TEC-PRO-1000-0026 Clay Liner Quality Control and Construction at the NOEF.doc
8 Waste Rock (Overburden Emplacement Facility OEF)	MRM 2012 Drill program		MRM-2012- Drill assays.xlsx
8 Waste Rock (Overburden Emplacement Facility OEF)	NOEF monitoring		NOEF graphs 2012-2013.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	NOEF monitoring		NOEF NAF Classification 2012-2013.pdf
8 Waste Rock (Overburden Emplacement Facility OEF)	NOEF monitoring		NOEF NAF Sampling 2012-2013.pdf
9 Bing Bong Dredge Spoil			2012 BB Dredge area salinity raw data.xlsx
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil December 2012.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil June 2012.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil March 2012.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil April 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil Dec 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil Feb 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge spoil Jan 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil June 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil March 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil May 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil November 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Inspections		Dredge Spoil Ocober 2013.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_COA.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_ENMRG.CSV
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_INV_Invoice_E942165.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_MONPRO.MPR
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_QC.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_QCI.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_SRN_130802101145.pdf

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Level 1	Level 2	Level 3	Document File Name
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_XSTRA.MPR
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_0_XTAB.XLS
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_COC.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		EB1318458_PSD.pdf
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		SOIL130730BBVM COC.docx
9 Bing Bong Dredge Spoil	Bing Bong Dredge Spoil Veg survey Soil Monitoring 2013 Raw Data		SOIL130730BBVM COC.pdf
9 Bing Bong Dredge Spoil			Bing Bong Dredge Spoil Veg Monitoring 2013 Appendices.pdf
9 Bing Bong Dredge Spoil			Bing Bong Dredging and Spoil Disposal Management Plan.pdf
9 Bing Bong Dredge Spoil	Dredge Spoil Sediment Monitoring Data 2012		DREDGESPOIL120829AJD.doc
9 Bing Bong Dredge Spoil	Dredge Spoil Sediment Monitoring Data 2012		NT33604 MRM.xls
9 Bing Bong Dredge Spoil	Dredge Spoil Sediment Monitoring Data 2012		SRA NT33604 DREDGESPOIL120829AJD 31082012.pdf
9 Bing Bong Dredge Spoil			EZ12039-C0301-EIA-R-0002 Vegetation Monitoring of Dredge Spoil at Bing Bong Port_1_0 2012.pdf
9 Bing Bong Dredge Spoil			EZ13031-C0301-MON-R-0001 Vegetation Monitoring of the Dredge Spoil Area at Bing Bong 2013_2.pdf
9 Bing Bong Dredge Spoil			Hazardous Dam Stability Assessment TSF and BB Dredge Spoil.pdf
9 Bing Bong Dredge Spoil			Investigation of dredge discharge from settlement ponds_Report_Final.pdf
9 Bing Bong Dredge Spoil			Invoice for fencing Bing Bong dredge spoils.pdf
9 Bing Bong Dredge Spoil			LTTR Cardno Ullman & Nolan U33048_Bing Bong Holding Ponds_Internal Wall.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130523AJD COC.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130523AJD.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130529AJD COC.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130529AJD.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		CDU Address.docx
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130605AJD COC.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130605AJD.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		CDU Address.docx
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130612CD COC.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130612CD.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130619MD COC.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130619MD.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DGT130701CH-DSD COC.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DGT130701CH-DSD.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130703AJD COC.pdf
9 Bing Bong Dredge Spoil	MRM Dredge DGT Study COCs		DREDGESPOILDGT130703AJD.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130110CH.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35028 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35028 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35028 DREDGESW130110CH 10012013.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130130AJD Fieldsheets_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130130AJD.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35206 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35206 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35206#2 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35206#2 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35206 DREDGESW130130AJD 31012013.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130206CH-WDL Fieldsheet_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130206CH-WDL Fieldsheet_2.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130206CH-WDL.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35254 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35254 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35254#2 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35254#2 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35254P MRM.xls
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9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130213AJD-WDL Fieldsheet_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130213AJD-WDL.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35349 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35349 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35349#2 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35349#2 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35349P MRM.xls
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35349 DREDGESW130213AJD-WDL 15022013.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130219AJD-WDL Fieldsheet_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130219AJD-WDL.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35380 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35380 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35380P MRM.xls
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35380 DREDGESW130919AJD-WDL 20022013.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130226AJD-WDL Fieldsheet_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130226AJD-WDL.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35443 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35443 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35443P MRM.xls
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35443 DREDGESW130926AJD-WDL 27022013.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		Copy of NT35526P MRM.xls
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130307CH-WDL Fieldsheet_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130307CH-WDL.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35526 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35526 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35526 DREDGESW130307CH-WDL 08032013.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGE130312CH-WDL Fieldsheets_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGE130312CH-WDL.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35562 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35562 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35562P MRM.xls
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35562 DREDGE130312CH-WDL 13032013.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130323CD-WDL Con Note.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130323CD-WDL Fieldsheets_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130323CD-WDL.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130323CD-WDL.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35666 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35666 MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35666P MRM.XLS
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35666 DREDGESW130323CD-WDL 26032013.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130329MD-WDL Field Data_1.csv

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Level 1	Level 2	Level 3	Document File Name
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130329MD-WDL Field Data_1.xls
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130329MD-WDL Fieldsheet_1.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		DREDGESW130329MD-WDL.docx
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35742 MRM.pdf
9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		NT35742 MRM.XLS
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9 Bing Bong Dredge Spoil	MRM Dredge Spoil Monitoring Data		SRA NT35738 DREDGESW130329MD-WDL 02042013.pdf
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10 River Diversion monitoring	Diversion As Built Report		P70-PA080140.JPG
10 River Diversion monitoring	Diversion As Built Report		P71-PA080141.JPG
10 River Diversion monitoring	Diversion As Built Report		P72-PA080143.JPG
10 River Diversion monitoring	Diversion As Built Report		P73-PA060023.JPG
10 River Diversion monitoring	Diversion As Built Report		P73-PA060024.JPG
10 River Diversion monitoring	Diversion As Built Report		P73-PA060026.JPG
10 River Diversion monitoring	Diversion As Built Report		P74-PA060020.JPG
10 River Diversion monitoring	Diversion As Built Report		P74-PA060021.JPG
10 River Diversion monitoring	Diversion As Built Report		P74-PA060022.JPG
10 River Diversion monitoring	Diversion As Built Report		P74-PA060025.JPG
10 River Diversion monitoring	Diversion As Built Report		P74-PA060027.JPG
10 River Diversion monitoring	Diversion As Built Report		Appendix N.pdf
10 River Diversion monitoring	Diversion As Built Report		Appendix O.pdf
10 River Diversion monitoring	Diversion As Built Report		Final As Built Report.doc
10 River Diversion monitoring			EZ12024-C0301-EC-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring 2012_0.pdf
10 River Diversion monitoring			EZ13034-C0301-MON-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring 2013_0.pdf
10 River Diversion monitoring			Gauging station Intranet view.docx
10 River Diversion monitoring			GEN-ENV-PLN-6040-0005 Rechannel Rehabilitation Plan I005 Rev0.doc
10 River Diversion monitoring			Guaging Stations Time Series 2012-2013.xlsx
10 River Diversion monitoring	River diversion ecological reports		12003 MRM Aquatic Monitoring ED 2012_Final to Client_280812_lock.pdf
10 River Diversion monitoring	River diversion ecological reports		12003 MRM Aquatic Monitoring LD 2012_ FInal to Client_291012_with figs lock.pdf
10 River Diversion monitoring	River diversion ecological reports		13002 MRM Aquatic Monitoring LD 2013_ Final to Client_100314.pdf
10 River Diversion monitoring	River diversion ecological reports		13002_MRM_Aquatic_Monitoring_ED_2013__Final to client_231013.pdf
10 River Diversion monitoring	River diversion ecological reports		MRM LWD Report 2012.pdf
10 River Diversion monitoring	River diversion ecological reports		MRM LWD Report 2013.pdf
10 River Diversion monitoring	River diversion ecological reports		MRM Macroinvertebrate Assessment FINAL 6 feb 2014 L.pdf
10 River Diversion monitoring	River diversion ecological reports		MRM Macroinvertebrates 2012 FINAL 14 DEC 2012 L.pdf
10 River Diversion monitoring	River diversion ecological reports		EZ12024-C0301-EC-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring 2012_0.pdf
10 River Diversion monitoring	River diversion ecological reports		MRM Reveg Monitoring 2012 Appendices.pdf
10 River Diversion monitoring	River diversion ecological reports		EZ13034-C0301-MON-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring 2013_0.pdf
10 River Diversion monitoring	River diversion ecological reports		MRM Revegetation Appendices 2013.pdf
10 River Diversion monitoring	River diversion ecological reports		ADM-ENV-PRO-6040-0027 Rechannel Revegetation Monitoring Procedure Rev 0.docx
10 River Diversion monitoring	River diversion ecological reports		Riparian Birds JUNE 2012 FINAL 14 DEC 2012 L.pdf
10 River Diversion monitoring	River diversion ecological reports		Riparian Birds MAY 2013 FINAL AUG 2013 FD.pdf
10 River Diversion monitoring	River diversion ecological reports		Riparian Birds NOV 2012 FINAL 20 December 2012 L.pdf
10 River Diversion monitoring	River diversion ecological reports		Riparian Birds SEPT 2013 Final 10 - 3 - 2014 L.pdf
10 River Diversion monitoring	River erosion		2012 WRM Rpt As designed and As constructed McArthur River and Barney Creek Diversion final.pdf
10 River Diversion monitoring	River erosion		2014 McArthur Diversion Presentation.pptx
10 River Diversion monitoring	River erosion		McArthur and Barney Photomonitoring_2013 .xlsx
11 Hydrocarbon monitoring	Audits		Audit of Hydrocarbon Infrastructure at MRM.pdf
11 Hydrocarbon monitoring	Audits		McArthur River Mine Chem Alert Audit 2012.pdf

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
11 Hydrocarbon monitoring	Audits		McArthur River Mine Chem Alert Audit 2013.pdf
11 Hydrocarbon monitoring	Diesel Spill Quarterly Update		MRM_DRP_Quarterly_Report_Dec2013_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120105_Update_Twenty Eight_JC_[1].docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A DSIBC 23 & 23 Results.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment B DSPI result.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment C results Nov samples part B .pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment D results Dec sample part A.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment E results Dec samples part B.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120112_Update_Twenty Nine_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120119_Update_Thirty_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120126_Update_Thirty One_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A January Sampling Results Part A.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120202_Update_Thirty Two_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120202_Update_Thirty Two_TL.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Chromatograms.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120209_Update_Thirty Three_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Chromatograms120208.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120216_Update_Thirty Four_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120223_Update_Thirty Five_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- February GW Results 1.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment B- February GW Results 2.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120301_Update_Thirty Six_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120308_Update_Thirty Seven_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120315_Update_Thirty Eight_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120322_Update_Thirty Nine_JC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120323_Update_Thirty Nine_ Rev1_ JC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120329_Update_Forty_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120405_Update_Fortyone_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Laboratory Results 28&29-3-12.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment B- Laboratory Results 3-4-12.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120412_Update_Fortytwo_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120419_Update_Fortythree_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120426_Update_Fortyfour_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Laboratory Results 120417.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment B- Laboratory Results 120418.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment C- Laboratory Results 120419.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120503_Update_Fortyfive_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120510_Update_Fortysix_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A lab results 4 June.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment B lab results 5 June.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120614_Update_Fiftyone_ JC .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120517_Update_Fortyseven_ T L.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120524_Update_Fortyeight_ T L.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A-Lab Results 14 & 15 May 2012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment B-Lab Results 16 & 17 May 2012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120531_Update_Fortynine_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120607_Update_Fifty_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		120615 Lab results 6 June.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120621_Update_Fiftytwo_ JC .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120628_Update_Fiftythree_ JC .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120705_Update_Fiftyfour_ JC .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120712_Update_Fiftyfive_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120719_Update_Fiftysix_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120726_Update_Fiftyseven_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120802_Update_Fiftyeight_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Sampling Laboratory Results 30-31072012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120809_Update_Fiftynine_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120809_Update_Fiftynine_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Sampling Laboratory Results 1082012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120816_Update_Sixty_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120823_Update_Sixty-one_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120830_Update_Sixty-two_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab Results 27-28082012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120906_Update_Sixty-three_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120913_Update_Sixty-four_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A - Laboratory Results 2982012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120920_Update_Sixty-five_ TL .docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120927_Update_Sixty-seven_ JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_120927_Update_Sixty-six_ JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121004_Update_Sixty-seven_ JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121011_Update_Sixty-eight_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121018_Update_Sixty-nine_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121025_Update_Seventy_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121101_Update_Seventy-one_ TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121101_Update_Seventy-two_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A - Lab Results October 2012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121108_Update_Seventy-three_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121115_Update_Seventy-four_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121122_Update_Seventy-five_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121129_Update_Seventy-six_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Lab Results 23112012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121206_Update_Seventy-seven_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab Results 22112012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment B- Labmark Lab Results 23112012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment C- Chromatograms 22112012 .pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment D- Chromatograms 23112012.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment E- Lab Results 041212.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121213_Update_Seventy-eight_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121220_Update_Seventy-nine_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_121227_Update_Eighty_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130103_Update_Eighty-One_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab Results 291212 .pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130110_Update_Eighty-two_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130117_Update_Eighty-three_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130124_Update_Eighty-four_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130131_Update_Eighty-five_GT.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab results 22-23012013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130207_Update_Eighty-six_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130214_Update_Eighty-seven_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A Lab Results 11-12 13022013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130221_Update_Eighty-eight_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130228_Update_Eighty-nine_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130307_Update_Ninety_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Weekly Recovery Progress 07032013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130314_Update_Ninety-one_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130321_Update_Ninety-two_TL.docx

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab results 19032013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130328_Update_Ninety-three_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130404_Update_Ninety-four_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab Results 30032013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130411_Update_Ninety-five_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130418_Update_Ninety-six_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130424_Update_Ninety-seven_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130425_Update_Ninety-seven_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab Results 1415042013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130502_Update_Ninety-eight_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130509_Update_Ninety-nine_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab Results 04052013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130516_Update_One_Hundred_GT.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130523_Update_One_Hundred_And_One_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130530_Update_One_Hundred_And_Two_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		EB1313048_0_COA.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130606_Update_One_Hundred_And_Three_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130613_Update_One_Hundred_And_Four_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130620_Update_One_Hundred_And_Five_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A Lab results 17062013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130627_Update_One_Hundred_And_Six_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130704_Update_One_Hundred_And_Seven_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130711_Update_One_Hundred_And_Eight_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130717_Update_One_Hundred_And_Nine_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130725_Update_One_Hundred_And_Ten_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab Results 2122072013 .pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130801_Update_One_Hundred_And_Eleven_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130808_Update_One_Hundred_And_Twelve_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130815_Update_One_Hundred_And_Thirteen_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130822_Update_One_Hundred_And_Fourteen_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		EB1320133_0_COA.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130829_Update_One_Hundred_And_Fifteen_JDC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130905_Update_One_Hundred_And_Sixteen_JC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130905_Update_One_Hundred_And_Sixteen_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		Attachment A- Lab Results 01092013.pdf
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130912_Update_One_Hundred_And_Seventeen_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130919_Update_One_Hundred_And_Eighteen_JC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_130926_Update_One_Hundred_And_Nineteen_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_131003_Update_One_Hundred_And_Twenty_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_131004_Update_One_Hundred_And_Twenty_TL.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_131010_Update_One_Hundred_And_TwentyOne_JC.docx
11 Hydrocarbon monitoring	Diesel Spill Weekly updates		MRM_Memo_131017_Update_One_Hundred_And_TwentyTwo_TL.docx
11 Hydrocarbon monitoring	Fuel tank reports		Certification - Tank 1.pdf
11 Hydrocarbon monitoring	Fuel tank reports		R 1 Vertical Diesel Tank No 1.pdf
11 Hydrocarbon monitoring	Fuel tank reports		Report MRM-1118-01 Plant Fuel Tanks.pdf
11 Hydrocarbon monitoring	Fuel tank reports		Report MRM-1118-02 Plant Fuel Tank 1.pdf
11 Hydrocarbon monitoring			GEN-ENV-PRO-6040-0004 General Spill Response Procedure I005 Rev 0.doc
11 Hydrocarbon monitoring			GEN-SD-PRO-6040-0026 Hydrocarbon Management Procedure I002 Rev 0.doc
11 Hydrocarbon monitoring			MRM Diesel Spill_DSI and RAP_FINAL.docx
12 Mine Closure			OKC Rpt #750-7-01 - Interim Cover Design for TSF Cell#1 June 2013.pdf
12 Mine Closure	Revegetation monitoring		EZ12024-C0301-EC-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring 2012_0.pdf
12 Mine Closure	Revegetation monitoring		MRM Reveg Monitoring 2012 Appendices.pdf
12 Mine Closure	Revegetation monitoring		EZ13034-C0301-MON-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring_2013_0.pdf
12 Mine Closure	Revegetation monitoring		MRM Revegetation Appendices 2013.pdf
12 Mine Closure	Revegetation monitoring		ADM-ENV-PRO-6040-0027 Rechannel Revegetation Monitoring Procedure Rev 0.docx
13 General Reports	2012 Incidents		120222 Exceedance Letter.pdf
13 General Reports	2012 Incidents		120315 Exceedance Letter.pdf
13 General Reports	2012 Incidents		120515 Exceedance Letter.pdf
13 General Reports	2012 Incidents		CF7-001 Notification Mine Levee Wall Barney Creek.pdf
13 General Reports	2012 Incidents		CF7001 Bushfire at WMD.pdf
13 General Reports	2012 Incidents		CF7001 NOEF water release.pdf
13 General Reports	2012 Incidents		ICAM Mine Levee Wall Barney Creek.pdf
13 General Reports	2012 Incidents		ICAM NOEF water release.pdf
13 General Reports	2012 Incidents		Investigation Bushfire at WMD.pdf
13 General Reports	2012 Incidents		ENV Inc 2012.xlsx
13 General Reports	2013 Incidents		130218 Exceedance Letter.pdf
13 General Reports	2013 Incidents		130327 Exceedance Letter.pdf
13 General Reports	2013 Incidents		130509 Exceedance Letter.pdf
13 General Reports	2013 Incidents		131010 Exceedance Letter.pdf
13 General Reports	2013 Incidents		131119 Exceedance Letter.pdf
13 General Reports	2013 Incidents		2103 Incident 30124.pdf
13 General Reports	2013 Incidents		2103 Incident 30131.pdf
13 General Reports	2013 Incidents		2103 Incident 30195.pdf
13 General Reports	2013 Incidents		2103 Incident 30213.pdf
13 General Reports	2013 Incidents		2103 Incident 30239.pdf
13 General Reports	2013 Incidents		2103 Incident 30264.pdf
13 General Reports	2013 Incidents		2103 Incident 30284.pdf
13 General Reports	2013 Incidents		2103 Incident 30347.pdf
13 General Reports	2013 Incidents		2103 Incident 30390.pdf
13 General Reports	2013 Incidents		2103 Incident 30425.pdf
13 General Reports	2013 Incidents		2103 Incident 30485.pdf
13 General Reports	2013 Incidents		2103 Incident 30628.pdf
13 General Reports	2013 Incidents		2103 Incident 30629.pdf
13 General Reports	2013 Incidents		2103 Incident 30697.pdf
13 General Reports	2013 Incidents		2103 Incident 30742.pdf
13 General Reports	2013 Incidents		2103 Incident 30744.pdf
13 General Reports	2013 Incidents		2103 Incident 30842.pdf
13 General Reports	2013 Incidents		2103 Incident 30933.pdf
13 General Reports	2013 Incidents		CF7001 - EPSA Service Truck Deisel Spill.pdf
13 General Reports	2013 Incidents		CF7001- Hamptons roll over.pdf
13 General Reports	2013 Incidents		CF7001- Hydraulic oil release during dredging.pdf
13 General Reports	2013 Incidents		CF7001- TSF cell one overflow.pdf
13 General Reports	2013 Incidents		ICAM - EPSA Service Truck Diesel Spill.pdf
13 General Reports	2013 Incidents		ICAM - Hamptons roll over.pdf
13 General Reports	2013 Incidents		ICAM - Hydraulic oil release during dredging.pdf
13 General Reports	2013 Incidents		ICAM - TSF cell one overflow.pdf
13 General Reports	Community Relations Communication		MRM_Community_and_Stakeholder_complaints_1JAN12to31DEC13.doc
13 General Reports			GEN-ENV-MAN-6040-0001 Environmental Monitoring Manual I007 Rev 0.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		130709 Lttr MRM SD MMP 2012 2013 Submission Rev 1.docx

MRM-SUPPLIED DOCUMENTS			
Grouping (as Provided to ERIAS Group)			
Level 1	Level 2	Level 3	Document File Name
13 General Reports	MRM Mining Management Plan 2012-013 Final		130709 LTTR MRM SD MMP Submission Rev 1.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		130321 MRM SD MMP Additional Information.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		121221 conditional approval Cell 4 & NOEF.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		130205 Signed conditional letter for approval Cell 4 NOEF.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		130516 MRM Request for amendment NOEF SOEF Expl Reagent store.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		130604 MMP MDOC201303544 Partial Approval Letter.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		130213 LTR MRM Environmental Monitoring Program Review (2).pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		130613 LTR MRM Environmental Drilling 2013.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		MDOC201302190ConditionalApprovalMonitoring Program Changes.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final		130703 Mining Management Plan Part A_ Final.doc
13 General Reports	MRM Mining Management Plan 2012-013 Final		130703 Mining Management Plan Part A_ Final.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Annual Risk Assessment Report_Bing Bong 2012.docx
13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Annual Risk Assessment Worksheet_Bing Bong 2012.xls
13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Attendance Sheet Bing Bong Risk Assessment 2012.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Meeting Attendance Record.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Risk Assessment Worksheet_HSEC 2012.xlsx
13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Annual Risk Assessment Report_MST 2012.doc
13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Annual Risk Assessment Worksheet_MST 2012.xlsx
13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Annual Risk Assessment Report_Supply 2012.doc
13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Attendance Sheet Supply Risks 2012.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Admin	Risk Assessment Worksheet_Supply 2012.xls
13 General Reports	MRM Mining Management Plan 2012-013 Final	Catastrophic Hazards	Catastrophic Hazards and High Hazard Activities 2012.xls
13 General Reports	MRM Mining Management Plan 2012-013 Final	Catastrophic Hazards	Catastrophic Hazards Review Report_10 May 2012.doc
13 General Reports	MRM Mining Management Plan 2012-013 Final	Metallurgy	MET-SFTY-RPT-120323 METALLURGY ANNUAL RISK ASSESSMENT 2012.xls
13 General Reports	MRM Mining Management Plan 2012-013 Final	Mining	Annual Risk Assessment Worksheet Mining_2012.xls
13 General Reports	MRM Mining Management Plan 2012-013 Final	Mining	attendance sheet.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Mining	GEN-SD-FRM-6040-0008 Risk Assessment Report Form I001 Rev 0.doc
13 General Reports	MRM Mining Management Plan 2012-013 Final		130704 Mining Management Plan Part B amendment Final Repaired.doc
13 General Reports	MRM Mining Management Plan 2012-013 Final		130704 Mining Management Plan Part B amendment Final.doc
13 General Reports	MRM Mining Management Plan 2012-013 Final		130704 Mining Management Plan Part B amendment Final.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 1 Security Calculation Section 7	130605 MRM 201306 Security Request Letter approval.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 1 Security Calculation Section 7	2012 MMP Security_Calculation_Form.xlsx
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 2 Surface water HMTV Data Section 11	HMTV each sample 2011 2012.xlsx
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 4 Electromagnetic Survey Section 11	42213991_R001_B_Final.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 5 DGT Report	MRM DGT 2011-12 final report 20120813.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	ASW 2009 -2012.xlsx
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NOEF ED.xlsx
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - ASW-BIAN120619MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-FORTNIGHTLY111129MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-MISC120111MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-MONTHLY120214MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-MONTHLY120215MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-MONTHLY120222MH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-MONTHLY120307MD.pdf

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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-MONTHLY120312MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - ASW-MONTHLY120523MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - ASW-MONTHLY120524MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-QUARTERLY120116MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-QUARTERLY120117MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW-TSFWEEKLY111130MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110704AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110711AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110714AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110718CH (28.07.12).pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110718CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110721MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110728AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110804AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110809AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW110811CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW111213MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW120116MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW120221AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW120223MH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW120228MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASW120315MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - ASW120501TL.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWBIAN111116MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWBIAN111130MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - ASWfortnightlty120607CH.pdf
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MRM-SUPPLIED DOCUMENTS			
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Level 1	Level 2	Level 3	Document File Name
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWMONTHLY110914MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWMONTHLY110915MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWMONTHLY110922MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWMONTHLY111012MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWMONTHLY111013MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWWEEKLY110824MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - ASWWEEKLY110831MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - BBASW110714AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - BBASW110908AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - MISCASW1100901CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - MISCASW110711CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - MISCASW110728AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete -ASW120312MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete ASW120105MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete ASW120320MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - ASW111214MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - ASWBB111213AJD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE- ASW120416MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	MRM DGT & SW Jan-Apr 2012 Reports.xlsx
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - DREDGE111117AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - DREDGE111215AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - DREDGE120123AJD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - DREDGE120312AJD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - MISCSWBB110822AJD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NT32307 MRM.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NT32307 MRM.xls
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	DREDGE120528MHB.doc
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NT32732 MRM.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NT32732 MRM.xls
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	SRANT3~1.PDF
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	DREDGESW120501TL.docx
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Field Data - DREDGESW120501TL.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NT32309 MRM.xls
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	DREDGESW120614AJD.docx
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NT32841 MRM.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NT32841 MRM.xls
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	NT32841#2 MRM.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	FULL SCAN - MISCSWBB120301AJD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - DUST120105MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - June2012.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - May2012.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - DUST110831.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - DUST110930.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - DUST111130.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_SCAN_DUST120206MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_SCAN_DUST120329CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_SCAN_DUST_APR2012.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - FS2011augustCH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	EB1215933_0_QC.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	EB1215933_0_SRN.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	EB1215933_0_XTAB.XLS
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	EB1215933_COC.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	EB1215933_XSTRATA.mpr
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	FS120614CH.docx
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - 111207AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - GW-BIAN111222AJD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - GW-QUARTERLY120116MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - GW-QUARTERLY120201AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - GW-QUARTERLY120201MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - GW120412TL.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - GWBIAN111215TL.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - MSW110822AJD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - MSW111004CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - MSW111018CH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - MSW111212AJD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - MSW120312AJD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - MSW120528MHB.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - MSW120628MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - SW-MONTHLY110803MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - SW-WEEKLY120405CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - SWBIAN120321MH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - SWMONTHLY120216CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN_SW-MONTHLY120125CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN_SW-WEEKLY120111MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN_SW-WEEKLY120131CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN_SW-WEEKLY120201CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN_SW-WEEKLY120202CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN_SW-WEEKLY120207CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN_SW-WEEKLY120221MH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN_SW-WEEKLY120326MH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SWweekly111206CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SWweekly111208CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SWweekly111214CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SWweekly111220CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SWweekly111221MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SWweekly111229CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SWWEEKLY120105CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_SCAN_SW-MONTHLY120501CH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_SCAN_SW-WEEKLY120618MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_SW-MTHLY110718CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_SW-MTHLY110721CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	full scan - SW-WEEKLY120606MH.pdf

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Level 1	Level 2	Level 3	Document File Name
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	full scan - SW-WEEKLY120619MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	full scan - SW-WEEKLY120625MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	full scan - SW-WEEKLY120626MH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	full scan - SW-WEEKLY120627MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	full scan - SW-WEEKLY120628MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	full scan - SWBIAN120614CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	full scan - SWWEEKLY120605CH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - SW120321MH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - SWDAILY120320CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - SWDAILYDIS120322MH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - WDL-WEEKLY120201CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - WDL-WEEKLY120207CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - WDL-WEEKLY120208MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - WDL-WEEKLY120313MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - WDL-WEEKLY120501CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - WDL-WEEKLY120509MH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE - WDL-WEEKLY120516CH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-SWCHELEX111116MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-SWCHELEX111117MD.pdf

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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-SWCHELEX111213MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-WEEKLY120105CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-WEEKLY120117MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-WEEKLY120131CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-WEEKLY120402CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL111206CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL111208CH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDLchelex111130CH.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - TPH-GW-BIAN120628MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - TPH-WEEKLY120607CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - TPH-WEEKLY120620MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - TPH-WEEKLY120628MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	Complete - TPH120118MD.pdf
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13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - TPH-FORTNIGHTLY120202CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - TPH-GW120208MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - TPH-WEEKLY120307CH.pdf

MRM-SUPPLIED DOCUMENTS			
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Level 1	Level 2	Level 3	Document File Name
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - TPH120215CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - TPH120229MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - TPH120313MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - TPH120314MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-TPHWEEKLY120207CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE SCAN - WDL-TPHWEEKLY120223MH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE TPHWEEKLY111003CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_SW-TPH111201CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-ASW-BIAN111117MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-ASW-BIAN111124MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-ASW-BIAN111215MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-ASW-BIAN111222MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-BB-invest111229CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-GW-BIAN111222MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-WDL111117MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-WEEKLY.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-WEEKLY111123.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH-WEEKLY111130CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH111208CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH111213MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH111214MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH111221MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH111229CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPH120123MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPHBIAN111110CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPHWDL111206CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPHWEEKLY111110CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_TPHWEEKLYGW111130MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL & GW - TPHWEEKLY120105CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL - TPH111110CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL - TPHWEEKLY111124MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL - TPHWEEKLY111213MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL - TPHWEEKLY111220MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL - TPHWEEKLY111229CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL TPH111208CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL TPHWEEKLY120119CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL-TPH-ASW111129MD.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	COMPLETE_WDL-TPH111130CH.pdf
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	TPH Export File.csv
13 General Reports	MRM Mining Management Plan 2012-013 Final	Part B Appendix 6 Raw Data Management Section 11	TPH Export File.xlsx
13 General Reports	MRM Mining Management Plan 2012-013 Final		SW hardness MTV.xlsx
13 General Reports	MRM Mining Management Plan 2013-2018		MRM Mining Management Plan 2013-2018 Vol 2.pdf
13 General Reports	MRM Mining Management Plan 2013-2018		MRM Mining Management Plan 2013-2018 Vol 1.pdf
13 General Reports			MRM Waste Discharge Licence Report September 2013.pdf
13 General Reports	Procedures		ADM-ENV-PRO-6040-0017 Fauna Management Procedure I002 Rev 1.doc
13 General Reports	Procedures		ADM-ENV-PRO-6040-0021 Natural Surface Water Monitoring Procedure I001 Rev 0.doc
13 General Reports	Procedures		ADM-ENV-PRO-6040-0022 Groundwater Monitoring Procedure I001 Rev 0.doc
13 General Reports	Procedures		ADM-ENV-PRO-6040-0023 Artificial Surface Water Monitoring Procedure I01 Rev 0.doc
13 General Reports	Procedures		ADM-ENV-PRO-6040-0024 Waste Discharge Licence Monitoring Procedure I001 Rev 0.doc
13 General Reports	Procedures		ADM-ENV-PRO-6040-0025 DGT Monitoring Procedure I001 Rev 0.doc
13 General Reports	Procedures		ADM-ENV-PRO-6040-0026 Potable Water Monitoring Procedure I001 Rev 0.doc
13 General Reports	Procedures		GEN-ENV-PRO-6040-0004 General Spill Response Procedure I005 Rev 0.doc
13 General Reports	Procedures		GEN-ENV-PRO-6040-0006 Major Concentrate Spill ,Äì Trucking Incident I005 Rev 0.doc
13 General Reports	Procedures		GEN-ENV-PRO-6040-0019 Storage Handling and Use of Refrigerant Gases I002 Rev0.doc

MRM-SUPPLIED DOCUMENTS			
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Level 1	Level 2	Level 3	Document File Name
13 General Reports	Procedures		GEN-ENV-PRO-6040-0027 Rechannel Revegetation Monitoring Procedure I001 Rev 0.doc
14 Other audits			DME close out Presentation for 2013 Audit.ppt
14 Other audits			McArthur River Mine Chem Alert Audit 2012.pdf
14 Other audits			McArthur River Mine Chem Alert Audit 2013.pdf
14 Other audits			MRM 20121127 Legislative Compliance Audit.pdf
14 Other audits			MRM 201311 Audit MR20130482 MMP Criteria.doc
14 Other audits			Opening and closing meeting attendance forms.pdf
14 Other audits			XZN MRM Concentrate Transport Risk Review 2012 Final Report.pdf
14 Other audits			XZn MRM Stakeholder Management Risk Review 2012 Final Report.pdf
15 Other	1		120920M Static Testing Results NOEF.pdf
15 Other	1		140307R-MRM_ClayAssessment.pdf
15 Other	1		140310eL Field Leach Column Design.pdf
15 Other	1		140310LR Low Grade Ore Characterisation.pdf
15 Other	1		140310R Geochem Desktop Review (reduced).pdf
15 Other	1		17022014 Waste Classification Guide.pdf
15 Other	1		20140310 Waste classification field results.pdf
15 Other	1		AMD Block Model.pdf
15 Other	1		R001-a MRM KLC Stage 2 DRAFT_290611 Copy_Full.pdf
15 Other	1		R001-Stage5 KLC-rev0 complete.pdf
15 Other	1		RPRT 051024 URS Kinetic Leach Colum Stage 3.pdf
15 Other	1		RPRT 061102 URS Kinetic Leach Column_Stage 4.pdf
15 Other	1		Stage 7 KLC 110510 Stage 7 KLC Program Update - April 2011_M003_R001.pdf
15 Other	10		GEN-GEN-PLN-6040-0001 Site Emergency Response Plan I006 Rev 0.doc
15 Other	10		MET-GEN-GDL-2800-0001 TSF Operating Guidelines I008 Rev 0.pdf
15 Other	10	Drawings	1110C0040 Rev D.pdf
15 Other	10	Drawings	1110C0041 Rev D.pdf
15 Other	10	Drawings	Clay core dam - typical section.jpg
15 Other	10	Drawings	MRM-REE-001-C.pdf
15 Other	10	Drawings	MRM-REE-002-B.pdf
15 Other	10	Drawings	MRM-REE-002-B1.pdf
15 Other	10	Drawings	MRM-REE-003-A.pdf
15 Other	10	Drawings	MRM-REE-004-B.pdf
15 Other	10	Drawings	MRM-REE-004-C.pdf
15 Other	10	Drawings	MRM-REE-005-B.pdf
15 Other	10	Drawings	MRM-REE-006-B.pdf
15 Other	10	Drawings	MRM-REE-007-B.pdf
15 Other	10	Drawings	MRM-REE-008-B.pdf
15 Other	10	Drawings	MRM-REE-009-B.pdf
15 Other	10	Drawings	MRM-REE-010-C.pdf
15 Other	10	Drawings	MRM-REE-011-D.pdf
15 Other	10	Drawings	MRM-REE-012-C.pdf
15 Other	10	Drawings	MRM-REE-013-C.pdf
15 Other	10	Drawings	1110C0040 Rev D.pdf
15 Other	10	Drawings	1110C0041 Rev D.pdf
15 Other	10	Drawings	MRM-REE-001-0.pdf
15 Other	10	Drawings	MRM-REE-002-0.pdf
15 Other	10	Drawings	MRM-REE-003-0.pdf
15 Other	10	Drawings	MRM-REE-004-0.pdf
15 Other	10	Drawings	MRM-REE-005-0.pdf
15 Other	10	Drawings	MRM-REE-006-0.pdf
15 Other	10	Drawings	MRM-REE-007-0.pdf
15 Other	10	Drawings	MRM-REE-008-0.pdf
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15 Other	10	Drawings	MRM-REE-012-0.pdf
15 Other	10	Drawings	MRM-REE-013-0.pdf
15 Other	10	Drawings	MRM-REE-014-A.pdf
15 Other	10		MRM17JAN14 SEPROD Ascon.dxf
15 Other	10		mrmseprod_mar24.dgd.isis
15 Other	10		mrmseprod_mar24.dgd.isix
15 Other	10	Quantities	1145CU0001 Rev B SEPROD Rock Quantities By Chainage 130716.xlsx
15 Other	10	Quantities	20130313 Levee BOQ v2.xlsx
15 Other	10	Quantities	20130324 SEPROD BOQ v2.xlsx
15 Other	10	Quantities	storage seprod.rpt
15 Other	10		SEPROD south batter spillway overtip.gif
15 Other	10		SEPROD south batter spillway overtip.snag
15 Other	10		1110-SP-003 SEPROD Earthworks _ Specification Rev I 20130614.docx
15 Other	10		20130228 Review of Seepage Rates.pdf
15 Other	10		A254G_R002B final.pdf
15 Other	10		Design Report MRM SEPROD and Levee -B - DH review.pdf
15 Other	10		GEN-SD-FRM-6040-009 Risk Assessment Worksheet - NOEF Rev B 130719.xlsx
15 Other	10		Rock donut windrow compaction.gif
15 Other	10		Rock donut windrow compaction.snag
15 Other	12		GEN-ENV-PLN-6040-0005 Rechannel Rehabilitation Plan I005 Rev0.doc
15 Other	12		EZ12024-C0301-EC-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring 2012_0.pdf
15 Other	12		MRM Reveg Monitoring 2012 Appendices.pdf
15 Other	12		EZ13034-C0301-MON-R-0001 McArthur River and Barney Creek Rechannel Revegetation Monitoring 2013_0.pdf
15 Other	12		MRM Revegetation Appendices 2013.pdf
15 Other	12		ADM-ENV-PRO-6040-0027 Rechannel Revegetation Monitoring Procedure Rev 0.docx
15 Other	14		MRM Macroinvertebrate Assessment FINAL 6 feb 2014 L.pdf
15 Other	14		MRM Macroinvertebrates 2012 FINAL 14 DEC 2012 L.pdf
15 Other	15		131028 All fencing.pdf
15 Other	15		131115 All fencing.pdf
15 Other	17		140116 Memo WRM re revised rating curve.pdf
15 Other	17		Guaging Stations Time Series 2012-2013.xlsx
15 Other	17		RE MRM data request.msg
15 Other	17		121017 YSI invoice.pdf
15 Other	17		121113 YSI inv5680.pdf
15 Other	18		PUMP & SEDIMENT CHECKS APRIL 2012.pdf
15 Other	18		PUMP & SEDIMENT CHECKS AUGUST 2012.pdf
15 Other	18		PUMP & SEDIMENT CHECKS JUNE 2012.pdf
15 Other	18		PUMP & SEDIMENT CHECKS NOV 2012.pdf
15 Other	18		PUMP & SEDIMENT CHECKS OCT 2012.pdf
15 Other	18		PUMP & SEDIMENT CHECKS SEPT 2012.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS DEC 2011.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS DEC 2012.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS FEB 2012.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS FEB 2013.pdf

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Level 1	Level 2	Level 3	Document File Name
15 Other	18		PUMP AND SEDIMENT CHECKS JAN 2012.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS JAN 2013.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS JULY 2012.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS MAR 2012.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS MAR 2013.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS MAR AND APRIL 2013.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS MAR TO JULY 2011.pdf
15 Other	18		PUMP AND SEDIMENT CHECKS NOV 2011.pdf
15 Other	19		ADM-ENV-PRO-6040-0011 Early Flood Warning System Procedure.docx
15 Other	2		130802 Tailings Classification Review.pdf
15 Other	20		120629 LSA Inv00012505.pdf
15 Other	20		120730 Lear siegler.pdf
15 Other	20		120830 LSA TEOM proposal.pdf
15 Other	21		137632036-005-Rev0-Geophysical Survey Report-NOEF area.pdf
15 Other	21		137632036-006-Rev0-3D Model Report-NOEF area TR.pdf
15 Other	21		137632036-006-RevB-3D Model Report-NOEF area.pdf
15 Other	21		137632036-007-R-Rev0-Geotechnical Investigation Report-NOEF area.pdf
15 Other	21		golder_tri.zip
15 Other	21		Volumes.xlsx
15 Other	21		Bing Bong Dredge Spoil Veg Monitoring 2013 Appendices.pdf
15 Other	21		Clay Borrow investigation Hatch 2012.pdf
15 Other	21		Geotechnical investigation -Detailed Feasibility Study KBR.pdf
15 Other	26		12003 MRM Aquatic Monitoring ED 2012_Final to Client_280812_lock.pdf
15 Other	26		12003 MRM Aquatic Monitoring LD 2012_ FInal to Client_291012_with figs lock.pdf
15 Other	26		12004 Monitoring of metals and lead isotopes ratios in fish crustaceans and molluscs McArthur Rivers 2012_Final to Client_100314.pdf
15 Other	26		13002 MRM Aquatic Monitoring LD 2013_ Final to Client_100314.pdf
15 Other	26		13002_MRM_Aquatic_Monitoring_ED_2013__Final to client_231013.pdf
15 Other	26		13003 Monitoring of metals and lead isotopes ratios in fish crustaceaeans and molluscs of the McArthur River 2013_Final to Client_100314.pdf
15 Other	27		Gulf Rivers Land care Group.docx
15 Other	27		Gulf Rivers Landcare Group Meeting 2 Minutes.docx
15 Other	27		Gulf Rivers Landcare Group Meeting Minutes 14-12-13.pdf
15 Other	3		130802 Tailings Classification Review.pdf
15 Other	31		Hazardous Dam Stability Assessment TSF and BB Dredge Spoil.pdf
15 Other	31		LTTR Cardno Ullman & Nolan U33048_Bing Bong Holding Ponds_Internal Wall.pdf
15 Other	32		2012 EZ12039-C0301-EIA-R-0002 Vegetation Monitoring of Dredge Spoil at Bing Bong Port_1_0.pdf
15 Other	32		2013 EZ13031-C0301-MON-R-0001 Vegetation Monitoring of the Dredge Spoil Area at Bing Bong 2013_2.pdf
15 Other	32		Bing Bong Dredge Spoil Veg Monitoring 2013 Appendices.pdf
15 Other	34		12005_Annual Marine Monitoring_040713_Final to client.pdf
15 Other	34		130809 R B20354 001 00 Coastal_Modelling_lowres.pdf
15 Other	34		MRM DGT 2011-12 final report 20120813.pdf
15 Other	34		MRM DGT 2012-13 final report + app 20131004.pdf
15 Other	38		13007 MRM Bing Bing Seagrass Suvery 2013_ Final to Client_100314.pdf
15 Other	38		2012 BBLF annual seagrass monitoring report.pdf
15 Other	4		2012 WRM Rpt As designed and As constructed McARTHUR rIVER and Barney Creek Diversion final.pdf
15 Other	4		2014 McArthur Diversion Presentation.pptx
15 Other	40		12005_Annual Marine Monitoring_040713_Final to client.pdf
15 Other	40		MRM Annual Marine Monitoring Program Report 2011.pdf
15 Other	5		2012 channel assessment final.pdf
15 Other	6		Final Report - R001-a2.pdf
15 Other	6		Specifications.pdf
15 Other	6	2012	DSC01871.JPG
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Appendix 2

Risk Register

RISK MATRIX

Consequence		Likelihood (regardless of potential time latency)				
		1	2	3	4	5
		Certain	Likely	Possible	Unlikely	Improbable
1	Catastrophic	2	3	4	5	6
2	Major	3	4	5	6	7
3	Moderate	4	5	6	7	8
4	Minor	5	6	7	8	9
5	Insignificant	6	7	8	9	10

RISK RATING EXPLANATIONS

Risk Matrix result	Risk Rating	Description
2 to 3	E	Extreme- Immediate intervention required to eliminate or reduce
4 to 5	H	High Risk - It is essential to eliminate or reduce risk to a lower
6 to 7	M	Moderate - Corrective action required, and monitoring and
8 to 10	L	Low Risk - Corrective action should be implemented where

KEY TO RISK REGISTER

Location of impact	
RI	Regional impact (>2km radius outside mining lease)
OM	Impact outside mine lease area - (<2km radius)
WM	Wide impact within mining lease boundaries
L	Localised area within mining lease boundaries
P	Small point source within mining lease boundary
Potential Duration of impact	
G	Geological long term (>100 years)
L	Long term (30- 100)
M	Medium term (5-30 years)
S	Short term (1-5 years)
E	Ephemeral/seasonal impact
Risk Rating number and letter colour coding	
Black	Risk rating has remained the same since the last IM audit
Red	Risk has increased in consequence and/or likelihood since last IM audit
Green	Risk has decreased in consequence and/or likelihood since last IM audit
Grey	This risk item has been added since the last IM audit.

Consequence Definitions

Consequence		Definition
1	Catastrophic	Severe environmental impact. Local species destruction and likely long recovery period. Extensive clean up involving external resources. Impact on regional scale.
2	Major	Major environmental impact. Considerable clean up effort using site and external resources. Impact may extend beyond lease boundaries.
3	Moderate	Moderate environmental impact. Clean up by site staff and/or contractors. Impact confined within lease boundaries. Or, minor impact off site: however, no irreversible damage.
4	Minor	Low environmental impact. Rapid clean up by site staff and/or contractors. Impact controlled to area currently impacted by operations.
5	Insignificant	No or very low environmental impact. Impact confined to small area. Site impact only.

Likelihood		Definition
1	Certain	Expected to occur frequently at this operation.
2	Likely	Expected to occur occasionally at this operation.
3	Possible	Has occurred or could occur for this or a comparable operation.
4	Unlikely	Known to occur in the global industry but unlikely.
5	Improbable	Not known to occur in the global industry but plausible.

Asset	Consideration	Hazard / Aspect	Incident / Event	Consequence / Impact	Potential duration of impact	Location of impact	Existing Controls/ Monitoring and Assessment undertaken	Consequence	Likelihood	Matrix Result	Risk Rating	Additional Controls, monitoring , assessment or actions required
OEF	Geochemical	Failure of NOEF cover.	Current cover design insufficiently robust to control acid, saline and metalliferous drainage in perpetuity. Cover breached through erosion, slumping, differential movement, and/or undermining of dump due to extreme flooding event.	Acid, saline and metalliferous drainage impacts on groundwater, terrestrial and aquatic ecosystems.	G	OM-RI	A cover design has been produced based on new waste rock geochemical classification and materials available.	1	2	3	E	The current cover design relies on the perpetual performance of a 0.6m compacted clay layer. Given the highly pyritic nature of the waste rock and the size of the dump, the thin nature of the oxidation/infiltration control layer appears disproportionate and sensitive to erosion, slumping, differential movement and flood effects. The long term stability of the current dump design should be reviewed, and trial dump cover areas established. The batters tend to have a higher erosion risk, and the design should ensure at a minimum that PAF-HC and PAF-RE are excluded from below batter zones and set back 100m from the outer face. Review geochemical classification criteria and identify opportunities to increase the amount of lower acid/salinity/metal leaching material and increase the robustness of the dump cover. Review opportunities to further segregate mine materials during mining based on more detailed geological differentiation.
OEF	Geochemical	Poor or partial performance of cover.	Cover design fails to control infiltration or oxygen flux or both leading to poor or partial performance of cover.	Acid, saline and metalliferous drainage impacts on groundwater, terrestrial and aquatic ecosystems.	G	OM-RI	Cover design performance modelling by two different consultants.	1	3	4	H	Clarify the primary purpose (infiltration control or oxidation control) and performance of the cover system and uncertainties as it applies to site conditions and available materials. Carry out instrumented cover trials to check construction methods and performance.
OEF	Geochemical	Insufficient NAF materials for NOEF cover.	The cover is compromised due to a shortfall in the required NAF materials. The current cover design requirements for NAF materials is closely balanced with estimated available volumes, but there is potential for shortfall due to issues with recovery, the preliminary nature of the geochemical	Acid, saline and metalliferous drainage impacts on groundwater, terrestrial and aquatic ecosystems.	G	OM-RI	Estimates of geochemical materials to be mined based on preliminary criteria for new geochemical categories.	1	3	4	H	Review geochemical classification criteria and identify opportunities to increase the amount of lower acid/salinity/metal leaching material and increase flexibility. Progress full incorporation of new geochemical categories into distribution model. Review opportunities to further segregate mine materials during mining
OEF	Geochemical	Misclassification of geochemical rock types.	Classification criteria preliminary and not fully integrated into the geochemical distribution model and field reconciliation, compromising material segregation and leading to placement of geochemical rock types in the wrong locations.	Acid, saline and metalliferous drainage from unexpected parts of the dump and consequent impacts on groundwater, terrestrial and aquatic ecosystems. Inefficient use of the limited NAF materials in non key zones.	G	OM-RI	Studies and assessments carried out in conjunction with KCB and preliminary criteria established. Leach barrel tests set up on site.	3	2	5	H	Continue investigations to develop criteria. Continue leach barrel testing. Set up leach column testing of a variety of materials as recommended by KCB (2014a). Column tests are operated under more controlled laboratory conditions, and are easier to interpret and will assist assessment of leach barrel tests.
OEF	Geochemical	Mis-placement of waste rock materials.	Materials placed in the wrong locations due to: a lack of geochemical material tracking; use of the older classification system in historic dump area; and use of older classification in NOEF NAF material checks.	Acid, saline and metalliferous drainage from unexpected part of the dump and consequent impacts on groundwater, terrestrial and aquatic ecosystems. Inefficient use of the limited NAF materials in non key zones.	G	OM-RI	NOEF NAF material checks. Dispatch system.	3	1	4	H	Implement system for tracking of waste rock geochemical and lithological types placed in the NOEF. Review old dump areas and potential issues associated with mis-classification. Modify NOEF field checks to reflect new geochemical criteria.
OEF	Geochemical	Development of convection cells in end tip dump areas.	End dumping of PAF materials resulting in segregation of coarse and fine materials and creation of chimney structures that encourage rapid convective oxidation.	Greater rates of oxidation and generation of acid, salinity and dissolved metals, consequent impacts on groundwater, terrestrial and aquatic ecosystems. Spontaneous combustion impacts from reactive PAF.	L	OM	Future reactive PAF will be paddock dumped and traffic compacted, but end tipping is still planned for other PAF materials.	2	2	4	H	Extend paddock dumping to PAF-HC in addition to PAF-RE, or devise an equivalent construction method that prevents development of coarse chimney structures. Control convection in old dump areas by placement of paddock dumped (or equivalent) materials on the outer face with (ideally) a minimum 100m horizontal thickness.
OEF	Geochemical	Spontaneous combustion.	Materials historically placed without controls and new materials not sufficiently managed combust and leave voids and weaknesses. Planned spraying of combusting materials with water containing hydrated lime accelerates the reaction and increases the impact.	Spontaneous combustion affects the stability of the NOEF and results in breaches the of the final cover, and causes release of acid/saline/metalliferous drainage, impacting groundwater, terrestrial and aquatic ecosystems.	G	OM-RI	A KCB review of existing zones of spontaneous combustion has been carried out and remediation approaches recommended. MRM plan to apply water and hydrated lime to existing spontaneous combustion.	1	3	4	H	Follow KCB recommendations and finalise methods of spontaneous combustion control. Avoid the planned application of water and lime, or trial on a small area before widespread use.
OEF	Geochemical	Spontaneous combustion.	Mis-placement or poor identification of reactive PAF leading to spontaneous combustion.	Spontaneous combustion affects the stability of the NOEF and results in breaches the of the final cover, and causes release of acid/saline/metalliferous drainage, impacting groundwater, terrestrial and aquatic ecosystems.	G	OM-RI	Geologist believe the Black Bituminous Shale in the NE corner of the pit has the highest spontaneous combustion potential, and are working with KCB to develop criteria	1	3	4	H	Continue investigations to develop criteria.
OEF	Geochemical	Pyritic waste rock materials exposed during operations prior to placement of final cover.	No interim capping of waste rock surface and no progressive rehabilitation leads to oxidation of pyritic materials.	Acid, saline and metalliferous drainage impacts on groundwater, terrestrial and aquatic ecosystems.	M	L	Reference to interim 0.6m clay layers made in MMP (MRM 2013a), but not clear is this is being implemented.	4	3	7	M	Cover should be progressively placed as soon as completed waste dump area become available, and interim caps should be placed over active PAF dump areas prior to each wet season.
OEF and TSF	Landform Stability	Potentially acid forming, saline and neutral mine drainage waste rock.	Compacted clay layer exposed to drying and/or erosion leading to failure of cover system.	Acid, saline and neutral drainage impacts terrestrial and aquatic ecosystems.	G	OM	Nil	1	3	5	H	Undertake erosion and sediment transport modeling of the proposed NOEF landform to identify depth of NAF cover material required to ensure the functionality of the cover for 100, 500 and 1,000 years.
TSF	Geochemical	Tailings leachate from Cell 1	Poor design of TSF and incomplete rehabilitation of Cell 1 leads to TSF leachate into surprise creek.	Water quality (mainly elevated SO4 salts and electrical conductivity) impacts on groundwater, terrestrial and aquatic ecosystems.	M	RI	Shallow cut-off barrier, seepage interception sump. Monitoring of surface water and groundwater. Placement of 0.5m clay cap on cell 1 for dust control. Geophysical analysis to track saline plumes. Aquatic fauna surveying in Surprise Creek.	3	1	4	H	Complete interim clay cover (O'Kane Consultants). Install planned decant towers. Schedule reprocessing of Cell 1 tailings as planned to eliminate the hazard.

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TSF	Geochemical	Tailings leachate from Cell 2	Leachate reports to groundwater and ultimately to surface drainage down-gradient. The currently detected leakage in ground water is presumably due to breaches in the Cell 2 clay foundation, and the interception trenches on eastern and western sides being too shallow to pick up all seepage. At closure this leakage may occur due to failure of final cover though erosion or slumping etc. and/or inadequate performance of cover as designed.	Water quality impacts on impacts on groundwater and surface drainage down-gradient. Short Term - mainly elevated SO4 salts and electrical conductivity Longer Term - acid and elevated metals once tailings acidify.	M - G	RI	Monitoring of groundwater. Shallow Interception trenches.	2	2	4	H	Further geochemical characterisation of tailings to better understand acid, saline and metal/metalloid leaching potential and variation. Include routine testing of discharged tailings and historical (deposited) tailings. Kinetic test work to understand leaching characteristics including lag times before generation of ARD. Investigate cause of current seepage, assess potential impacts and undertake remedial action as required. Produce a final TSF cover design. Carry out field trials of cover design and measure performance against design. Include assessment of long term erosion and stability effects on the cover integrity.
TSF	Geochemical	Rising acid and/or salts from tailings.	Final cover design or implementation inadequate to control salt migration leading to contamination of final cover growth horizon.	Poor re-vegetation and higher erosion risks leading to potential breach of cover and impacts on terrestrial ecosystems and possibly groundwater.	L - G	RI	A conceptual cover design referred to in MRM 2013a.	2	2	4	H	As above
TSF	Geochemical	Spontaneous combustion of tailings.	Tailings are used in TSF embankment construction and placement in a manner that encourages spontaneous combustion.	Operational heath and safety issues. Localised generation of ARD	S	L	The TSF operating guidelines recommend minimising the use of tailings in TSF embankment construction, but the possible use of tailings was mentioned by MRM during site visit.	4	3	7	M	Review the need for tailings in TSF embankment construction or develop methods of placement that controls spontaneous combustion.
TSF	Geotechnical	Storage of tailings and process water	Embankment failure due to instability	Release of tailings and process water into the environment causing impacts to terrestial and aquatic flora and fauna, sedimentation of Surprise Creek requiring major repair works	S	OM	Construction QA/QC, visual inspections, monitoring of embankment levels, monthly reports, annual reports	1	3	4	H	Remove surface water, install embankment piezometers, improve settlement monitoring and monthly reporting to safe operating limits, reanalyse stability based on actual water levels
TSF	Geotechnical	Storage of tailings and process water	Excessive settlement of the embankment or execssive flooding leading to overtopping	Release of tailings and process water into the environment causing impacts to terrestial and aquatic flora and fauna, sedimentation of Surprise Creek damage to embankment requiring minor to major repair works	S	WM	Construction QA/QC, visual inspections, monitoring of embankment levels, monthly reports, annual reports	2	3	5	H	Remove surface water, improved settlement monitoring and monthly reporting including safe operating limits
TSF	Geotechnical	Storage of tailings and process water	Piping through the embankment	Release of tailings and process water into the environment causing impacts to terrestial and aquatic flora and fauna, sedimentation of Surprise Creek requiring major repair works	S	OM	Construction QA/QC, visual inspections, monitoring of embankment levels, monthly reports, annual reports	1	3	4	H	Remove surface water, assess piping potential, install embankment piezometers, improved monitoring and monthly reporting including safe operating limits
TSF	Geotechnical	Storage of tailings and process water	Piping through the foundation	Release of tailings and process water into the environment causing impacts to terrestial and aquatic flora and fauna, sedimentation of Surprise Creek requiring major repair works	S	OM	Construction QA/QC, visual inspections, monitoring of embankment levels, monthly reports, annual reports	1	3	4	H	Remove surface water, assess piping potential, install embankment piezometers, improved monitoring and monthly reporting including safe operating limits
TSF	Geotechnical	Tailings pipeline	Burst tailings pipeline	Release of tailings and process water into the environment causing impacts to terrestial and aquatic flora and fauna, sedimentation of Surprise Creek damage to embankment requiring minor repair works	S	WM	Visual inspections of the pipeline, monitoring of wear and reporting	2	4	6	M	Remove surface water, assess piping potential, install embankment piezometers, improved monitoring and monthly reporting including safe operating limits
TSF	Geotechnical	Storage of tailings and process water	Seepage through embankment or the foundation	Release of process water into the environment causing impacts to terrestial and aquatic flora and fauna	S	OM	Construction QA/QC, visual inspections, monitoring of embankment levels, monthly reports, annual reports	4	2	6	M	Remove surface water, assess piping potential, install embankment piezometers, improve settlement monitoring and monthly reporting
TSF	Geotechnical	Storage of tailings and process water	Poor operation, monitoring or management leading to overtopping	Release of tailings and process water into the environment causing impacts to terrestial and aquatic flora and fauna, sedimentation of Surprise Creek damage to embankment requiring minor to major repair works	S	WM	Construction QA/QC, visual inspections, monitoring of embankment levels, monthly reports, annual reports	2	3	5	H	Remove surface water, install embankment piezometers, impoved reporting, safe operating limits, monitoring checklists including trigger values for pore pressures, freeboard, seepage and erosion, remedial action plans, documentation of remedial actions
TSF	Geotechnical	Storage of tailings and process water	Embankment failure due to excessive erosion due to wave action	Release of tailings and process water into the environment causing impacts to terrestial and aquatic flora and fauna, sedimentation of Surprise Creek requiring major repair works	S	OM	Construction QA/QC, visual inspections, monitoring of embankment erosion, monthly reports, annual reports	1	4	5	H	Remove surface water, improved monitoring checklists including trigger values for pore pressures, freeboard, seepage and erosion, remedial action plans, documentation of remedial actions
TSF	Fauna	Clearing of vegetation for construction of TSF cell 4	Removal of feeding habitat for Gouldian finches	reduced habitat for Gouldian Finches, possible disturbance of Gouldian finches if nesting in surrounding hills	M	Loc	Preliminary gouldian finch survey conducted in 2013	5	3	8	L	Conduct gouldian finch surveys as part of annual mine site bird surveys, Survey surrounding hill sides for potential breeding habitat, conduct surveys according to guidelines outlined in the EPBC Survey Guidelines for Australia's threatened birds.
McArthur River	Water Balance Modelling	Deterioration in mine site seepage and/or runoff water quality beyond current estimates Cause is changes in the AMD from the NOEF. This may be due to 1) changes in the PAF/NAF ratio and/or 2) changes in the chemical reactions occuring.	Uncontrolled releases of contaminated water from mine site to McArthur River and/or controlled releases that do not comply with the water quality criteria of the discharge license	Acute and/or chronic adverse impact on riverine and/or marine flora and/or fauna	M	RI	none	1	3	4	H	Scenarios need to be included in the water balance modelling to assess the impact and develop a management plan to mitigate this impact.

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McArthur River	Water Balance Modelling	The climate in the vicinity of the mine is wetter than that experienced historically. Water balance modelling has assumed the climate from 1889 to the present is representative of the future climate over the life of the mine. The impact of a wetter climate has not been assessed. Further, the impact of one or more years of extreme rainfall has not been assessed. These would be considered rare events with or without climate change.	Uncontrolled releases of contaminated water from mine site to McArthur River and/or controlled releases that do not comply with the water quality criteria of the discharge license	Acute and/or chronic adverse impact on riverine and/or marine flora and/or fauna	M	RI	none	1	3	4	H	Scenarios need to be included in the water balance modelling to assess the impact and develop a management plan to mitigate this impact.
McArthur River	Water Balance Modelling	The water balance model fails to accurately predict site water balance under changed site conditions.	Uncontrolled releases of contaminated water from mine site to McArthur River and/or controlled releases that do not comply with the water quality criteria of the discharge license	Acute and/or chronic adverse impact on riverine and/or marine flora and/or fauna	M	RI	Annual revision of the water balance model. Continual improvement in the monitoring of water balance components.	1	3	4	H	Substantial additional effort in model calibration, reporting and monitoring to identify the most sensitive parameters. Steps taken to reduce the parameter uncertainty based upon the prioritisation of their sensitivity.
River diversions	River diversion design performance	Mine levee wall	A greater than >500 ARI flood event leading to erosion of mine levy wall.	Flooding of the pit from McArthur River resulting in reduced volume of water downstream in McArthur River impacting downstream ecosystems.	L	Loc	Implementation of the revised Early Flood Warning System Procedure. The revised early flood warning system establishes relationships between flood levels at gauges and flood hazard benchmarks (spill way and mine levee) (Document Reference Number: ADM-ENV-PRO-6040-0011). The Site Emergency Response Plan has been updated to include procedure for flooding in the Mine Pit (Document Reference Number: GEN-GEN-PLN-6040-0001).	3	5	8	L	All proposed actions have been implemented.
River diversions	River diversion design performance	Erosion at toe of mine levee wall and along unplanned overland flow path from the old McArthur River Channel into diversion channel.	Flood flows returning to river from the direction of the remnant river channel.		E	Loc	Flow path conditions are examined after each wet season. After erosion experienced in 2009-2010 wet season, rock armouring works were considered to be necessary to address that scour and they were subsequently undertaken in 2010.	3	3	6	M	Following completion of the 2010 rock armouring works it was found that both the 2010/2011 and 2011/2012 wet season flows caused only minor erosion. It is reccomended that this are be re-assessed for erosion potential and reported on.
River diversions	River diversion design performance	Poor drainage design and bunds formed by mine access roads	Ponding of water between channel and mine bund.	Increased seepage through shallow soil zone and mobilisation of salts impacting terrestrial and aquatic ecosystems.	L	Loc	Small diameter pipes (<100mm) pipes to allow drainage	4	2	6	M	Previous reccomendation - Reshape area to ensure no ponding of water occurs. It is reccomended that this are be re-assessed for erosion potential and reported on.
River diversions	River diversion design performance	Major erosion/failure of river diversions channel during flood.	Flood event.	Altered flood behavior. Increased sediment load downstream in the McArthur River.Impact on aquatic and terrestrial ecosystems.	S	Loc	Taking of photographs - post wet season - along both banks at 250 metre spacing. Informal assessment of ALS topography and aerial photographs.	3	4	7	M	Formal assessment of the erosion photogrpahs is not evident. Whereas the ALS topography appears to have been assesed the findings of this assessment are not evident. It is recommended that a formal, documented assessment of the ALS, aerial photographs and site photographs, combined with a visual inspection of key risk areas is conducted annually.
River Diversions	River diversion revegetation	Slow revegetation of McArthur River diversion	Flooding in wet season causes erosion and soil redistribution on unvegetated areas. Removal of planted vegetation by flooding and trampling/grazing by feral herbivores	Channel banks are unstable with erosion occuring, reduced riparian habitat, lack of shade for aquatic species, facilitating the spread of weeds	M	Loc	Annual revegetation monitoring, Fences surrounding diversions to exclude feral herbivores, use of coir logs to create soil pockets and tubestock planting.	3	2	5	H	Target planting efforts at soil pockets resulting from flood water redistribution of soils and soil captured by coir logs. Reassess fencing design to include flood proofing. Ensure annual maintenance is conducted on fencing after the wet season and conduct mustering of cattle within mine area. Ensure fencing encapsulates all of diversion banks. Undertake erosion assessment reports, as committed in PER.
River Diversions	Terestrial fauna and flora	Creation of unsuitable habitat along Barney Creek and McArthur River diversion channels	Planting of plant species along Barney Creek and McArthur River diversion channels not found at control sites, failure of growth of tubestock and seeds, infestation of weeds.	Different vegetation community than that found up and downstream of channels, unsuitable habitat for fauna.	L	Loc	Key and Primary species for riparian habitats identified. Table provided in Riparian Bird monitoring report detailing suitable riparian plant species. Progation of riparian flora in MRM nursery	4	3	7	M	Reassess Key and Primary species list using current analogue sites as a reference or investigate use of different control sites. Include flora species highlighted as important for riparian bird species in the Riparian bird monitoring reports in Key and Primary species. Increase survey sites on the Barney diversion and McArthur River diversion on the downstream halves of the diversions
River Diversions	Aquatic flora and fauna	Inadequate, slow or incorrect rehabilitation of the McArthur River and Barney Creek and Little Barney Creek diversions	River diversion rehabilitation creates poor quality aquatic habitat and a physical /biological barrier to fish migration.	Loss of in stream habitat, changed flow regimes and reduced water quality leads to lower diversity and abundance of aquatic fauna in the diversions. Lack of shelter means predation rates are high. No "edge" macroinvertebrate community. Fish, espeically marine migrants including freshwater sawfish, are unable to migrate through the diversion to breed or disperse, impacting upstream fish communities.	L	RI	Freshwater Sawfish Monitoring and Management Programme in place. Aquatic fauna monitoring takes places twice annually. Revegetation of diversions to increase shade and habitat in the future. Addition of large woody debris to improve fish habitat and provide resting areas for fish migrating through the diversion.	3	3	6	M	Continue to add and monitor large woody debris. Continue to add coir logs to provide additional habitat for fish and capture sediment. Consider additional habitat creation options, such as adding smaller woody debris, boulders and other devices such as hessian barriers. Increase the number of fish monitoring sites on Barney and Little Barney creeks to assess the impacts of these diversions on fish fauna.
PACRIM, ROM and TSF	Terestrial flora	Fugitive dust emissions from Pacrim Yard and ROM Pad. Dust migration from unvegetated TSF. Dust transported to vegetation by air or as run-off	Heavy metal loads in vegetation, soils and sediments causing vegetation die-back	loss of plants, reduction of habitat for flora and fauna, compromised success of rehabilitation areas, compromised stability of diversion banks, contamination of waterways, mortality of aquatic fauna.	M	WM	Dust monitoring program, sediment monitoring, vegetation monitoring, dust mitigation measures at mine site including water spray trucks, Introduction of double-lipped rubber lining to sides of PACRIM conveyors. Roller doors installed on concentrate storage shed, sediment traps at Barney Creek diversion bridge. Cell 1 of TSF capped and seeded with shrubs and grass.	3	3	6	M	testing of heavy metals in vegetation in additon to current aquatic fauna heavy metal monitoring program.
Groundwater Resource	Groundwater supply	Poor operation of borefields and dewatering systems	Over abstraction of groundwater	Over pumping, resulting in depletion of the groundwater resource, aquifer depressurisation, subsidence, reduced groundwater quality	S	L	Groundwater monitoring, groundwater modelling	4	4	8	L	All proposed actions have been implemented
McArthur River	Water management	Poor management of excess dirty/contaminated water	Release of dirty/contaminated water	Discharge of excess dirty/contaminated water to the McArthur river, impacting aquatic ecosystems	E	OM	Groundwater monitoring, surface water monitoring, MRM discharge calculation tool	4	2	6	M	All proposed actions have been implemented

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Water storages	Water storage design	Poor water storage design/construction	Release of dirty/contaminated water	Seepage of dirty/contaminated water, impacting groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers or to the surface	L	OM	Storage design, seepage monitoring, surface water monitoring and groundwater monitoring	3	1	4	H	Lining of all storages
Open Pit	Geochemical	Pit water quality after closure.	Oxidation of exposed pyritic PAF and NAF materials in pit walls leading to development of poor pit water quality.	Seepage of contaminated water, impacting groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers or to the surface	G	L	Preliminary water balance modelling	3	1	4	H	Carry out dynamic water and solute balance modelling and assess the potential impacts on groundwater, surface water and directly to flora and fauna. Develop options for post closure pit lake management.
Bing Bong Port	Concentrate Storage	Management of stored concentrate	Discharge of metaliferous/low pH water	Seepage of contaminated water, impacting groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers/sea or to the surface	E	OM	Operation of containment system (lined drains, paved catchments, lined containment ponds), groundwater monitoring, surface water monitoring	4	3	7	M	All proposed actions have been implemented
Bing Bong Port	Heavy metals	Storage of concentrate and transfer of concentrate to MV Aburri barge at Bing Bong Port	Spillage and dust emissions of concentrate from on sites storage and during barge load out causes contamination of marine and terrestrial environment with metals	Contamination of seawater and sediments with metals in the swing basin, shipping channel and surrounding area. Biota in the area bioaccumulate metals with unknown lethal and/or sub-lethal/ chronic effects	L	RI	Dust monitoring programme and dust mitigation measures. Annual marine monitoring of heavy metals in seawater, sediments and biota. Fully contained conveyor system at the loading facility. Dust extractor and positive pressure differential in concentrate shed to minimise dust emissions. Watering roads to minimise dust kicked up by vehicles	3	2	5	H	Include additional monitoring sites in the annual marine monitoring program immediately west of Bing Bong Port to determine how far contaminants are travelling in the prevailing westerly currents. Include adult fish in the annual marine monitoring program to better understand how fish are being impacted by operations. Investigate dust and spillage minimisation measures being utilised at best practice facilities to minimise dust and spillage, and implement them at Bing Bong Port
Bing Bong Port	Flora	Dredging operations and regular passage of the MV Aburri barge.	Dredging and regular passage of the MV Aburri increases sedimentation and turbidity in the waters around Bing Bong Port.	Increased sedimentation smothers seagrass and/or increased turbidity reduces photosynthesis of seagrass, leading to a loss of seagrass coverage, density and/or diversity. This then impacts seagrass dependent communities, such a dugong.	M	OM	Annual seagrass monitoring program with control sites to determine the relative importance of impacts from MRM's operations and natural phenomena (e.g. cyclones). Seawater quality monitoring. Dredge spoil settled in ponds on land to minimise impacts of dredging on turbidity.	3	3	6	M	Continue with current monitoring, but establish more suitable control sites, so better baseline data can be collected. Investigate the possibility of incorporating data from long establish national park on sir Edward Pellew Islands, Barranyi National Park, and newly declared Yanyuwa Indigenous Protected Area.
Bing Bong Port	Hydrocarbon storage	Management of stored hydrocarbons	Release of contaminated water	Seepage of NAPL and aqueous phase hydrocarbons, impacting on groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers/sea or to the surface	S	OM	Containment system design, hydrocarbon audits, inspection procedures, monitoring of storages	3	3	6	M	Installation of high level alarm on storages
Bing Bong Port	Surface water	Overflow of Bing Bong surface runoff pond (BBSRP)	High rainfall/storm event, or failure to clean out sediment from pond. Mismanagement of water volumes	Poor quality water (metals, acid) affect terrestrial and aquatic ecosystems	M	Loc	3 adjacent surface runoff containment ponds. Annual water balance modelling undertaken. Evaporation of pond water through use of pond water as dust suppression across site. Annual marine heavy metal monitoring. Trucks transporting water to TSF (as previously required)	4	4	8	L	All three runoff ponds should be cleaned out and emptied as far as practicable prior to the wet season. Design report for the runoff ponds to be reviewed by the Independent Monitor. Confirmation that water balance modelling will be undertaken annually.
Bing Bong Port	Dust migration	Concentrate storage at Bing Bong Port	Emissions of dust from the Bing Bong Port concentrate storage shed and road vehicles to the marine environment	Heavy metal contamination of seawater, marine sediments and potentially marine biota	L	L	Dust monitoring program and dust mitigation measures including maintenance of a positive pressure differential and dust extractor system in the concentrate shed to reduce dust fugitive emissions, dust-suppressing sprinkler systems on roads and vehicle washdown facilities	3	3	6	M	
Mine Site and Bing Bong Load-out Facility	Weed management	Infestation of weeds	Weeds present on mine leases from historical mining and pastoral activities are colonising cleared areas uncolonised by native vegetation.	Weed infestations exclude native vegetation and reduces habitat for fauna.	L	RI	Weed Management Plan in place with targeted weed control carried out with liaison from Weeds District Officer. Parkinsonia biological control trials at Bing Bong dredge spoils.	2	3	5	H	Follow Weed Management Plan. Investigate employment and training of local residents from Borroloola in weed management. Include control of *Passiflora foetida* in future Weed management plans, continue to investigate possibility of cooperative weed control with pastoral properties upstream on McArthur River.
Bing Bong load-out facility	Fauna	Dust migration or concentrate spillage from Bing Bong Port	Bioaccumulation of metals in small marine crustaceans and fish	Heavy metal bioaccumulation in food sources of migratory birds causing poisoning affecting important migratory bird and wader populations.	L	RI	Monitoring of heavy metals in sediments and biota. Bi-annual Migratory Bird surveys. Dust monitoring and control measures implemented including sprinkler system at port	2	5	7	M	Further reduce dust emissions from Bing Bong Port e.g. by enclosing concentrate shed. Continue monitoring migratory bird populations.
Bing Bong Dredge Spoil	Drainage	Potential for acid sulphate soils around the outer spoon drain.	Acid sulphate soils exposed by excavation of the outer spoon drain, which causes acid leachate.	Local impacts on re-vegetation, water quality.	M	Loc	None	4	3	7	M	Carry out acid sulphate soil assessment of spoon drain and other potential sources at Bing Bong
Bing Bong Dredge Spoil	Dredge spoil pond management	Management of entrained dredge spoil water	Release of marine water	Seepage of marine water from the dredge spoil ponds, impacting groundwater quality and aquatic and terrestrial ecosystems	E	L	Operation of drainage system on and around the ponds, groundwater monitoring, surface water monitoring	4	3	7	M	All proposed actions have been implemented
Bing Bong Dredge Spoil	Geotechnical	Storage of dredge spoil and sewater	Embankment failure due to instability	Release of sediment and sea water into the environment causing impacts to terrestial and aquatic flora and fauna requiring major repair works - most likely during active discharge	S	OM	Construction QA/QC, visual inspections, monitoring of embankment levels, monthly reports	1	4	5	H	Install embankment piezometers, improve pore pressure, settlement, erosion and other monitoring and reporting, set and assess performance against safe operating limits (incl. freeboard), routine maintenance and repairs
Bing Bong Dredge Spoil	Geotechnical	Storage of dredge spoil and sewater	Excessive settlement of the embankment or excessive flooding leading to overtopping	Release of sediment and sea water into the environment causing impacts to terrestial and aquatic flora and fauna, damage to embankment requiring minor to major repair works - most likely during active discharge	S	OM	Construction QA/QC, visual inspections, monitoring of embankment levels, monthly reports	2	4	6	M	Invoke a high frequency of visual, settlement and freeboard monitoring during active discharge, undertake maintenance and repairs before and after active discharge
Bing Bong Dredge Spoil	Geotechnical	Storage of dredge spoil and sewater	Piping through the embankment	Release of sediment and sea water into the environment causing impacts to terrestial and aquatic flora and fauna requiring major repair works - most likely during active discharge	S	OM	Construction QA/QC, visual inspections, monitoring of embankment seepage monthly reports	3	4	7	M	Invoke a high frequency of visual, settlement and freeboard monitoring during active discharge, undertake maintenance and repairs before and after active discharge
Bing Bong Dredge Spoil	Flora	Sections of Dredge spoil left unvegetated and use of incorrect seed mix in revegetated areas	Areas of dredge spoil left unvegetated due to use for cells for storage of future dredging spoils. Area of cells revegetated as seeded with incorrect species. Spoil material is difficult for non-salt tolerant species to establish on	Alteration or loss of habitat, creation of dust	M	Loc	Previous monitoring by orthophoto mapping and ground truthing of vegetation. CDU PhD student began revegetation trials on a section of the spoil but was not completed. Vegetation monitoring within cell 1. Area of dredge spoil ponds reseeded with grasses in 2011.	4	4	8	L	Continue with rehabilitation of dredge spoils - utilise landscaping of cells to promote veg growth despite future dredge plans. Use seed mixes consisting of salt tolerant species present in the coastal habitat surrounding the spoil. Monitor dust creation from the dredge spoils.

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Bing Bong Dredge Spoil	Flora	Drain surrounding dredge spoil not protecting habitat surrounding dredge spoil from highly saline water	Seepage of highly saline water from dredge spoil into undisturbed habitat surrounding dredge spoil, seawater being retained for extended periods by drain bund wall or previous obstruction of creek line to the east of the spoil	Dieback of vegetation in undisturbed habitat surrounding the dredge spoil and alteration to flora adapted to very saline soils and/or extended periods of inudation by seawater	M	Loc	Annual maintenance of drain which drains saline water out to sea. Annual vegetation monitoring of vegetation surrounding spoil area. South west corner of dredge spoil removed	2	3	5	M	Continue vegetation monitoring program. Inspect outside wall of drain for pooling of seawater and log in monthly inspections. Conduct remedial works if pooling is identified
Bing Bong dredge spoil	Dust migration	Concentrate loading onto MV Aburri and from MV Aburri onto export vessels	Fugitive dust emissions to the marine environment	Heavy metal contamination of seawater, marine sediments and potentially marine biota	L	L	Dust monitoring program and dust mitigation measures covered conveyor belts at the loading facility to minimised fugitive dust emissions during loading of concentrate to the MV Aburri	4	3	7	M	
Transhipment Area	Heavy metals	Transfer of concentrate from MV Aburri barge to larger vessel in the transhipment area	Load out from the MV Aburri to larger transport causes dust emissions and spillage of concentrate, which contaminate the marine environment with lead and zinc	Contamination of seawater and sediments with metals in the transhipment area and surrounds. Biota in the area bioaccumulate metals with unknown lethal and/or sub-lethal/ chronic effects	L	RI	Nil	3	2	5	H	Ensure appropriate control are in place, including covered/closed load out systems, to minimise dust and spillage. Include the transhipment area in the annual marine monitoring program. If seagrass is present in the area, include the transhipment area in the seagrass monitoring program.
Sir Edward Pellew Islands and McArthur River Estuary	Heavy metals	Mining operations adjacent to McArthur River and its tributaries. Operations at Bing Bong Port.	Contaminants entering McArthur River travel downstream and settle in sediments around the McArthur River estuary and Sir Edward Pellew Islands. Dust travels across from Bing Bong Port	Bioaccumulation of metals in sediments and biota in vicinity of McArthur River estuary and Sir Edward Pellew Islands. Unknown sub-lethal/ chronic effects, effects on higher trophic species (including humans that eat fish caught from the area)	L	RI	Numerous controls at Bing Bong Port and MRM to minimise dust emissions, seepage and spills, including fully contained loading systems, watering of roads and seepage capture drains. Monitoring of contamination of soils, dust, fluvial sediments, surface water and groundwater around McArthur River mine and Bing Bong Port. Monitoring of contaminants in seawater, marine sediments and biota at Bing Bong Port and surrounds, McArthur River estuary and Sir Edward Pellew Islands.	3	4	7	M	Continue current monitoring and controls
Sir Edward Pellew Islands, McArthur River and Bing Bong Port	Vibrio bacteria	Operations at MRM	Mining and associated activities leads to an increase in zinc concentrations in waters and sediments at the McArthur River estuary and Sir Edward Pellew Island. Zinc leads to and increase in *Vibrio* bacteria.	Vibrio bacteria may infect local population with necrotising fasciitis (flesh eating bacteria syndrome), leading to severe illness and, in some cases, death.	L	RI	Vibrio monitoring. Monitoring water and sediments for zinc contamination.	3	5	8	L	Final monitoring Vibrio program should be conducted in 2015. If there is no change in results from the previous three surveys, then there is likely no relationship between MRM and Vibrio bacteria
Vehicluar transport fleet	Dust emissions	Loading of concentrate onto transport vehicles at the mine site/transport of concentrate to Bing Bong Port	Fugitive dust emissions during loading and transport	Loss of water and sediment quality and increased dust deposition rates	L	RI	Extensive dust monitoring program and dust mitigation measures including covered dust generation points, Water addition point to the head drum of the stockpile feed conveyor, booster pump and spray bar for the head drum, watering around the general area by water trucks, use of water sprays in the primary crushing plant and conveyors, double layered skirting on horizontal rubber guarding, dust extraction system fitted to the secondary tertiary crusher building, washdown of all vehicles prior to leaving the mine site for Bing Bong Port and other destinations, maintenance of a positive pressure differential and dust extractor system in the concentrate shed, a street sweeper which is planned to be used around the site and in particular the concentrator to remove any fugitive emissions which have settled to the ground	3	2	5	H	
PACRIM and ROM	Dust emissions	Dust blown from ROM Pad and Pacrim yard causes loss of water and sediment quality and loss of flora/ fauna in Barney creek flood plain	Fugitive dust emissions from Pacrim Yard and ROM Pad.	Mobilisation of salts and metals impacting terrestrial and aquatic ecosystems.	M	Loc	Dust mitigation measures at mine site including Water spray trucks. Introduction of double-lipped rubber lining to sides of PACRIM conveyors.	4	2	6	M	Crushing facility is to be relocated and will be further away from Barney Creek. Risk remains untill the crushing plant is removed.
Mine Site	Geochemical	Indications of acid, saline and metal leaching issues not identified.	Indicators of mine affected drainage not identified due to inadequate assessment of results and interpretation of trends and/or Insufficient monitoring points and/or frequency.	Issues associated with management of acid/saline/metal leaching materials not identified early enough to modify management and prevent impacts on groundwater, terrestrial and aquatic ecosystems.	L	OM-RI	KCB reviewed surface water and groundwater quality in 2014 integrated with geochemical assessment.	2	3	5	H	Build on KCB 2014 work with a specific monitoring review to feed back into acid/saline/metal leaching materials management. Surface water monitoring, groundwater monitoring, and field checks of dump materials should be included in the review, and assessed for any indications of geochemical impacts. The need to modify monitoring locations and frequency should also be assessed. Carry out additional surface water and ground water monitoring along the northern and eastern edge of the NOEF as recommended by KCB (2014b).
Mine Site	Geochemical	Potentially acid, saline and metal leaching materials are used for construction purposes across site.	Materials used in construction previously classified NAF may now be a geochemical hazard under the new criteria. Material types used in construction not adequately tracked.	Local impacts on re-vegetation, water quality.	L	P	None known.	4	3	7	M	Prepare an inventory of waste rock placement areas across site outside of the NOEF and review material classification. Carry out further geochemical testing as requited to assess the acid, saline and metal leaching potential of each area.
Mine site	Fauna	Fugitive dust emissions and seepage as a reult of operatons.	Dust emissions from the TSF, haul roads and other aspects of operations and seepage from the TSF and NOEF affects water and fluvial sediment quality in McArthur River and Barney, Little Barney and Surprise creeks.	Reduction in water quality reduces diversity and abundance of aquatic fauna. Metals bioaccumulate in aquatic fauna causing unknown lethal and/or sub-lethal/ chronic effects. Contaminants then migrate downstream from MRM.	L	RI	Dust emission controls, such as watering roads and a clay cap on TSF cell 1. Drains constructed around TSF and NOEF to capture seepage. Monitoring dust, contaminants in fluvial sediments, water quality, aquatic fauna diversity and abundance and assessing bioaccumulation of metals in fish around MRM. Routine inspections of infrastructure.	2	3	5	H	Expand dust mitigation measures, such as additional silt traps on the Barney Creek bridge that are regularly emptied and increased spraying of roads. Expand the metal monitoring in freshwater fauna along Barney Creek to identify exactly where contaminants are entering waterways so sources of contamination can be isolated and identified.
Mine site	Fauna	Infrastructure, pipelines etc, on site.	Infrastructure fails on site, leading to contamination of waterways with metals and salts.	Reduction in water quality reduces diversity and abundance of aquatic faun. Metals bioaccumulate in aquatic fauna causing unknown lethal and/or sub-lethal/ chronic effects. This then migrates downstream from MRM.	L	RI	Regular inspections and maintenance of infrastructure. Regular water and sediment monitoring, annual monitoring of metals and other contaminants in aquatic fauna.	2	4	6	M	NIL
Mine Site	Fauna and flora	Fragmentation of habitat	Cleared or areas slow to revegetate leave patches of open land between vegetated areas.	The lack of vegetation cover prevents the movement of small fauna including small mammals, reptiles and grass birds.	M	Loc	Planting of tubestock, bi-annual riparian bird surveys, annual vegetation surveys along diversions	5	3	8	L	Leave vegetation corridors where possible.

Asset	Consideration	Hazard / Aspect	Incident / Event	Consequence / Impact	Potential duration of impact	Location of impact	Existing Controls/ Monitoring and Assessment undertaken	Consequence	Likelihood	Matrix Result	Risk Rating	Additional Controls, monitoring , assessment or actions required
Mine site	Soil monitoring	Lack of appropriate soil monitoring	Insufficient spatial density and poor optimisation of analytes.	Contamination of particular areas is not noticed	L	WM	Limited soil sampling program.	4	3	7	M	Upgrade soil monitoring program to include areas of sampling not currently covered by the current monitoring program and reflect the requirements of the revised NEPM (1999).
Mine site	Hydrocarbon storage	Management of stored hydrocarbons	Release of contaminated water	Seepage of NAPL and aqueous phase hydrocarbons, impacting on groundwater quality and aquatic and terrestrial ecosystems where groundwater is discharged to creeks/rivers or to the surface	S	OM	Containment system design, hydrocarbon audits, inspection procedures, monitoring of storages, groundwater monitoring	3	3	6	M	Installation of high level alarm on storages
Mine site	Security bonds	Mine closure liability	MRM Closes unexpectedly, leaving NOEF, TSF, river diversions, and mine site rehabilitation unfinished.	Sudden closure results in shortfall in materials to complete rehabilitation resulting in increaesed costs and bond unable to cover cost.	S	WM	Revegetation has started on river diversions, monetary bond in place.	2	4	6	M	OEF should be progressively rehabilitated to confirm that cover design is appropriate and will work. Improve closure model calibration (i.e., costs, materials balance etc.) to confirm assumptions in the model. Implement TSF Cell 1 interim cover design and/or final cover design. Closure plan should include contingencies for sudden closure.
Mine site	Security bonds	NOEF	Reclassification of waste rock results in insufficient material being available to construct a cover over the NOEF that can be demonstrated to be stable in the long term (period to be agreed between MRM and DME) and consequently all waste rock is required to be returned to the open pit.	Significant financial impact. Unknown what if any impacts may occur by backfilling open pit.	S	WM	No controls currently in place as backfilling of pit with waste rock not currently being considered.	2	3	5	H	Additonal investigations into material balance and cover design options to determine if a cover can be constructed which will provide long term stability which is acceptable to all stakeholders. If backfill (or partial bakfil) the only option additional groundwater investigations to determine likelihood of contaminated water seeping from open pit back into McArthur River.

Appendix 3

Gap Analysis

GAP ANALYSIS REGISTER FOR THE 2013 OPERATIONAL PERIOD

No.	Monitoring area	Monitoring Gap	Gap Category			Recommendations/ Comments
			1	2	3	
	Mine Site					
Hydraulics/hydrology	Mine Site and Bing Bong Port Ponds	evaporation fan, sprinkler and fountain performance		x		Studies need to be undertaken to quantify the performance of evaporation fans, sprinklers and fountains. It is unknown whether studies have been undertaken. An information request was provided to MRM but no response has been received.
Hydraulics/hydrology	Mine Site Ponds	Storage pond water levels, inflows and outflows		x		Targeted monitoring of selected ponds needs to be undertaken to reduce the number of processes that need to be estimated by difference in the water balance model.
Hydraulics/hydrology	McArthur River and Barney Creek Diversion Channel	Erosion identification and quantification		x		Ongoing monitoring of channel and bank erosion should be undertaken utilising the ALS surveys complimented by photograph monitoring, and visual inspection. It is recommended that an annual report on observed erosion should then be completed to assist with implementing and monitoring mitigation measures. It is unknown whether monitoring is being adequately assessed or interpreted. An information request was provided to MRM but no response has been received.
Surface WQ	Soil	Insufficient number of sampling locations, which are also limited to dust locations.		x		The number of soil samples is currently considered to be insufficient considering the large area of the mining leases. It is recommended that additional soil monitoring locations be included in the soil monitoring program to increase the sample size. As soil is monitored at the dust monitoring locations, increasing the number of dust monitoring locations will also increase the number of soil monitoring locations. We recommend that a complete soil landscape study of the mine leases be conducted in the next 2-5 years to update the study already undertaken as part of the EIS for the Mine's expansion in 2007
Surface WQ	Soil	Lack of site specific trigger levels; assessment framework	x		x	No site specific trigger criteria have been derived for the mine site. Developing triggers and general assessment of soil monitoring data will need to take into account the revised version of NEPM (1999)
Surface WQ	Dust, Soil and Sediments	Background heavy metal concentrations have not been determined.			x	Determine background heavy metal levels as recommended in the Independent Monitor Technical Review in order to assess potential mining impacts and current conditions, and improve development of site-specific criteria. It is noted that control sites have been established by the macroinvertebrate assessment and data has been collected that can potentially be used as background heavy metal concentrations.
Surface WQ	River monitoring	No real time in situ monitoring		x		The feasibility of real time in situ monitoring at the stream gauging stations on McArthur River, Surprise Creek, Barney Creek and Glyde River should be determined and, if found to be feasible, this capability should be installed
Surface WQ	River monitoring	No reporting of mine-derived and background loads			x	Mine-derived loads of contaminants reporting to the McArthur River should be reported on an annual basis, within the context of background loads in the river
Surface WQ	River monitoring	Additional data interpretation			x	Further interpretation and analysis of data should be presented in the MMPs, including further detail about water quality changes with river/stream flow and mine-derived influences
Surface WQ	River monitoring	Additional data interpretation			x	Comparison of metal and metalloid results with ANZECC/ARMCANZ (2000) [ERGR003] values should include the 95th percentile value as well as median values
Surface WQ	River monitoring	Additional data interpretation			x	Evaluation of marine water quality data should reflect ANZECC/ARMCANZ (2000) [ERGR003] requirements for Cd and Ni to consider 99% protection levels for slightly to moderately disturbed ecosystem
Groundwater	Groundwater	Assessment of impacts from groundwater production		x		An annual independent hydrogeological report should be prepared by suitably qualified hydrogeologist to evaluate effects of groundwater production on the groundwater and surface water environments
Geochemistry	Waste rock Geochemistry	New geochemical waste rock type categories not fully integrated into block model and not fully adapted for field checks/ reconciliation.		x		Work is in progress but integration has not been finalised. Additional static and kinetic testing is required to finalise waste rock type categories and assist integration into distribution models and field testing. Expanding the standard parameters in the block model may also be required. Current kinetic test work includes barrels, but it is recommended that leach columns be set up for a variety of waste rock materials to assist interpretation of leaching characteristics and assessment of leach barrel test results.
Geochemistry	Waste rock Geochemistry	Historic materials placed as NAF need to be checked and reclassified.		x		Some reclassification has been carried out. A formal review of old dump areas with potential for mis-classification is recommended, with sampling and check testing carried out as required.
Geochemistry	Waste rock Geochemistry	Waste rock cover performance not verified.		x		Set up instrumented dump cover trials
Geochemistry	Waste rock Geochemistry	No tracking of waste rock placed in NOEF.		x		Dispatch system in use for controlling segregation, but it is recommended that a system be implemented for tracking waste rock geochemical and lithological types placed in the NOEF.
Geochemistry	Spontaneous Combustion	Criteria to identify materials with spontaneous combustion potential not yet developed.		x		Work is in progress but reliable criteria not developed. Continue investigations to develop criteria.

No.	Monitoring area	Monitoring Gap	Gap Category			Recommendations/ Comments
			1	2	3	
	Mine Site					
Geochemistry	Site Water Quality	NOEF not adequately covered by existing surface and ground water monitoring.		x		Carry out additional surface water and ground water monitoring along the northern and eastern edge of the NOEF as recommended by KCB (2014b) [EGiR017].
Geochemistry	Tailings Geochemistry	Inadequate geochemical characterisation and kinetic testing.		x		Some geochemical testing of tailings has been carried out but the geochemical properties, variation and leaching characteristics are not well defined. Carry out further geochemical characterisation of tailings to better understand acid, saline and metal/metalloid leaching potential and variation. Include routine testing of discharged tailings and historical (deposited) tailings. Kinetic test work to understand leaching characteristics including lag times before generation of ARD.
Geochemistry	Tailings Geochemistry	No final TSF cover design and no performance checks.	x			Produce a final TSF cover design and carry out field trials to measure performance and develop construction methods.
Geochemistry	Mine Site	There is no formal system for specific reviews of water quality and geochemical testing in the context of acid/saline/metal leaching.		x		Build on KCB 2014 work with an annual monitoring assessment of water quality and geochemical testing to feed back into acid/saline/metal leaching materials management.
Geochemistry	Mine Site	There is no register of waste rock materials placed outside of the NOEF.	x			Prepare an inventory of waste rock placement areas across site outside of the NOEF and review material classification to take account of changes in geochemical waste rock types. Carry out further geochemical testing as requited to assess the acid, saline and metal leaching potential of each area.
Geotechnical	TSF Cell 2	Pore pressures within the Cell 2 embankment walls	x			Install piezometers in the west and east wall (1 each) and 3 piezometers along the southern embankment of Cell 2. Monitor initially on a weekly basis and include in monitoring reports.
Geotechnical	TSF Cell 2	Settlement monitoring		x		Expand current settlement monitoring to utilise global spatial measurements such as Airborne Laser Scanning or similar - this sould be done on at least an annual basis or when unusual embankment movements are recorded. Include in monitoring reports.
Geotechnical	TSF Cell 2	The surface water pond extent is unknown	x			Monitor (survey or reliable estimate) the extent of the aerial surface water pond and include in monitoring reports.
Geotechnical	TSF Cell 2	The height of tailings and beach angles are unknown		x		Monitor (survey or reliable estimate) the height of tailings. A detailed survey should be done annually using ALS or similar to obtain beach angles and estimate insitu density. Survey shown in the 2012 and 2013 Annual Reports appears to be identical.
Geotechnical	TSF Cell 2	Groundwater RLs are not shown in the MMP			x	RLs need to be included in groundwater level plots in the MMP. Currently they are not making interpretation and assessment of impacts limited.
Geotechnical	TSF Cell 2	No trigger values and actions in monitoring reports			x	Generally improve monitorign reports to include safe operating limits, record adherence to those limits and document corective action when these limits are exceeded.
Geotechnical	TSF Cell 2	Poor reporting coordination	x	x	x	Modify monthly monotoring report to document all relevant data such as settlement, tailings (not just water) level, pond area, tailings level, beach angles, remaining storage, in-situ density, etc.
Geotechnical	TSF Cell 1	Seepage monitoring			x	Further monitoring is required to improve quantification of seepage rates from Cell 1 towards Surprise Creek. This will help clarify the effectiveness of mitigation measures. This includes consideratuion of more piezometers within the embankment and tailings and monitoring over an extended period of at least several months to a year.
Terrestrial ecology	Revegetation	Insufficient number of revegetation monitoring sites on Barney Creek and McArthur river diversions spanning the entire diversions		x		It is recommended that revegetation monitoring sites are installed downstream of the Barney Creek Bridge on the Barney Creek diversion channel. It is recommended that additional revegetation monitoring are installed in the downstream half of the McArthur River diversion channel as currently there is only one site.
Terrestrial ecology	Revegetation	Insufficient surveying of analogue sites planned in revegetation monitoring program		x		The current survey program outlines that the revegetation sites will be monitored annually while analogue site will be monitored every three years. It is recommended that analogue sites are monitored annually to provide more timely and comparable data.

No.	Monitoring area	Monitoring Gap	Gap Category			Recommendations/ Comments
			1	2	3	
	Mine Site					
Terrestrial ecology	Rehabilitation	No quantitative assessment of the stability of the channel or erosion levels included in rehablitation monitoring	x			It is recommended that a landscape function method of assessing the rehabilitation of the diversions is investigated such as Ephemeral Drainage-line Assessment. This method allows the quantitative assessment of the stability of the channel, gives annual quantitative data of erosion change from year to year and guides remedial actions which need to be undertaken.
Terrestrial ecology	Fauna	Riparian birds surveys not currently conducted in accordance with NT survey guidelines for terrestrial fauna		x		Survey methods should be altered to conform to the NT guidelines for the survey of terrestrial fauna in particular conducting early morning bird surveys from 6am-11am rather than 6am-1pm as currently conducted.
Terrestrial ecology	Fauna	Preliminary survey of Gouldian Finches at TSF Cell 4 was not conducted in accordance with the Survey Guidelines for Australia's threatened birds		x		It is recommended that further surveys conducted under the annual bird monitoring program for Gouldian Finches are conducted in accordance with the Commonwealth guidelines 'Survey Guidelines for Australia's Threatened Birds'
Terrestrial ecology	Rehabilitation	Cattle exclusion fence surrounding McArthur River diversion channel is inadequate to survive flooding in wet season and keep cattle out of revegetation areas		x		A redesign of the current cattle exclusion fence is required to increase the flood proofing of the fencing. Recommendations to changes in fencing design is included in section 4.1.2
Terrestrial ecology	Flora	Lack of synergistic weed management with upstream pastoral properties		x		Work in conjunction with pastoral properties upstream on the McArthur river on weed control, with the aim of decreasing likelihood of McArthur river diversion being repopulated with weeds from sources outside of the mine boundary. Will save costs in weed control and promote community relations.
Terrestrial ecology	Flora	Lack of monitoring of flora in Surprise Creek to evaluate effect of TSF seepage	x			Monitoring of abundance of vegetation, composition and heavy metals in flora is necessary and would provide valuable information of the effect of tailings seepage on Surprise Creek's vegetation community and help steer mitigation measures
Terrestrial ecology	Flora	Lack of monitoring of heavy metals in flora in McArthur river and Barney Creek	x			Monitoring of bioaccumulation of metals in flora to ensure dust emissions from mining operations and disturbance of channels is not negatively impacting flora in Barney Creek and McArthur River
Terrestrial ecology	Flora	Lack of monitoring of heavy metals in flora in McArthur river and Barney Creek	x			Monitoring of bioaccumulation of metals in flora to ensure dust emissions from mining operations and disturbance of channels is not negatively impacting flora in Barney Creek and McArthur River
Aquatic & marine ecology	Fauna	No monitoring of the performance of aquatic organisms in Barney Creek and Little Barney Creek diversions. Impacts of the diversions on aquatic fauna is unknown.	x			Expand the monitoring of aquatic fauna, macroinvertebrates and metals in aquatic fauna to cover additional survey sites within and outside the Barney Creek and Little Barney Creek diversions.

No.	Monitoring area	Monitoring Gap	Gap Category			Recommendations/ Comments
			1	2	3	
	Mine Site					
Aquatic & marine ecology	Fauna	No synthesis of freshwater sawfish data. Current catches of freshwater sawfish are not compared with catches before the diversion was constructed and no analysis of how catches are changing annually. It is unclear how MRM assesses whether they are meeting their commitments in the sawfish management plant of a 90% confidence of detecting a 10% reduction in sawfish dispersal			x	Better synthesis of sawfish catch data between years and before and after the construction of the diversion.
Aquatic & marine ecology	Fauna	No monitoring of aquatic fauna or metal contamination in aquatic fauna in Little Barney Creek, which runs next to TSF cell 3 (the water management dam)	x			Include Little Barney Creek in the aquatic fauna, macroinvertebrate and metals in aquatic fauna monitoring.
Aquatic & marine ecology	Fauna	Inadequate monitoring of macroinvertebrates from creeks of the same order as Surprise and Barney Creeks, so the impacts of stream level and contamination cannot be adequately differentiated		x		Expand the macroinvertebrate survey to cover additional control sites of same order as Surprise and Barney creeks
Aquatic & marine ecology	River Diversion	Large woody debris survey reports provide little information and synthesis on how debris is changing, and where new debris is being added.			x	Better synthesis of annual variation in large woody debris number and location. No information provided as to where new debris is added, and why abundance of large woody debris increased by 150% between 2012 and 2013
Aquatic & marine ecology	Fauna	No assessment of how drawdown at Djirrinmini waterhole will impact freshwater fauna	x			MRM should assess the impacts of drawdown at Djirrinmini waterhole on freshwater fauna and assess whether habitat will be lost, especially for freshwater sawfish
Aquatic & marine ecology	Fauna	Currently fauna from all sites have average lead isotope ratios closer to that of the ore body than background levels, hence background levels are inappropriate			x	Using data from control sites and regional reference sites, establish a more relevant background lead isotope ratio.

No.	Monitoring area	Monitoring Gap	Gap Category			Recommendations/ Comments
			1	2	3	
	Mine Site					
Aquatic & marine ecology	Fauna	Monitoring of metals in fauna from Barney and Surprise creek is insufficient to determine the extent of contamination and isolate potential sources of contamination		x		Expand monitoring of metals in aquatic fauna in Barney Creek to sites upstream of SW19, and add an additional monitoring site between SW2 and the junction between Surprise and Barney creeks
Aquatic & marine ecology	Fauna, flora, fluvial sediments and water quality	Little synthesis of entire monitoring program, each part (monitoring of water quality monitoring, contamination of fluvial sediments and diversity, abundance and contaminants in aquatic fauna) all treated in isolation			x	An annual aquatic monitoring program report would help provide a better overall view of the impacts of mining operations on the aquatic environment. The report could then inform better management of watercourses around the mine, and aid in targeting source of contamination.
Soil & sediment quality	**Soil**	Insufficient number of sampling locations, which are also limited to dust locations.		x		The number of soil samples is currently considered to be insufficient considering the large area of the mining leases. It is recommended that additional soil monitoring locations be included in the soil monitoring program to increase the sample size. As soil is monitored at the dust monitoring locations, increasing the number of dust monitoring locations will also increase the number of soil monitoring locations. We recommend that a complete soil landscape study of the mine leases be conducted in the next 2-5 years to update the study already undertaken as part of the EIS for the Mine's expansion in 2007
Soil & sediment quality	**Soil**	Lack of site specific trigger levels; assessment framework	x		x	No site specific trigger criteria have been derived for the mine site. Developing triggers and general assessment of soil monitoring data will need to take into account the revised version of NEPM (1999)
Soil & sediment quality	**Dust, Soil and Sediments**	Background heavy metal concentrations have not been determined.			x	Determine background heavy metal levels as recommended in the Independent Monitor Technical Review in order to assess potential mining impacts and current conditions, and improve development of site-specific criteria. It is noted that control sites have been established by the macroinvertebrate assessment and data has been collected that can potentially be used as background heavy metal concentrations.
Soil & sediment quality	River monitoring	No real time in situ monitoring		x		The feasibility of real time in situ monitoring at the stream gauging stations on McArthur River, Surprise Creek, Barney Creek and Glyde River should be determined and, if found to be feasible, this capability should be installed
Soil & sediment quality	River monitoring	No reporting of mine-derived and background loads			x	Mine-derived loads of contaminants reporting to the McArthur River should be reported on an annual basis, within the context of background loads in the river
Soil & sediment quality	River monitoring	Additional data interpretation			x	Further interpretation and analysis of data should be presented in the MMPs, including further detail about water quality changes with river/stream flow and mine-derived influences
Soil & sediment quality	River monitoring	Additional data interpretation			x	Comparison of metal and metalloid results with ANZECC/ARMCANZ (2000) [ERGR003] values should include the 95th percentile value as well as median values
Soil & sediment quality	River monitoring	Additional data interpretation			x	Evaluation of marine water quality data should reflect ANZECC/ARMCANZ (2000) [ERGR003] requirements for Cd and Ni to consider 99% protection levels for slightly to moderately disturbed ecosystem
Dust	Dust	Comparison of depositional dust data with low-volume samplers		x		Depositional dust gauges and low-volume samplers should be maintained at a number of monitoring sites for a two year period. This will allow a comparison of different monitoring methods to occur such that correlation between historical data sets and new data sets, both utilising different monitoring techniques may be possible
Dust	Dust	Project dust targets		x		The IM understands low-volume air monitors cannot measure total insoluble matter and therefore it may no longer be possible to measure project dust emissions against project nuisance level dust targets. The IM therefore recommends new project dust targets be developed and adopted to monitor performance against parameters now being measured

No.	Monitoring area	Monitoring Gap	Gap Category			Recommendations/ Comments
			1	2	3	
	Bing Bong Port and McArthur River Delta					
Surface WQ	Fluvial Sediments	No monitoring of sediments within the McArthur River Delta		x		McArthur River Delta sediments should be included in the fluvial sediment monitoring program. Suspended sediments have not been reanalysed and monitored for lead isotopes to compare with the settled sediments on the delta floor.
Surface WQ	Marine sediment monitoring	Additional sites		x		Additional sampling should be undertaken to the west of Bing Bong Port to reflect the westward movement of water and/or sediment containing elevated metal (e.g., Pb and Zn) concentrations, as determined by the Bing Bong coastal modeling investigation and taking into account the findings of the near-shore sediment assessment
Surface WQ	Marine sediment monitoring	Reference sites		x		The search for more appropriate sediment reference (control) sites should be continued, given the lack of suitability of the current control sites as shown by the PSD
Geochemistry	Bing Bong Dredge Spoil	There is no acid sulphate soil assessment of the spoon drain and other potential sources at Bing Bong.	x			Carry out acid sulphate soil assessment of spoon drain and other potential sources at Bing Bong.
Geotechnical	NOEF	Earthworks verification		x		The current specification needs to be reviewed in light of the high failure rates and low test frequencies.
Geotechnical	NOEF	Earthworks verification		x		Recompaction of failed areas needs to be properly retested and documented.
Geotechnical	NOEF	Earthworks verification		x		The method used to test permeability does not meet the spec in terms of method or frequency, does not properly reflect field conditions and is likely to significantly underestimate permeability. A more frequent and realistic test regime is required.
Geotechnical	Bing Bong Soil Piles	Settlement monitoring		x		Expand current settlement monitoring to utilise global spatial measurements such as Airborne Laser Scanning or similar - this sould be done on at least an annual basis or when unusual embankment movements are observed. Include in annual reports.
Geotechnical	Bing Bong Soil Piles	Pore pressures within the embanknment walls		x		Install at least one piezometer in each external wall located at the midpoint of the periemeter boundaries. Monitor initially on a weekly basis and include in monitoring reports.
Geotechnical	Bing Bong Soil Piles	Freeboard		x		Include a numerical assessment of the available freeboard in each monitoring report and check against design minimum.
Geotechnical	Bing Bong Soil Piles	Monitoring reports			x	Generally improve monitorign reports to include safe operating limits, record adherence to those limits and document corective action when these limits are exceeded.
Terrestrial ecology	Fauna	There is no comparison of migratory shorebird survey data to available long term data collect by Garnett and Chatto since 1987 in the gulf.			x	Comparison to data collected in previous surveys would help to discern if fluctuations in species numbers are natural or due to anthroprogenic causes.
Terrestrial ecology	Fauna	No monitoring of Mosquito larvae included in mosquito monitoring program	x			Monitoring of larvae would aid in pinpointing breeding locations and aid in steering control actions. Inclusion of larval surveys also recommended by the Department of Health
Terrestrial ecology	Fauna	Is there a need to look at impact of the mining and shipping operation on "clean green" quality of cattle?	x			A simple desk top assessment of the impact of mining and trans shipment ore on potential cattle intake of heavy metals, etc may show this is not an issue, but it would prevent questions being asked.
Terrestrial ecology	Flora	Trials for dredge spoil rehabilitation.	x			Proposal sighted, but has not been undertaken as yet. CDU student failed to commence study.
Aquatic & marine ecology	Fauna, flora, sediments and seawater	There is no monitoring of contaminants in seawater, sediments or biota in the transhipment area, where concentrate is transferred from the Aburri to the transport vessels	x			MRM has commitments in place to monitor the transhipment area, however this is not occurring. The transhipment area should be included in the annual marine monitoring program, and the seagrass monitoring program if seagrass is present in the area. Suitable control sites should be established so baseline data can be collected and impacts assessed.
Aquatic & marine ecology	Flora	Seagrass control sites are inappropriate, especially sector 4		x		Find more appropriate control sites for the seagrass monitoring program, so the impacts from operations can be separated from natural background variation

No.	Monitoring area	Monitoring Gap	Gap Category			Recommendations/ Comments
			1	2	3	
	Bing Bong Port and McArthur River Delta					
Aquatic & marine ecology	Fauna	Monitoring of metals in marine fish are limited to juvenile fish. Adult fish would be more appropriate as they will have had more time to bioaccumulate metals		x		Include adult fish in the monitoring of metals in marine fauna.
Aquatic & marine ecology	Fauna, sediments and seawater	Unclear how localised the impacts of operations are at Bing Bong Port		x		Expanding the annual marine monitoring program to include a site immediately (~1km) west of Bing Bong Port, as prevailing currents are likely to carry contaminants west.
Aquatic & marine ecology	Flora/Fauna	Lack of documentation regarding current practices involving ballast water from ship at Bing Bong Port e.g.. ballast water source, dumping location	x			Desktop assessment of requirements and current practices with results documented, possibly in SDMMP if not stand-alone document
Soil & sediment quality	**Fluvial Sediments**	No monitoring of sediments within the McArthur River Delta		x		McArthur River Delta sediments should be included in the fluvial sediment monitoring program. Suspended sediments have not been reanalysed and monitored for lead isotopes to compare with the settled sediments on the delta floor.
Soil & sediment quality	Marine sediment monitoring	Additional sites		x		Additional sampling should be undertaken to the west of Bing Bong Port to reflect the westward movement of water and/or sediment containing elevated metal (e.g., Pb and Zn) concentrations, as determined by the Bing Bong coastal modeling investigation and taking into account the findings of the near-shore sediment assessment
Soil & sediment quality	Marine sediment monitoring	Reference sites		x		The search for more appropriate sediment reference (control) sites should be continued, given the lack of suitability of the current control sites as shown by the PSD
Dust	Dust	Comparison of depositional dust data with low-volume samplers		x		Depositional dust gauges and low-volume samplers should be maintained at a number of monitoring sites for a two year period. This will allow a comparison of different monitoring methods to occur such that correlation between historical data sets and new data sets, both utilising different monitoring techniques may be possible
Dust	Dust	Project dust targets		x		The IM understands low-volume air monitors cannot measure total insoluble matter and therefore it may no longer be possible to measure project dust emissions against project nuisance level dust targets. The IM therefore recommends new project dust targets be developed and adopted to monitor performance against parameters now being measured

Appendix 4

MMP Commitments

Appendix 4 – Mining Management Plan Commitments

Table 1 summarises the environmental commitments made in the Sustainable Development Mining Management Plan 2012-13 (Part A).

Table 1 – MMP Part A Commitments 2012-2013

Number	MMP Section Reference	Commitment in Context	Compliance Rating
1	1.1	Monitoring data presented within the plan is results from between the 1st of June of the previous year to the 30th of June of the current year.	Compliant
2	1.3.3	Mining operations at MRM are undertaken from a single open pit located inside a flood protection levee wall.	Compliant
3	1.3.4	ROM ore will continue to be trucked from the open pit to the processing plant where it will be crushed and ground.	Compliant
4	2.1.5.2	A constructed drain around the perimeter of the dredge soil emplacement facility would direct any runoff from the BBPF directly to the ocean.	Compliant
5	2.1.6.2	As part of the proposed monitoring program, in the 2012-2013 reporting period all groundwater monitoring bores associated with the TSF are to be gauged in monitoring events coinciding with the end of the dry and wet seasons.	Compliant
6	3.1	The HSEC Manager shall be responsible for HSEC requirements on the MRM mine site.	Compliant
7	3.5	The SDMMP is to be submitted on an annual basis by the 30th of October. Other reporting requirements to the Department of Mines and Energy will include: ♦ Quarterly monitoring data ♦ The notification of incidents ♦ Expenditure on exploration activities and production.	Non-compliant. 2013-2018 SDMMP submitted 25 November 2014
8	3.5.1	All the most recent/ current versions of the controlled documents will be held in Pasidium.	Not verified
9	3.5.3	The MRM Annual SD Plan will be formally communicated to all employees, and applicable contractors through the General Managers 'State of the Nation' presentation, through Health and Safety Representatives (HSRs) at the MRM SD Committee Meetings and via email communication to all employees and contractors following quarterly reviews of the MRM Annual SD Plan.	Not verified
10	3.5.3	Supervisors will consult and communicate with employees and contractors regarding specific SD-related issues prior to the commencement of the shift.	Not verified
11	3.5.4	All non-compliances, corrective and preventative actions will be recorded, monitored and reviewed for completion.	Not verified
12	3.5.6	Incident management at MRM will be conducted according to the two main following documents: ♦ GEN-SD-STD-6040-0015 Incident Management Standard ♦ GEN-SD-PRO-6040-0015 Incident Management Procedure.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
13	3.5.6	The outcomes and learning experiences of environmental incident investigations are communicated with employees and contractors through Departmental HSEC/SD meetings.	Not verified
14	3.6	MRM has implemented the following environmental training programs: ♦ Development of specific environmental responsibilities for Managers to include in Job Descriptions ♦ Provision of environmental information through the site induction process ♦ Provision of specific environmental training as required to various departments.	Not verified
15	3.6	Cultural and heritage awareness is prepared by the Senior Community Relations Advisor for presentation during the site general induction process.	Not verified
16	3.7	Overall emergency preparedness and response on site is managed according to: ♦ GEN-SD-STD-6040-0017 Emergencies, Crisis and Business Continuity Standard ♦ GEN-SD-PRO-6040-0017 Emergencies, Crisis and Business Continuity Procedure.	Not verified
17	3.7	The identification of potential foreseeable risks and impacts leading to emergencies, crises and business interruptions will continue to be identified through the development and annual review of the site and department risk registers and differing levels of documents are produced depending on the severity of the emergency.	Compliant
18	4.1.1	This Sustainable Development Management System defines the governance and management systems to be implemented across MRM Operations to oversee the effective management of sustainable development risks and opportunities and to facilitate the execution of the Xstrata Zinc CBU SD Strategy and Annual SD Plan.	Not verified
19	4.2	The identification of risks and hazards at MRM is managed under the below standards and procedures: ♦ Standard 5 Risk and Change Management GEN-SD-STD-6040-0005 ♦ Standard 6 Catastrophic Hazards GEN-SD- STD-6040-0006 ♦ Risk and Change Management procedure GEN-SD-PRO-6040-0005.	Not verified
20	4.2	Information shall be communicated to relevant internal and external stakeholders on identified hazards and risks.	Not verified
21	4.5.14	MRM Department Managers will develop and implement appropriate Departmental SD audit and inspection programmes reflecting the requirements of the Department's Risk Registers, catastrophic hazard management plans and specific legislative requirements.	Not verified
22	4.5.15	MRM will participate in an annual Property Conservation Audit.	Not verified
23	4.5.15	Regulatory audits and inspections i.e. Independent Monitor audits and Department of Mines and Energy will be scheduled annually as required by the specific legislative requirements.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
24	4.5.16	In accordance with GEN-SD-PRO-6040-0006 Catastrophic Hazards Procedure control verification audits will be scheduled and monitored for completion and will include all critical and major controls identified in the MRM Site Risk Register (CURA).	Not verified
25	4.5.17	On an annual basis and prior to MRM SD Strategy and Annual SD Plan review the MRM Management Team will confirm the continued suitability and effectiveness of the current MRM SD Strategy, MRM SD Annual Plan, related SD programmes and processes in satisfying the needs of the organisation and relevant stakeholders.	Not verified
26	4.6	Further rehabilitation will occur on the channel with introduction of more tube stock.	Compliant
27	4.6	Studies will be completed and construction will commence on cell one for Interim closure options.	Partially compliant
28	4.6	Further large woody debris and habitat creation options will be implemented along the channel.	Compliant
29	4.6	Vegetation monitoring will occur at Bing bong around the dredge spoil.	Compliant
30	4.6	Additional bores will be constructed around the NOEF and other waste facilities.	Compliant
31	4.6	Additional silt catchment devices will be constructed near the Barney Creek bridge in order to minimise sediment; entering Barney Creek.	Compliant
32	4.6	Min vol dust sampling will become routine and additional dust stations will be implemented.	Compliant
33	4.6	A new NATA accredited laboratory will be built on site in order to conduct both environmental and metallurgy testing aiding in quicker sample preparation and analysis.	Non-compliant. The laboratory has yet to be built/ NATA-accredited
34	4.6	Various waste rock leaching trials and studies will commence on top of current kinetic leach column testing.	Compliant
35	5.1.1.4	Depositional dust gauges are located strategically to capture fugitive dust emissions during prevailing wind conditions that vary between wet and dry season.	Compliant
36	5.1.1.5	Depositional dust monitoring procedures will adhere to AS3580.10.1:2003.	Compliant
37	5.1.1.5	MRM have adopted “nuisance levels” (NSW EDO, 2006; EES 2011) as a dust trigger guideline to assess TIM levels.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
38	5.2.1.3.2	Soil samples will be collected on an annual basis, immediately prior to the wet season and sampled in conjunction with the dust sampling regime.	Partial compliance. For example, soil samples were collected in Sep/Oct 2012 and 2013. However, the 2013 lab results for monitoring sites S08, S29, S30 and S31were not reported in MRM (2013) [ERGRR006]
39	5.2.2.3.2	Soil monitoring at Bing Bong is carried out as per the MRM MINE site monitoring and analysis.	Partial compliance. For example, sulfate was added to the analytical suite in 2013 but reported only for the mine site samples for that year; the 2013 sulfate results for the Bing Bong Port samples were not reported
40	5.4.2.1.2	An additional irrigation sled was manufactured and installed to provide water abstracted from the river as per licence conditions.	Compliant
41	5.4.2.1.3	In November 2011 the monitoring of the 42 sites was completed.	Compliant
42	5.4.2.1.3	Annual monitoring of the Large Woody Debris placement in the McArthur River will continue prior to each wet season.	Compliant
43	5.4.2.2.1.1	In accordance to the open cut project approval, MRM will conduct regular monitoring and feedback during the revegetation project including a formal data collection system to validate results.	Not verified
44	5.4.2.2.1.3	The MRM Rechannel Vegetation Monitoring program will be conducted on an annual basis at selected sites located upstream, downstream and with the diversion channels of the McArthur River and Barney Creek.	Compliant
45	5.4.2.2.1.5	Results of the rechannel vegetation monitoring have been used to inform the site management recommendations within the site overviews.	Compliant
46	5.4.3.1	The MRM Weed Management Plan sets long term and annual strategies required for the management of weeds at MRM.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
47	5.4.3.3	The majority of weed management is conducted just prior to the wet season and also early during the early wet season, after initial rains.	Compliant
48	6.1.1	Specialist consultants were commissioned to undertake a review of the differences between the ‘as-designed’ and ’as-constructed’ diversions of the McArthur River and Barney Creek and to assess the potential impacts of any differences on flooding and erosion behaviour along the diversion.	Compliant
49	6.3	As a condition of Commonwealth Government approval for the McArthur River Open Cut Project EPBC 2003/954, a survey program of listed migratory waders and other wetland birds is to be conducted around Port McArthur.	Compliant
50	6.3.3	The migratory bird monitoring is programmed for two surveys each year.	Compliant
51	6.4	Routine adult mosquito monitoring commenced at McArthur River Mine in September 2009 will continue to determine seasonal abundance of pest and disease carrying mosquitoes at the mine site and the Bing Bong Port Facility.	Compliant
52	7.1.1.1	The process water management system is effectively a closed system.	Not verified
53	7.1.1.3	Water usage on site is recorded through a series of flow metres on a monthly basis.	Not verified
54	7.1.2.15	Tailings from the processing plant are pumped to the TSF via a rubber lined steel 300mm tailings line.	Compliant
55	7.1.2.17.4.1	The proposed Cell 4 stormwater containment is to be designed in accordance with the current Cell 2 criteria being based on Queensland guidelines (DME QLD, 1995).	Compliant
56	7.1.2.17.4.2	A low permeability HDPE liner with a network of under storage drains will be included in the final design for Cell 4 and Cell 3.	Compliant
57	7.1.2.17.4.4	The proposed design for Cell 4 embankment construction is for use of clay fill and general construction fill with rock armouring of the downstream batters.	Compliant
58	7.1.2.17.4.5	The emergency spillway for Cell 4 is to be designed in accordance with ANCOLD guidelines.	Compliant. Should be checked against 2012 guidelines, not 1999 guidelines
59	7.1.3	Over the wet season the run off ponds are to be utilised in consecutive order and therefore minimising the usage of ponds where necessary.	Not verified
60	7.2.1.1	The management of AMD at MRM will involve extensive geochemical testing to identify all PAF material and to ensure it is encapsulated it with clay at the OEF.	Partially compliant
61	7.2.2	Monitoring devices near, or on, the McArthur River Mine Site are utilised to provide level data for surface water.	Not verified

Number	MMP Section Reference	Commitment in Context	Compliance Rating
62	7.2.2.1.1	A functional early warning flood system (EWFS) is in place along the McArthur River as a control for the risk of water breaching the mine levee wall and entering the pit.	Compliant
63	7.2.5	Water will be abstracted under licence conditions from the McArthur River for rehabilitation purposes.	Compliant
64	7.3.3	All gauging stations will continue to be operational throughout the next operational year in order to both quantify flow rates of each catchment area and to utilise flow rates to determine calculations during times of discharge.	Not verified
65	7.3.3.1	'Contaminated' runoff systems will be configured to limit the mixing of 'dirty' and 'contaminated' water.	Not verified
66	7.3.3.1	The 'intercepted' groundwater at the mine site will be managed using the existing WMD (TSF Cell 3 WMD).	Compliant
67	7.3.4	During mid November 2012 MRM will apply for a renewal discharge licence as per the requirements of the licence.	Not verified
68	7.3.7	During the next operational period additional LWD will be added to the channel along with constructed coir logs.	Compliant
69	8.1.3.1	MRM will install and monitor a network of bores established around the TSF, and the mine site, which includes bores adjacent to the CRP, APP, ROM pad, main diesel storage tanks and the OEF.	Compliant
70	8.1.3.1	Metal concentrations are assessed against with the livestock drinking water guidelines (ANZECC, 2000) or the Australian Drinking Water Guidelines (NHMRC/ARMCANZ, 2004) depending on intended water use.	Partial compliance (excludes Bing Bong)
71	8.1.10.2	Consultants RPS Aquaterra are currently engaged to undertake an investigation into shallow and deep aquifer properties.	Compliant
72	9.2.1.3.4	Trigger values for the reporting period will be ascertained in consultation with NT Government regulators by implementation of the multi-tiered ANZECC Decision Tree.	Not verified

Table 2 summarises the environmental commitments made in the Sustainable Development Mining Management Plan 2012-13 (Part B).

Table 2 – MMP Part B Commitments 2012-2013

Number	MMP Section Reference	Commitment in Context	Compliance Rating
1	1.2	Communication between the managers on sustainable development issues are discussed on a daily basis however there are formal weekly managers meetings.	Not verified
2	1.2	All superintendents have teams of employees below them with position responsibilities described in their job descriptions.	Not verified
3	1.4.2	The Project will utilise all infrastructure currently being used by the existing operation, with some improvement, expansion or upgrade as required.	Compliant
4	1.4.2	The majority of the waste rock overburden from the Project will be stored at the existing North OEF located to the north of the mine area.	Compliant
5	1.4.2	As is current practice, the concentrate will be trucked to the Bing Bong concentrate storage and ship loading facility (Bing Bong) for export.	Compliant
6	2.1	MRM has developed a SD Strategy which seeks to enhance shareholder value and meet production expectations while balancing economic, social, health and safety and environmental considerations across our operations and continuously improving our performance by making SD an integral part of our planning, governance and decision-making processes.	Not verified
7	2.1	The SD Strategy is publicly displayed around the MRM lease and at the Bing Bong loading facility.	Not verified
8	2.2.1	Prior to commencement of works, all companies that perform works on the McArthur river mining lease must apply and attain contractor accreditation meeting MRM's minimum SD and insurance standards.	Not verified
9	2.2.2	All Water and soil sample analysis is and will continue to analysed under a NATA certified systems and certification is currently provided on sample management receipts.	Partial compliance – Environmental Chemistry & Microbiology Unit of Charles Darwin University is not NATA accredited
10	2.2.3	In 2013 it is planned to build a NATA accredited laboratory on site as it has been identified as a long term saving and major advantage for sample management.	Non-compliant. The laboratory has yet to be built/ NATA-accredited
11	2.2.4	Currently the MRM Environmental Superintendent is a member of this scheme along with MRM's principal environmental consultant from Indo-Pacific Environmental Pty Ltd.	Not verified

Number	MMP Section Reference	Commitment in Context	Compliance Rating
12	3.1.1	The Project will operate in compliance with requirements of the EEO Act and EEO Regulation	Not verified
13	3.1.4	MRM has worked closely with the Traditional Owners of the land, in order to ensure cultural heritage is appropriately and effectively protected and managed and the wishes of Traditional Owners are continually respected.	Not verified
14	3.2.1	Currently MRM have in place a compliance register, which highlights all legislative requirements, applicable codes of practice, standards and guidelines.	Not verified. IM understand a register has been created but a copy has not been provided
15	3.2.2	MRM and the Northern Territory Government have entered into an agreement establishing the MRM Community Benefits Trust to deliver long-term economic and social benefits to the Borroloola region.	Not verified
16	3.4.2	MRM includes a cultural heritage awareness component in its site induction for new employees and contractors that includes discussion regarding local cultural heritage issues and a related video.	Not verified
17	4.1	Mining operations at MRM are undertaken from a single open pit located inside a flood protection levee wall.	Compliant
18	4.1.1.3	Mineral Resources were updated in July 2012 as part of the Phase 3 Feasibility Study.	Not verified
19	4.1.1.4	The proposed 2012 and 2013 McArthur River drilling campaign aims to provide metallurgical samples from the McArthur River ore interval and waste characterisation samples from the overlying waste sediments.	Compliant
20	4.1.1.6	To improve confidence in the hanging wall waste model, a further 13 waste characterisation drill holes will target areas with sparse sample information.	Not verified
21	4.1.1.7	All waste resulting from the drilling activities shall be relocated from drill sites and placed in the NOEF PAF cell.	Not verified
22	4.1.1.8	Results from the ongoing MRM geochemical investigative work being undertaken by consultancy firm Klohn Crippen Berger, together with analysis results from the 2012 drilling program will act to further enhance the robustness of the MRM ore and waste block model.	Partial compliance
23	4.1.1.10	As with the ore management, the rock types are marked up using paint and tape, with the geology staff and excavator operators notifying the truck drivers of their material type.	Compliant
24	4.1.1.10	The active NAF dumping areas on the NOEF are physically inspected by the geology staff to ensure that materials are dumped in the appropriate areas.	Partial compliance
25	4.1.6.3	Mining above, around and through these voids is managed by the Voids Management Plan and associated procedures.	Not verified
26	4.1.6.4	Extensive geotechnical monitoring of the open pit is undertaken.	Not verified

Number	MMP Section Reference	Commitment in Context	Compliance Rating
27	4.1.6.4	MRM has a total of 8 Vibrating Wire Piezometers that have been operating during 2011/2012.	Not verified
28	4.1.7.1.1	The Stores complex will be removed before the West OEF can be expanded.	Compliant
29	4.1.7.1.2	The drainage concept is to continue to shed water to the perimeter of the OEF, where it makes its way to ground level, predominantly using drains constructed down the access ramps.	Compliant. Design is under review
30	4.1.7.2.1.2	Surface water management features include sediment traps, bunds and v-ditches for containment of runoff, and dams for containment of sediment and potential seepage from PAF cells.	Compliant
31	4.1.7.2.1.3	Topsoil, growth media and NAF rock will need to be stockpiled through the life of the dump so that the availability of these materials will match their demand.	Compliant. Based on verbal information provided during the March 2014 site inspection
32	4.1.8.2	The West OEF ROM pad will be constructed throughout 2013, and will be ready to hold ore late in this Reporting Period.	Not verified. The West OEF ROM pad has been constructed but the IM is unsure if this was completed during this reporting period
33	4.1.8.3	Low grade ore has been tipped in the NOEF PAF cell area for the past two years, and will continue through the oncoming Reporting Period.	Compliant. Based on verbal information provided during the March 2014 site inspection
34	4.1.9	Dangerous goods and hazardous substances stored in the mining area are controlled through the Chemalert system which is audited by Risk Management Technologies annually to ensure the accuracy of the reporting system.	Not verified
35	4.1.9	MRM have a dedicated Emergency Response Team who are trained to deal with any potential dangerous or hazardous substance spills.	Not verified
36	4.1.10.1	As part of the establishment of the Heavy Vehicle Workshop (HV WS) on the North OEF, a new fuel farm will be established at the industrial complex, along with storage of lubricating oils and key fluids such as coolant.	Not verified

Number	MMP Section Reference	Commitment in Context	Compliance Rating
37	4.1.10.1	Spill detection, containment and fire systems will all be designed to meet the standards.	Not verified
38	4.1.10.1	Spill kits would be kept at the bowser are to deal with minor spills that may occur.	Not verified
39	4.1.10.3	Currently MRM have an Air Quality and Green House Gas management Plan.	Compliant
40	4.1.10.3	Essentially MRM reports under both NPI and NGERS requirements along with internal reporting requirements. All energy requirements are tracked and entered into the Xstrata Sustainability Database (XSD) on a quarterly basis.	Compliant
41	4.1.12.2	The clean water bund to the east of the pit will be relocated further east to clear stage H.	Not verified
42	4.1.12.3	There is a specific process that must be followed prior to any new disturbance which is contained in the permit to clear and dig procedure.	Not verified
43	4.1.12.4	The West OEF will transform from an OEF to a ROM pad throughout 2013.	Not verified. The West OEF ROM pad has been constructed but the IM is unsure if this was completed during this reporting period
44	4.1.12.5	Investigations into replacements for the Emu bores in the southeast area of the NOEF will take place so that the dump can fill in the full footprint.	Compliant
45	4.1.12.5	A new emergency access road will be constructed to link the west side of the NOEF with the Carpentaria Highway.	Compliant
46	4.1.1.6	Soil profile testing on the future footprint for the East OEF using a vehicle mounted auger, with associated tracks to access the areas will occur.	Compliant
47	4.1.12.7	The Pacrim ROM will continue to be used through the Reporting Period.	Compliant
48	4.1.12.9	Existing practices will continue to be used to manage Dangerous Goods in the mining areas.	Not verified
49	4.1.12.10	Several new roads will be required in this Reporting Period.	Not verified
50	4.1.12.11	Construction of the dewatering pipes between Pete's Pond and The TSF area (as per the MMP Amendment submitted on august 7 2012) would occur in this Reporting Period	Not verified. Completed but date of completion unknown
51	4.1.12.12	Powerlines around the Southeast PAF Dam will be relocated around the south of the dam and under the Southeast levee wall to continue to service the Emu bores.	Not verified

Number	MMP Section Reference	Commitment in Context	Compliance Rating
52	4.1.12.13	After receiving approval on the 25th of September 2012 to conduct drilling on the Coxco leases it is envisaged that this will be completed by the end of November 2012.	Not verified
53	4.2.2.1	The crushing system consists of a primary jaw crusher followed by two cone crushers in closed circuit with a double deck and triple deck screen.	Not verified
54	4.2.2.4	The rougher circuit was expanded in 2012 with the addition of three additional OK100 flotation cells.	Not verified
55	4.2.2.9	Flotation tailings are combined in the final tails hopper, which is then pumped to the tailings thickener.	Compliant
56	4.2.2.10	The concentrate filter cake is transported from the filter building to the mine site concentrate storage shed via a covered conveying system.	Not verified
57	4.2.2.10	During 2012/2013 the storage shed at Bing Bong will be increased in size to hold approximately 30% more material.	Compliant
58	4.2.2.11	Most of the reagents are received on site in a bulk solid form and are then mixed with water to the required concentrations for use in the process, with the exception of MIBC which is received and used in neat form.	Not verified
59	4.3.3	Tailings will be placed using a spigotted discharge system around the cell perimeter, which will minimise the risk of seepage from the TSF	Non-compliant. There are elevated water levels which exacerbate seepage and the system is unable to circumnavigate the TSF at present
60	4.3.5	TSF cover work is being conducted for short and long term designs.	Compliant
61	4.3.6	The perimeter embankments of TSF Cell 2 have been designed by Alan Watson Associates in general accordance with the ANCOLD Guidelines (2012).	Not verified. Design not provided to IM
62	4.3.8	The two dams associated with the processing facilities are the Anti-pollution pond (APP) and the Concentrator run- off pond (CRP).	Not verified
63	4.4	This power is supplied by Power and Water Corporation through a contract with Energy Developments Limited (EDL) by way of gas fired turbines situated on an area on the mineral leases licensed to PAWA by the company.	Compliant
64	4.6.1	During the upcoming period major construction activities will be underway as part of the Phase 3 Expansion. The majority of these construction activities will be occurring within the existing concentrator infrastructure, requiring extensive co-ordination between the operational and project staff.	Compliant
65	4.6.1.1	A new crushing facility will be installed to replace the existing Sedgman crushing facility.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
66	4.7.1.2	A new 11.5MW primary ball mill and associated infrastructure will be positioned between the concentrate shed and the existing SAG mill feed conveyor.	Compliant
67	4.6.1.4	An additional 9 cells will be added to the recently installed OK100 cells.	Compliant
68	4.6.1.5	The positioned of the ball mill between the concentrate shed and the SAG feed conveyor necessitated the need for an alternative route for the concentrate haulage trucks, which previously looped through this area	Not applicable
69	4.6.1.6	The new crusher location requires a new haul road access to the existing ROM to ensure continuity of crushing operations during the installation of the new crusher.	Not verified
70	4.6.1.8	The concentrate shed will be extended to the west to accommodate the additional storage requirements and the requirement for three separate products: Bulk concentrate, zinc concentrate and lead concentrate.	Compliant
71	4.6.1.9	The doubling of the throughput requires an increase in the required reagent additions and an increase in their storage requirements.	Not verified
72	4.6.1.9	The existing workshop areas are to be relocated due the requirement to use their current location for pipe access bridges and the flotation area.	Not verified
73	4.6.2	This expanded plant will be added through 2013 to provide the required capacity for the 2014 production profile.	Compliant. Expansion of plant in progress at time of IM visit
74	4.6.3	The development of the PBOX process to selectively separate the lead (as lead sulphate) from the zinc and iron in the bulk concentrate has lead to further developments.	Not applicable
75	4.6.5.1	Filter 2 will be replaced with a new Larox PF144 filter during the period.	Not verified
76	4.7.1	An additional 36 rooms will be constructed in the main camp in late 2012/early 2013 with Milestone camps being erected in the same location as the old civil camp in 2007 adjacent to the golf driving range.	Not verified
77	4.7.2	The new clean in/clean out facility (CICOF) as per approved under an amendment in October 2012 will become a permanent part of the infrastructure and will ultimately replace the current CICOF situated to the north of the current administration building car park.	Not verified
78	4.7.3	As per previous approval, work will continue on the new warehouse situated next to Hamptons between the camp and the mine.	Compliant
79	4.7.4	The project involves an extension of the shed by approximately 37m in a southern direction.	Not verified
80	4.7.5	As per the Dredging and Spoil Disposal Management Plan (DSDMP) submitted by MRM in early October it is proposed to dredge the swing basin and channel to enable barge movements to continue for the operations.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
81	5.1	Waste rock material is separated into two categories based on its geochemical characteristics and managed accordingly: ♦ Non-Acid-Forming rock (NAF) ♦ Potentially-Acid-Forming rock (PAF)	Non-compliant
82	5.3	Over the reporting period MRM has initiated a comprehensive review of its waste rock classification system in collaboration with consultancy firm Klohn Crippen Berger (KCB).	Compliant
83	5.4	All available geochemical data is logged in a database, enabling NAF and PAF to be modelled in the geological block model.	Partially compliant
84	5.5.2	As part of the monitoring program of the NOEF, a regular end of month sampling program of the NAF stockpile has been ongoing since 2009.	Compliant
85	5.6.1	The results of the static geochemical testing and total metal content analyses will be complemented by initial results of the up scaled kinetic leaching experiment conducted at MRM in order to establish a revised waste rock classification for MRM.	Compliant
86	5.6.2	Hand held XRF analyses allow a rapid in-field determination of key elemental abundances and may be used as a screening tool to confirm classification.	Compliant
87	5.6.3	The acid neutralisation capacity and the potential for MRM waste rock material to generate neutral mine drainage under near neutral pH conditions will be investigated jointly by MRM and KCB.	Compliant
88	5.6.4	Following recommendations by the Independent Monitor, MRM has started investigating over the current review period the possibility of establishing an in-situ large scale lysimeter on the Northern Overburden Emplacement Facility.	Non-compliant. No plans mentioned
89	5.6.5	MRM has commissioned KCB to investigate the physical and chemical properties of the clays.	Compliant
90	5.6.6	MRM has commissioned KCB to undertake a geochemical investigation of the stockpiled material in order to adequately characterise it.	Compliant
91	6.1	Incident Management on site is covered under GEN-SD-PRO-6040-0015 and includes but is not limited to immediate response, incident investigation, reporting and communication.	Compliant
92	6.1	All Incidents shall be formally investigated to determine the direct and indirect causes and the required actions to prevent a reoccurrence.	Not verified
93	6.1	Critical Incidents and HPRIs shall be investigated according to the Incident Cause Analysis Method (ICAM) to determine the direct, indirect, and root causes as well as the required actions to prevent a reoccurrence.	Not verified
94	6.2.2.3	Three additional diesel recovery and monitoring wells were installed on 10-11/8/2012 (Figure 6-2). These bores were installed to improve the understanding of the site hydrogeology and to monitor the movement of the product and dissolved phase contaminant plumes.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
95	6.2.4.1	Product recovery has been quantified for skimming and total fluids pumping by measuring product thickness in the recovery IBC.	Compliant
96	7.2	Decommissioning will occur at the cessation of mining operations but prior to formal mine closure and will involve the removal of mine infrastructure and services, and the remediation of remaining disturbed areas.	Not applicable
97	7.2.10	Rehabilitation will be monitored during operations and after final rehabilitation has been completed to validate rehabilitation performance and identify any additional work required to meet success criteria.	Compliant
98	11.1.1.2	Monitoring of the natural surface water in upstream and receiving water environments in the vicinity of the mine site is undertaken	Compliant
99	11.1.1.3.1	Natural surface water monitoring is the most intensive aspect of the MRM environmental monitoring program and incorporates upstream and downstream sites on all aquatic systems, directly adjacent to the mine site.	Compliant
100	11.1.1.3.2	The natural surface water monitoring sites located on the McArthur River, Barney Creek, Surprise Creek and Glyde River are sampled on a weekly basis (as per the 2010/2011 SD WMP).	Compliant
101	11.1.1.3.2.1	The criteria adopted by MRM in 2011/2012 to determine if a stream has 'Ceased to flow' relies on the downstream system or part thereof not receiving surface waters from upstream.	Not verified
102	11.1.1.3.3	Natural surface waters samples undergo both in-situ and laboratory testing to determine the water quality at each monitoring site and assess selected stream flow entering and leaving the MRM mineral lease area.	Compliant
103	11.1.1.3.3.1	Trigger values for the reporting period have been ascertained in consultation with NT Government regulators by implementation of the multi-tiered ANZECC Decision Tree.	Compliant
104	11.1.2.1	In response to elevated sulphate levels being recorded in waters of Surprise Creek, McArthur River Mining (MRM) initiated the derivation of a trigger value (TV) for sulphate based on ecotoxicity testing of local aquatic biota, to ensure appropriate measures are in place for protecting the receiving McArthur River ecosystem.	Compliant
105	11.1.3.3.1	Fluvial sediment samples are collected at all natural surface water sampling sites.	Compliant
106	11.11.3.3.2	Fluvial sediments are monitored bi-annually (dry season and late wet season events).	Compliant
107	11.1.4.1	Artificial surface water sites are a series of dams and ponds which have been constructed and designed to contain water on site, in particular contaminated water thereby minimising potential environmental risk to the outside environment.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
108	11.1.4.3.2	Artificial surface water sampling is conducted on a monthly basis as reported in the 2011/2012 SDWMP.	Partial compliance. Some minor gaps were noted in the sampling records (for example, Pit Sump in Q1, 2013)
109	11.1.4.3.3	Artificial surface water sites are tested both in-situ using an AquaRead and laboratory testing and analysis is carried out by NATA accredited laboratories.	Compliant
110	11.1.5.2.3	Groundwater monitoring bores located at the mine site, TSF and Bing Bong are sampled every second month.	Partial compliance
111	11.1.5.6.8.1	Following an ElectroMagnetic (EM) survey carried out during 2003, which confirmed shallow seepage (between 3-8 m deep) from the NE perimeter of Cell 1 of the TSF, a geopolymer liner was installed in 2006 and 2007. EM surveys were subsequently undertaken in February 2007, December 2009, October 2010 and November 2011.	Compliant
112	11.1.5.6.9	Total Petroleum Hydrocarbons (TPH) are monitored as part of the regular monitoring commitments with samples collected at selected bores on a bi-annual basis.	Compliant
113	11.1.6.2	Marine water monitoring aims to assess whether activities at the Bing Bong Loading Facility are having a significant influence on seawater in the area.	Compliant
114	11.1.6.4	Seawater sampling is conducted on a monthly basis and consists of both in-situ and laboratory testing.	Partial compliance. Some minor gaps were noted in the sampling records (for example, MSW04 in Q4, 2012)
115	11.1.6.5.1	The diffusive gradients in thin films (DGT) technique was designed to provide in-situ determination of kinetically labile metal species in aquatic systems.	Compliant
116	11.1.6.6.2	Routine marine sediment sampling conducted by MRM environmental technicians is carried out on a biannual basis and undergoes analysis at a NATA accredited laboratory.	Compliant
117	11.2.1.2	The objective of the depositional dust monitoring program is to monitor potential contaminated particulate matter (dust particles) arising from MRM activities. Monitoring procedures adhere to AS3580.10.2003 where possible and are subject to wet season conditions which restrict access to sampling collection points.	Compliant

Number	MMP Section Reference	Commitment in Context	Compliance Rating
118	11.3.1.2	The soil monitoring program aims to provide a health and environmental risk assessment of soil strata to which humans and other receptors could feasibly be exposed.	Compliant
119	11.3.1.3.1	Soil samples are collected from locations immediate to the dust sample sites.	Compliant
120	11.3.1.3.2	Samples are collected on an annual basis, immediately prior to the wet season and sampled in conjunction with the dust sampling regime.	Compliant
121	11.3.1.3.2	In the interim of establishing background as the trigger level, this report will refer to NEPM Ecological Investigation Levels (EILs) (NEPC1999), as per the Independent Monitor's recommendations (EES, 2011).	Partial compliance. Results were reported for the 2011-2012 program but not the 2012-2013 program (if conducted)
122	11.3.3.3.2	The dredge spoil monitoring is conducted on an annual basis and parameters requested for analysis are Electrical Conductivity and Total Soluble Salts.	Compliant

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