



# **Sinosteel Midwest Corporation**

Koolanooka/Blue Hills Direct Shipping Ore Mining Project  
Shires of Morawa and Perenjori

Statement No. 811

Performance Review Report  
2017

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## 1.0 INTRODUCTION

This Performance Review Report (PRR) has been prepared by Sinosteel Midwest Corporation (SMC) for the Koolanooka/Blue Hills Direct Shipping Ore Mining Project, Shires of Morawa and Perenjori (Project). The report specifically relates to requirements of Condition 5 of Ministerial Statement 811 as follows:

- 5-1 *“The proponent shall submit to the CEO a Performance Review Report at the conclusion of the first year after ground disturbing activity, and then triennially, which addresses:*
- 1. The environmental risks and impacts, the performance objectives, standards and criteria related to these; the success of risk mitigation/impact mitigation measures and results of monitoring related to management of the major risks and impacts;*
  - 2. The level of progress in the achievement of best practice environmental performance, including industry benchmarking, and the use of best available technology; and*
  - 3. Improvements gained in environmental management which could be applied to this and other similar projects.*
- 5-2 *The proponent shall make the Performance Review Reports required by condition 5-1 publically available in a manner approved by the CEO.”*

This is the third PRR for the project covering the three year period from April 2014 to March 2017.

Ground disturbing activity commenced at Koolanooka on 2 April 2010 and mining activity ceased in January 2013 when the site was put into care and maintenance. Operations commenced at Blue Hills in July 2013 until May 2015 when the site was put into care and maintenance.

SMC is committed to ensuring all its activities comply with statutory requirements as a minimum and are undertaken so that adverse environmental impacts are avoided or appropriately managed.

### 1.1 Proponent

The proponent for the Project is:

Sinosteel Midwest Corporation Limited  
7 Rheola St  
West Perth WA 6005

### 1.2 Project Background

A Public Environmental Review document (PER) was developed and submitted to the Environmental Protection Authority (EPA) for the Project under Part IV of the Environmental Protection Act 1986 (Assessment No.1653) in September 2008. The PER was approved under Ministerial Statement 811 on 4 November 2009. Federal approval was received on 4 January 2010 (EPBC 2007/3809).

The Koolanooka mine was the first stage of the Project and is located approximately 160kms south-east of Geraldton and 20kms east of the Morawa township (Figure 1). The Blue Hills component of the project, which encompasses the Mungada East and Mungada West pits, is located a further 60kms east of Koolanooka. The overall project will produce in excess of 7 million tonnes of hematite DSO iron ore over an operational period of six years, with ore transported by rail (or road) to the Geraldton Port.

At Koolanooka, operations comprised mining the South-fold Cutback; a small extension to the existing pit previously mined in the 1960s and 70s by Western Mining Corporation (WMC). Additionally, mining of the Detritals pit, a shallow extension of between 10 - 35 m on the south-western flank of the existing Koolanooka pit was completed. Ore was crushed and screened on site and transported by road train to Geraldton Port for storage and shipment. All waste rock generated was either backfilled into the existing Koolanooka pit, or placed in nearby waste dumps. Mining did not extend below the water table so dewatering is not necessary. A site layout plan for Koolanooka is shown in Figure 2.

Operations at Blue Hills entail mining of the existing pits at Mungada East and Mungada West, also previously mined by WMC. Mining and crushing activities are similar to Koolanooka and ore is trucked to the nearby Karara Mining Limited (KML) rail head for transport to Geraldton Port for export. A site layout plan for Blue Hills is shown in Figure 3.



Figure 1: Sinosteel Midwest Corporation Projects

### 1.3 Project Status

The Koolanooka and Blue Hills mines are both in care and maintenance.

Mining activity ceased at Koolanooka in January 2013 after nearly three years of DSO production. Crushing activity finished in March 2013 and road transport finished in July as per schedule. In total, 4.3 million tonnes of iron ore was produced from the Koolanooka DSO operation.

Construction activity commenced at Blue Hills in July 2013 with first production in September 2013. Crushing activity commenced in October 2013 and road transport to the nearby Karara Mining Limited (KML) rail head started in November 2013. In May 2015, mining activity ceased and the mine was put into care and maintenance. The mine will produce approximately 4.5 million tonnes of DSO over a period of three years (1.5 Mtpa).

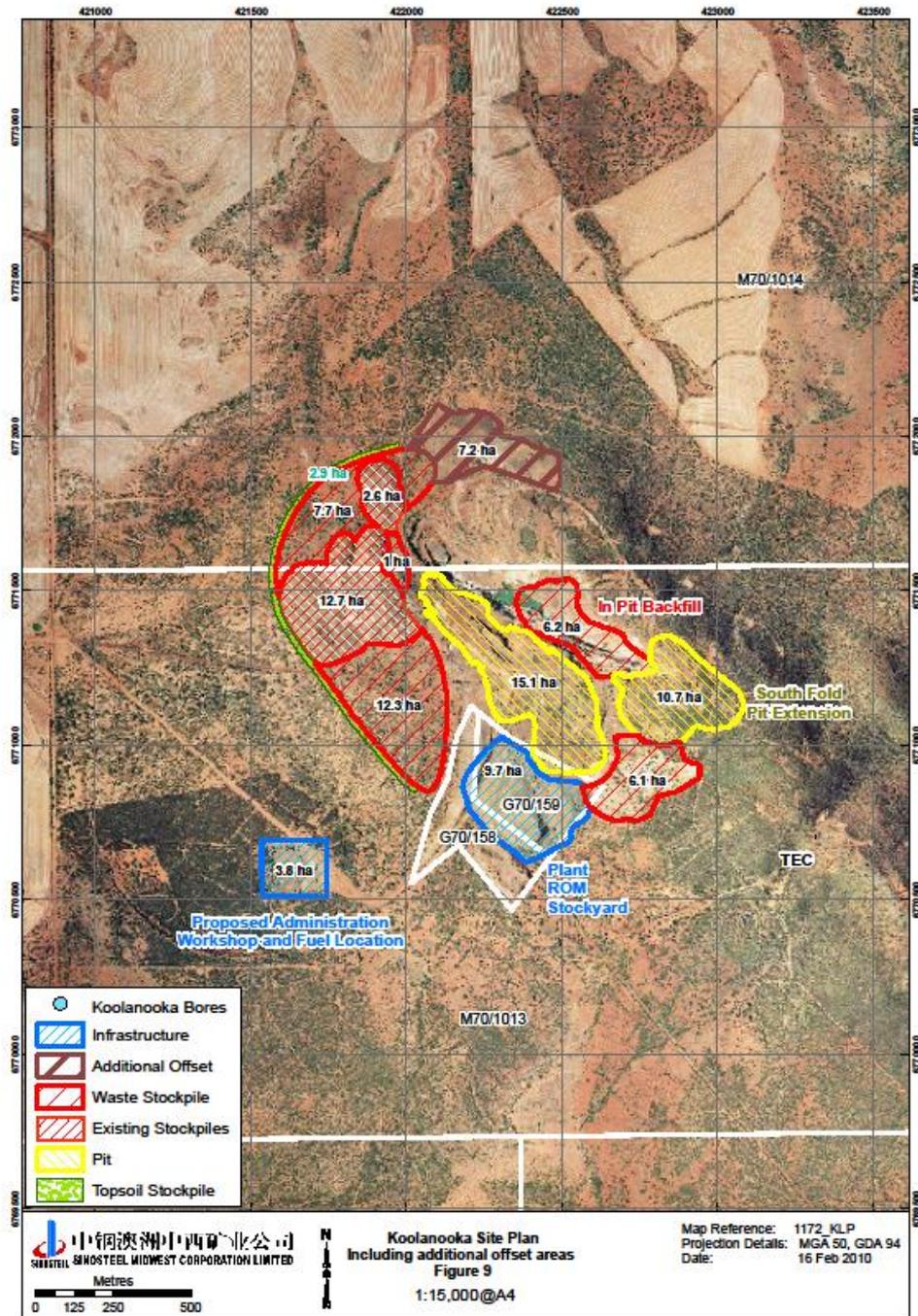


Figure 2: Koolanooka Mine Site Layout

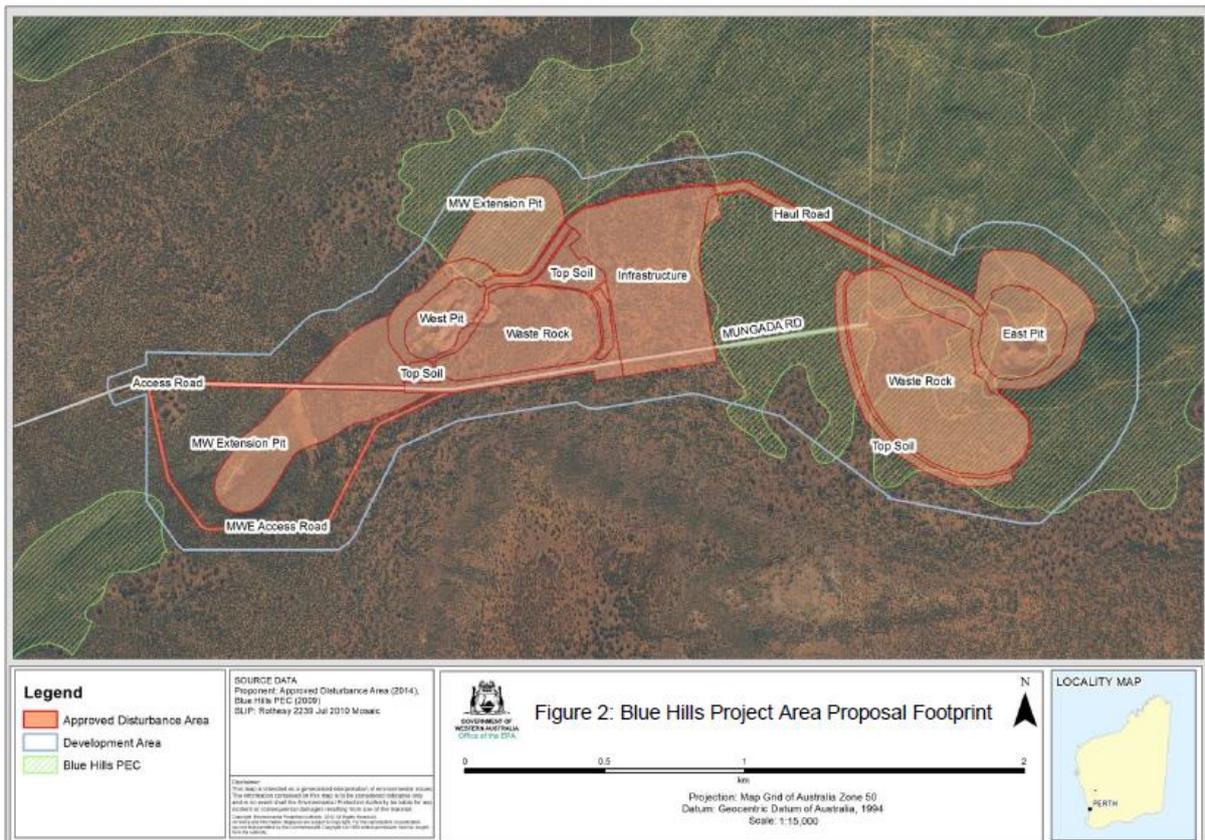


Figure 3: Blue Hills Mine Site Layout

## 2.0 PERFORMANCE REVIEW

This section summarises the environmental performance of the project from April 2014 to March 2017, as per Condition 5 of Statement 811.

SMC is committed to ensuring all its activities comply with statutory requirements and are planned and performed so that adverse environmental effects are avoided or appropriately managed.

### 2.1 Environmental Risk Management

The environmental risks and impacts of the project; the performance objectives, standards and criteria related to these and the success of risk mitigation / impact mitigation measures are presented in Table 1. The results of monitoring related to management of the major risks and impacts are discussed below.

SMC has submitted a Compliance Assessment Report (CAR) for the Koolanooka/Blue Hills Project annually since November 2010 as per Ministerial conditions.

Internal compliance assessments occur regularly as part of SMC's ongoing environmental management strategy. This includes regular site inspections conducted to assess SMC's compliance with its Care and Maintenance Plan.

## **2.2 Environmental Performance**

A summary of the level of progress in environmental performance for the Project is presented below for the reporting period.

### **2.2.1 Flora and Vegetation Management**

SMC is fully aware of the conservation significance of the Koolanooka Threatened Ecological Community (TEC) and the Blue Hills Priority Ecological Community (PEC), adjacent to its operations and is committed to eliminating environmental impacts in these areas. All staff and contractors working on the Project are made aware of the significance of the TEC and PEC and associated “No Go Zones” as part of the site induction process. The boundaries of the TEC and PEC have been fenced and sign posted to prevent unauthorised access. Internal vegetation clearing approval processes ensure control of any vegetation clearing undertaken and this is supported by supervision of clearing works and survey mark up of all areas to be cleared prior to, and after, any clearing occurring on site.

### **2.2.2 Vegetation Monitoring**

Vegetation monitoring was first established at Koolanooka to monitor any impacts from operations on the health of the Koolanooka TEC in March 2010. The program has continued annually and results show there is no evidence of any adverse impact on vegetation within the TEC from the mining operation. Initially, eight monitoring sites were established within the dust buffer zone around the South-fold cutback pit and in the surrounding TEC vegetation. The number of monitoring sites was expanded to sixteen in subsequent years in consultation with DEC/DPaW (Figure 4). The 2015 monitoring report is provided as Appendix 2.

A vegetation monitoring program was established at Blue Hills in 2012 prior to ground disturbance to collect baseline information. Sixteen monitoring sites were set up around the site to monitor for any impacts from operations on the health of the Blue Hills PEC (Figure 5). The program will continued annually throughout operations and results show there is no evidence of any adverse impact on vegetation within the PEC from the mining operation. The 2015 report is provided as Appendix 2.

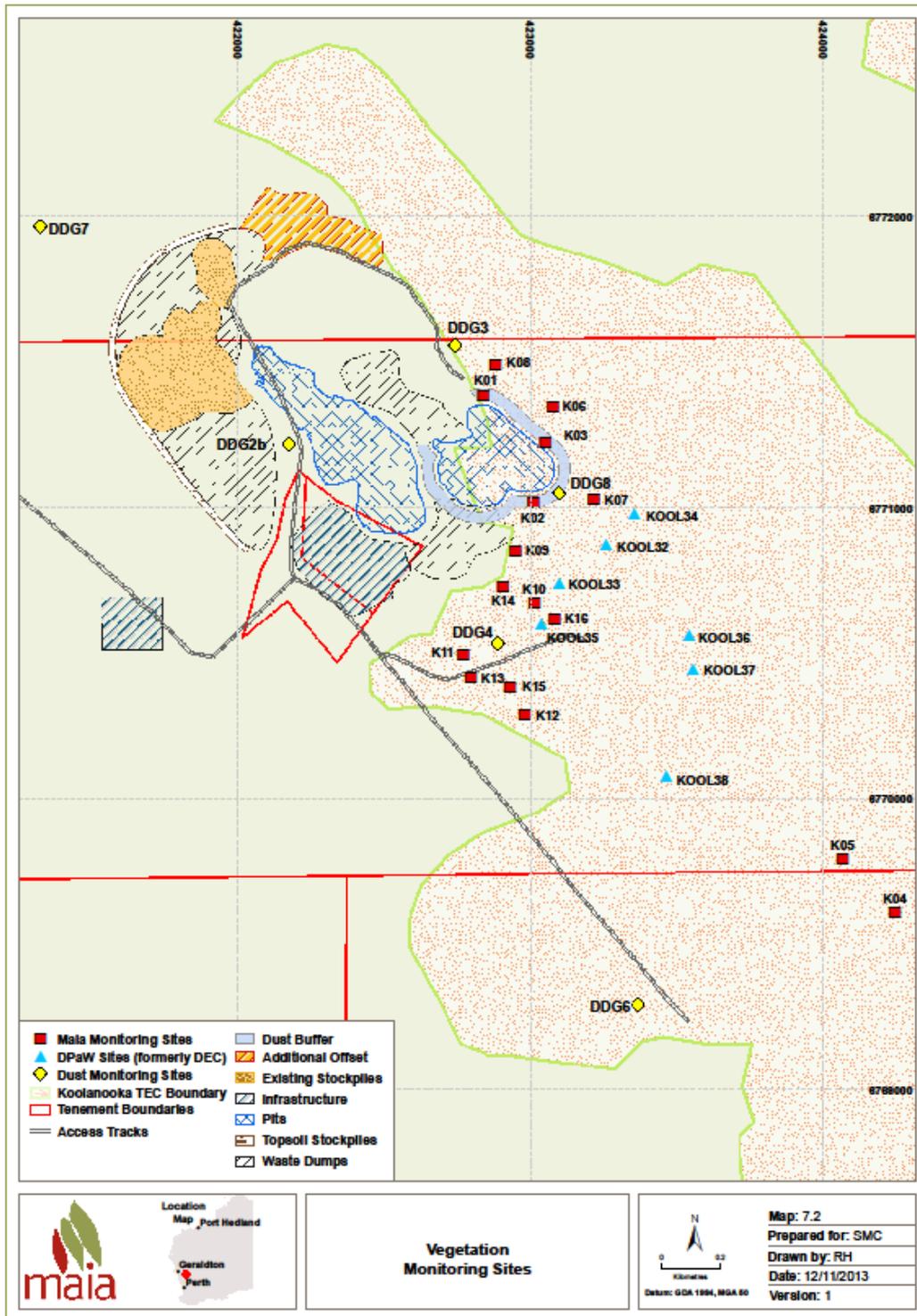


Figure 4: Vegetation Monitoring Sites - Koolanooka

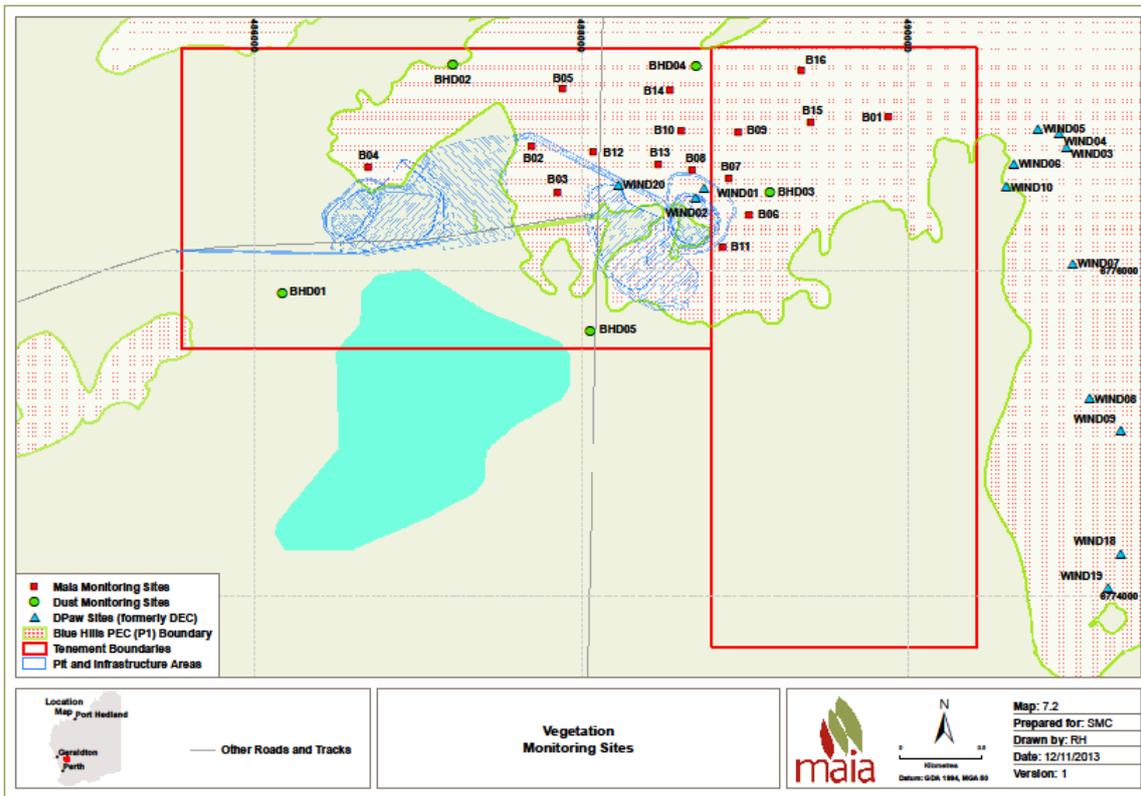


Figure 5: Vegetation Monitoring Sites – Blue Hills

### 2.2.3 Rehabilitation Research

To assist in meeting requirements for rehabilitation at Koolanooka and Blue Hills, SMC entered into a research project with the Botanic Gardens and Parks Authority (BGPA) Kings Park Science Division in 2011. The primary aim of the restoration project is to ensure final rehabilitation of all disturbed areas at Koolanooka and Blue Hills with a minimum of 70% of known species diversity.

A specific aspect of this research is to assist in the re-establishment of identified TEC vegetation taken from the pit extension area in an appropriate “offset” area adjacent to the pit. Research trials established at Koolanooka in 2012-13 were extended to Blue Hills in early 2014 with the set-up of topsoil plots to monitor the effects of various combinations of topsoil and vegetation debris material on seed bank germination and emergence.

The research project was completed in April 2017. The overall restoration outcomes for the Koolanooka TEC offset area and drill pad restoration at Blue Hills show that, assessed a few years after establishment, SMC have returned biodiverse systems comparable to the reference communities. This is the first demonstrated capacity to restore this level of biodiversity in BIF across the resources sector. Further, the BGPA has advised that if best practice restoration is followed, there doesn’t appear to be any significant barriers to restoration over the first few years of restoration. With ongoing adaptive management programs, including threat mitigation and supplementary restoration works (plantings etc) then these biodiversity levels should be maintained.

A copy of the 2017 Annual Report from the BGPA is provided as Appendix 3.

A restoration manual was produced to provide SMC with guidance on best practice methods to achieve successful rehabilitation. A copy of the restoration manual is provided as Appendix 4.

## 2.2.4 Rehabilitation and Mine Closure Planning

Progressive rehabilitation has been undertaken at the Koolanooka and Blue Hills sites, as detailed in the rehabilitation planning strategies, developed in 2010 and 2013 respectively. SMC will be reviewing both of these strategies and the status of progressive rehabilitation undertaken to date to ensure that all statutory conditions (including MS811 conditions) are met.

At Koolanooka, SMC has rehabilitated waste dumps, removed all redundant infrastructure and rehabilitated available infrastructure areas. A total area of approximately 60 ha is currently under rehabilitation.

Progressive rehabilitation of available areas at Blue Hills occurred in 2015. Approximately 9 ha of the Mungada East waste dump was rehabilitated and 6 ha of the Mungada West waste dump was rehabilitated.

A rehabilitation monitoring program was established at Koolanooka in September 2013 to monitor success of rehabilitation. The program includes erosion and stability monitoring based on previous work done by Landloch on site.

The rehabilitation monitoring programs were conducted annually for both Koolanooka and Blue Hills and the 2015 reports are provided in Appendix 5.

SMC produced an updated Mine Closure Plan (MCP) for the Koolanooka mine in November 2016 in line with the *Guidelines for Preparing Mine Closure Plans* (DMP/EPA, May 2015). The MCP also includes rehabilitation and closure planning for the Tilley Rail Siding, 2km north of Morawa. The plan was approved by DMP in March 2017.

SMC also produced a MCP for Blue Hills consistent with the abovementioned guidelines in August 2016. DMP approved the MCP in November 2016.

Copies of the DMP approval for the updated MCP's are provided in Appendix 8.

## 2.2.5 Fauna Management

Malleefowl have been recorded around the Koolanooka/Blue Hills Project area. This species is classified as rare and vulnerable under both State and Federal legislation. To reduce the potential for impact on the species, SMC has developed a Malleefowl Management Plan which focuses on:

- raising awareness of the species through education;
- observing/reporting occurrences of the species;
- reducing potential for road deaths; and
- reducing predation.

There have been no impacts to malleefowl recorded, including road deaths, by SMC activities on SMC tenements to date for the Project.

Any sightings of feral animals are reported and the majority of sightings recorded to date have been for feral goats at Koolanooka. Feral cats have also been sighted and three sightings of foxes have been recorded. SMC is monitoring the occurrence of goat populations on its tenements and will implement appropriate reduction measures if necessary.

## 2.2.6 Dust Management

During operations, SMC carried out monitoring of dust levels on site using depositional dust monitoring. Dust monitoring at Koolanooka occurred from before project start-up until the cessation of activities in July 2013.

At Blue Hills, depositional dust monitoring was established in January 2013 to collect baseline information prior to ground disturbance. A Dust Management Plan (Version 3) was updated for the Blue Hills operation in November 2014 to reflect dust control modifications to the crushing circuit.

Five monitoring sites were setup around the operation (Figure 6) and the results of monitoring are shown in Figure 7 and further presented in the Appendix 1 (in tabular form). To date there have been no incidents of dust beyond tenement boundaries or any significant issues.

To further minimise dust generation on site, progressive clearing of areas occurred only as they were required to reduce the exposed footprint on site and progressive rehabilitation occurs as soon as possible as areas become available.

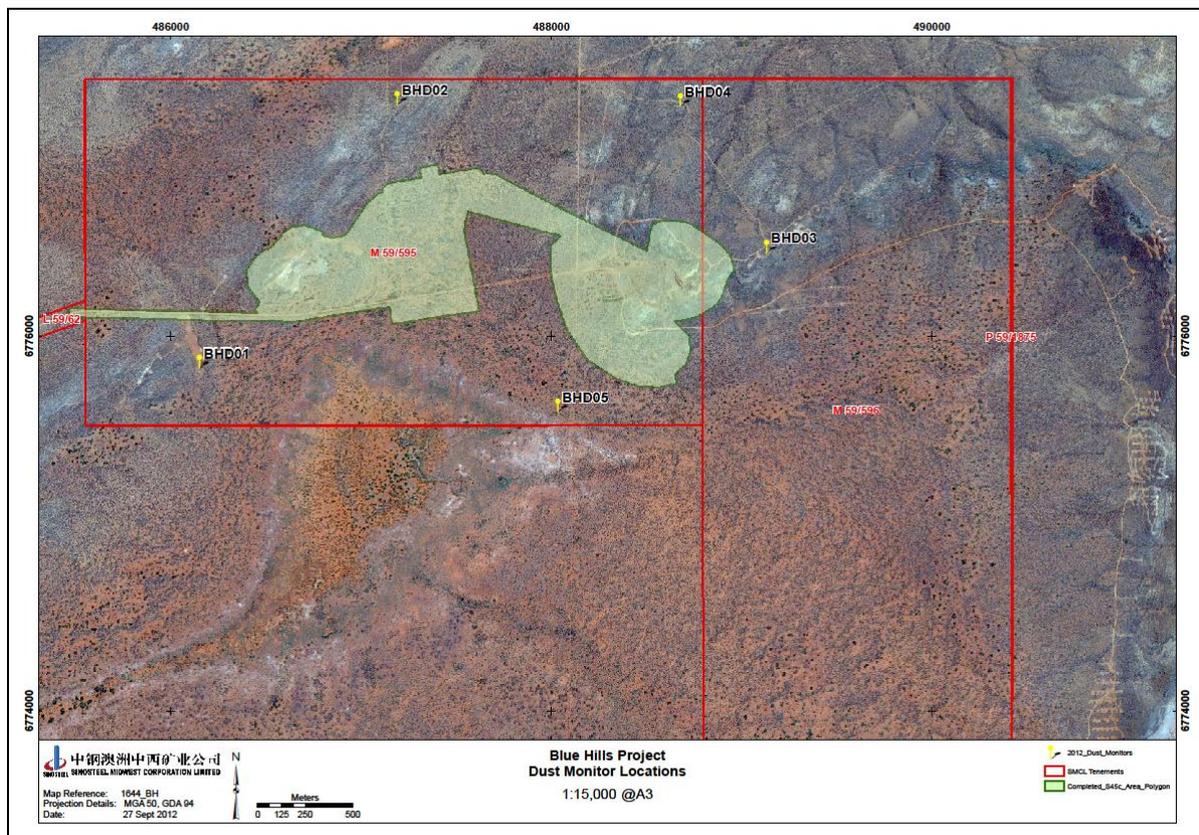
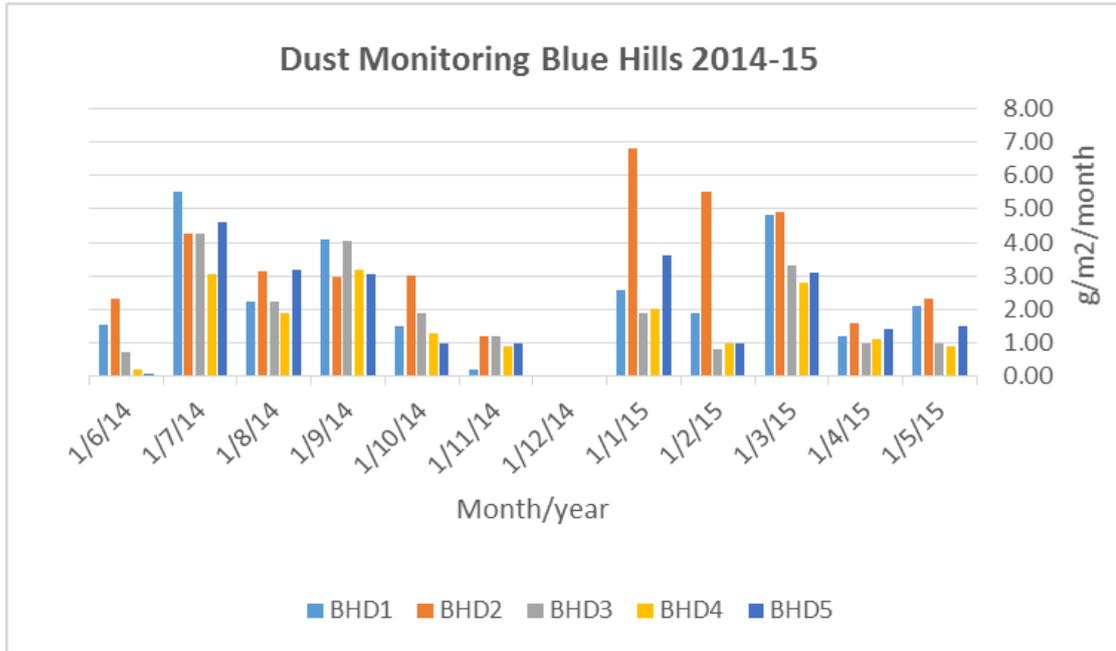


Figure 6: Depositional Dust Monitoring Sites – Blue Hills



**Figure 7: Dust Monitoring Results Blue Hills 2014-2015**

### 2.2.7 Groundwater Management

No groundwater extraction occurred at the Koolanooka Mine site during the reporting period as operations ceased in 2013 and the site is in care and maintenance.

Groundwater at Blue Hills is sourced from one production bore on an SMC tenement and one production bore on Karara Mining Limited (KML) tenement. Three observation bores record groundwater levels.

An estimated 96,212 kilolitres of groundwater was extracted from production bore BHWB01 during from July 2013 to June 2014 for operational purposes (mainly dust suppression) associated with hard rock mining at SMC’s Blue Hills mine. This represents 48% of the annual Department of Water (DoW) licence entitlement (200,000 kl). The total groundwater extraction from July 2014 to June 2015 was 145,859 kilolitres, representing 73% of the annual DoW licence entitlement (200,000 kl).

Groundwater levels recorded in production bore BHWB01 and observation bore BHWB08 nearby show typical fluctuations relative to pumping volumes throughout the year. The groundwater levels in observation bores BHWB06 and BHWB02 were relatively stable throughout the period. Recorded TDS levels are relatively stable. The annual major component chemical analysis results indicate relatively good quality water.

Efficient water use at Blue Hills is achieved by the following:

- Water pipelines are laid above ground and adjacent to access roads, therefore any leaks will generally be identified quickly by site personnel and rectified;
- All production bores have complaint flow meters installed to accurately record all water extraction;
- Any third party supply of water for site use is recorded to accurately calculate consumption;

- Daily inspections of all water infrastructure are carried out, including bores, pipelines and storage facilities;
- The crushing plant water sprinkler system is inspected regularly and maintained to operational standard;
- Onsite storage dams are plastic lined to prevent seepage into the ground; and
- Water efficiency awareness is included in the site induction for all personnel to appreciate the need to conserve water wherever possible.

SMC ceased operations at Blue Hills in May 2015 and placed the site into care and maintenance, therefore no water monitoring has occurred since.

### **3.0 IMPROVEMENTS AND BEST PRACTICE IN ENVIRONMENTAL MANAGEMENT**

SMC has implemented a number of improvements and best practice initiatives in environmental management at Koolanooka and Blue Hills, consistent with the guiding principle of continuous improvement. All of these can, and will be applied to other SMC projects and beyond where appropriate.

Elements of Environmental Management System (EMS) development in line with ISO14001:2004 has continued, for example:

- Review of the Risk Assessment for the new Blue Hills operation, including environmental aspects;
- Review of the operational Environmental Management Plan to reflect the new Blue Hills operation;
- Development of a comprehensive environmental component of the site induction for start-up at Blue Hills, emphasising awareness of protection of the Blue Hills PEC and Malleefowl;
- Review of environmental management procedures to reflect the new Blue Hills operation, including water and dust monitoring and data management;
- Continued training of field staff in environmental monitoring procedures for employee development and building of in-house capability;
- Review of the environmental component of the site inspection regime to reflect the new Blue Hills operation;
- Incorporation of environmental incidents into the new SMC online incident reporting, tracking and close out system; and
- Review/update of other documentation to reflect the new Blue Hills operation including the vegetation clearing approval form and Malleefowl sighting and reporting forms.

As part of the environmental offsets package for the Blue Hills component of the project, SMC continued its contribution (\$100,000) to the Department of Parks and Wildlife (DPaW) for conservation management within the Karara Block of former pastoral stations (now managed by DPaW). The funding provided over the reporting period contributed to 100% of the total allocation for offsets. In consultation with DPaW the funding went towards the following areas:

- Maintenance of existing feral goat trapping yards;
- Purchase and establishment of new goat trapping yards;

- Aerial assessment for biodiversity threats;
- Wild dog control;
- Weed control programs; and
- Feral goat removal.

SMC developed a comprehensive rehabilitation planning strategy for Blue Hills in 2013 as per Ministerial conditions. The plan is similar to that developed for Koolanooka in 2010 and details SMC's approach to rehabilitation planning at Blue Hills, incorporating results of the Landloch soil quality assessment and outlining the restoration research program with the BGPA to assist in rehabilitation success. This research program also included disturbed exploration sites at Blue Hills and be extended in future to other SMC sites.

#### 4.0 PUBLIC AVAILABILITY

A copy of this report is made publicly available as per the OEPA's *Post Assessment Guideline for Making Information Publically Available*, Post Assessment Guideline No. 4, August 2012.

**TABLE 1: ENVIRONMENTAL RISK MANAGEMENT REVIEW**  
**Ministerial Statement 811 - Condition 5-1 (1)**

| Environmental Risk                             | Reference Condition (Statement 811) | Potential Impact  | Performance Objective/Standard/Criteria  | Risk reduction/mitigation success  | Evidence/Monitoring Results   |
|--|-------------------------------------|---|--|--|---|
| Threatened and Priority Ecological Communities | 811:M6                              | Disturbance to, or loss of, the Threatened Ecological Community "Plant assemblages of the Koolanooka System" (TEC) and the Blue Hills vegetation complex Priority Ecological Community (PEC). | Areas of work are delineated to minimise disturbance or loss of TEC/PEC vegetation communities.  | This risk is successfully mitigated through: <ul style="list-style-type: none"> <li>- Induction awareness of the TEC/PEC as a "No Go Zone"</li> <li>- Internal vegetation clearing approval process completed prior to any clearing occurring</li> <li>- Survey control/mark up of all areas prior to any clearing and pickup after clearing</li> <li>- Supervision of clearing activities</li> </ul> No instances of unauthorised disturbance or loss have occurred.  | Vegetation Clearing Approval Forms  |
|  |                                     |   | Access to areas that support the TEC/PEC are restricted to authorised personnel only.  | This risk is mitigated through: <ul style="list-style-type: none"> <li>- The Koolanooka TEC and Blue Hills PEC are fenced off with "No Entry Unless Authorised" signage.</li> <li>- Induction awareness of TEC/PEC as "No Go Zone"</li> </ul> No instances of unauthorised access to TEC have occurred.  | Photo of fence and signage (see Appendix 6)   |
|  |                                     | Loss of or adverse impacts on native flora, including the TEC/PEC outside areas approved to be cleared of vegetation, or to act as a dust buffer zone.  | No adverse impacts on native flora, including the TEC/PEC outside areas approved to be cleared of vegetation, or to act as a dust buffer zone. | This risk is successfully mitigated through: <ul style="list-style-type: none"> <li>- Induction awareness of approved mine footprint, TEC/PEC as "No Go Zone";</li> <li>- Internal Vegetation Clearing Approval Process prior to any clearing occurring ;</li> <li>- Survey control/mark up of all areas prior to any clearing and pickup after clearing;</li> <li>- Vegetation monitoring program established at Koolanooka; and</li> <li>- Vegetation monitoring programs were established at Koolanooka (March 2010) and Blue Hills (Sept 2012) by <i>Maia Environmental Consultancy</i> to monitor for any impacts to vegetation at Koolanooka &amp; Blue Hills, particularly to the TEC/PEC. Results indicate no adverse impact from mining operations to date.</li> </ul> No adverse impacts on native flora and TEC have been observed. | Vegetation Clearing Approval Forms<br>Vegetation monitoring reports for Koolanooka and Blue Hills (see Appendix 2). |
|  |                                     | Impacts from dust, saline water   | Monitor impacts from dust, saline water application, fire and  | This risk is successfully mitigated through:   | Depositional dust monitoring  |

| Environmental Risk  | Reference Condition (Statement 811) | Potential Impact  | Performance Objective/Standard/Criteria   | Risk reduction/mitigation success  | Evidence/Monitoring Results                               |
|---|-------------------------------------|---|---|--|---|
|   |                                     | application, fire and introduced fauna on the TEC/PEC.  | introduced fauna on the TEC/PEC.  | <ul style="list-style-type: none"> <li>- A Dust Management Plan has been developed to reduce impacts from any dust generated on site. This particularly focuses on the crushing plant, which is fitted with comprehensive mechanical dust control equipment (e.g. skirts, aprons, curtains, socks, mist sprays);</li> <li>- Depositional dust monitoring programs in place at Blue Hills to monitor dust levels around site, including within the PEC;</li> <li>- The lighting of fires is prohibited on site, as is the burning of any vegetation material. No fires have occurred since operations began; and</li> <li>- The reporting of any feral fauna sighted is included in induction material received by all personnel. To date only occasional sightings of feral goats have been observed and these will be monitored for signs of increase. If required, trapping and/or eradication will be implemented.</li> </ul> | results Blue Hills (see Appendix 1)                       |
| Declared Rare Flora                                       | 811:M7                              | Dust impacts from truck loads of iron ore along Munckton Road on the Declared Rare Flora <i>Tecticornia bulbosa</i>   | Cover all truck loads of ore product transported along Munckton Road.   | This risk is only applicable to Koolanooka and is managed by a contractual requirement of the haulage contractor to cover all loads for transport from Koolanooka to Geraldton port. There has been no non-compliance recorded with this requirement.  | Photo of covered truck (see Appendix 7).                  |
| Mungada Haul Road   | 811:M8                              | Impacts to flora of conservation significance, surface water drainage (particularly around Wheelhamby Lake), native fauna and visual amenity from construction of the Mungada Haul Road (including borrow pits) | No impacts to flora of conservation significance, surface water drainage (particularly around Wheelhamby Lake), native fauna and visual amenity from construction of the Mungada Haul Road (including borrow pits). | Construction of the Mungada Haul Road is connected with the Blue Hills component of the Project only. The construction of the haul road was undertaken by a third party for their use; therefore SMC did not construct the haul road and is only using a very small portion of it for haulage.   | NA  |
| Optimising Design, Sighting and Footprints of Waste Dumps | 811:M9                              | Impacts to native vegetation of conservation significance from the design, sighting and footprint of waste dumps  | Optimise design, sighting and footprint of waste dumps to protect vegetation of conservation significance.  | <p>This risk has been successfully mitigated at Koolanooka by the completion of an optimisation study by Exoro Mine Planning Services in December 2009. The optimisation study considered the design, sighting and footprint of waste dumps at Koolanooka to protect vegetation of conservation significance. The optimisation study was approved by OEPA and DMP in January 2010.</p> <p>A similar optimisation study was completed for the Mungada East and Mungada West (Blue Hills) pits in June 2013 (before ground disturbing activities). The report was approved by the OEPA and DMP in August 2013.</p>   | OEPA approval letters dated January 2010 and August 2013. |
| Conservation  | 811:M10                             | Impacts to conservation significant   | Carry out field surveys for conservation significant reptile species, especially the Western Spiny-tailed Skink, <i>Egernia</i>   | OEPA sign off on this condition for Koolanooka was   | OEPA email approval dated                                 |

| Environmental Risk                     | Reference Condition (Statement 811) | Potential Impact   | Performance Objective/Standard/Criteria   | Risk reduction/mitigation success  | Evidence/Monitoring Results   |
|--|-------------------------------------|--|---|--|---|
| Significant Reptiles                   |                                     | reptile species.   | <i>stokesii badia</i> , and the Gilled Slender Blue-tongue, <i>Cyclodomorphus branchialis</i> at Koolanooka; Mungada West; and Mungada East and provide a report to the CEO   | received in January 2010.<br>Surveys were carried out at Blue Hills in November 2009 and November 2010. No conservation significant reptile species were found. The OEPA approved the report in April 2011.  | January 2010 and April 2011.  |
| Short Range Endemic Invertebrate Fauna | 811:M11                             | Impacts to short range endemic invertebrate fauna  | Carry out field surveys for short range endemic invertebrate fauna species Mundaga West and Mungada East and provide a report to the CEO  | A field survey for short range endemic invertebrate fauna species was carried out at Mungada East & Mungada West in June 2010 by Ecologia and the final report for the survey was forwarded to the OEPA in December 2010. Further information was provided by SMC to the OEPA in December 2011 and the condition was signed off by OEPA in January 2012.   | OEPA approval letter.   |
| Fauna Mortality                        | 811:M12                             | Fauna deaths in areas as a result of implementation of the proposal                            | Prepare and implement strategies to avoid fauna deaths and submit to CEO.   | This risk is successfully mitigated by the following measures:<br><ul style="list-style-type: none"> <li>- Induction awareness of native fauna in the area and the need to protect, including malleefowl and the requirement to report all sightings/deaths;</li> <li>- Update of the project Environmental Management Plan (EMP) to include reduced speed limits around site, capping of any historical drill holes found on SMC leases, no interfering with native fauna etc;</li> <li>- A Malleefowl Management Plan has been developed for the project which is aimed at the protection of the species on project areas. The plan includes a sighting form for recording of any malleefowl found – to date there have been no sightings at Koolanooka and 4 sightings at Blue Hills – no deaths have been recorded on SMC leases during the project; and</li> <li>- A Protected Fauna Mortality Register has been developed for recording of any deaths of protected fauna.</li> </ul> | Relevant documents previously forwarded to OEPA.                      |
|  |                                     |  | Record the death of any fauna listed as specially protected under the <i>Wildlife Conservation Act 1950 (WA)</i> or listed as threatened under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> or listed as Priority Fauna by the DEC including the location of death and species of fauna   | A Protected Fauna Mortality Register has been developed for recording of any deaths of protected fauna. SMC is pleased to advise that no death of protected fauna has occurred to date.  | Register previously forwarded to OEPA.                                |
| Rehabilitation and Mine Closure        | 811:M13                             | Long-term Impacts from sub-standard rehabilitation practices during operation and post closure | Within 6 months of the start of implementation of the proposal at Koolanooka, Mungada West and Mungada East, provide a detailed rehabilitation planning strategy to ensure that the characteristics of the constructed waste dumps optimise rehabilitation outcomes. Consistent with Environmental Protection Authority Guidance 6 "Rehabilitation of Terrestrial | SMC submitted a rehabilitation planning strategy for Koolanooka to the OEPA and DMP in September 2010 (within 6 months of commencement of operations) containing relevant information to address the stated criteria. The DMP advised their satisfaction with the strategy in October 2010. The OEPA, after consultation   | OPEA letter of satisfaction provided for Koolanooka in December 2012. |

| Environmental Risk      | Reference Condition (Statement 811) | Potential Impact  | Performance Objective/Standard/Criteria  | Risk reduction/mitigation success   | Evidence/Monitoring Results  |
|-------------------------|-------------------------------------|---|--|---|--|
|                         |                                     |   | <p>Ecosystems” the strategy should consider:</p> <ol style="list-style-type: none"> <li>1. soil chemistry and physical properties;</li> <li>2. landform;</li> <li>3. hydrology; and</li> <li>4. appropriate plant species, specific to the site, to the satisfaction of the CEO and DMP.</li> </ol>  | <p>with DEC, approved the document in December 2012.</p> <p>SMC submitted a rehabilitation planning strategy for Mungada West and Mungada East to the OEPA and DMP in December 2013 (within 6 months of commencement of operations) containing relevant information to address the stated criteria. SMC is awaiting a response from the agencies.</p>   |  |
|                         |                                     |   | <p>Progressively rehabilitate all areas disturbed in the implementation of the proposal, with the exception of the mine pits, in accordance with the following:</p> <ol style="list-style-type: none"> <li>1. Re-establishment of vegetation such that the following criteria are met within five years following the cessation of productive mining: <ol style="list-style-type: none"> <li>a) flora and vegetation are re-established with not less than 70 percent composition (not including weed species) of the known original species diversity*; and b) weed coverage no more than that in undisturbed bushland in the area or less than 10%, whichever is the lesser.</li> </ol> </li> <li>2. A schedule of the rate of rehabilitation acceptable to the CEO and DMP</li> </ol> | <p>Progressive rehabilitation is one of SMC’s adopted minimum standards for rehabilitation, as detailed in the rehabilitation planning strategies for Koolanooka and Blue Hills.</p> <p>SMC has rehabilitated all waste dumps at Koolanooka, removed all redundant infrastructure and rehabilitated available infrastructure areas to date, a total of 60 ha.</p> <p>In 2015, approximately 9 ha of the Mungada East waste dump was rehabilitated and 6 ha of the Mungada West waste dump was rehabilitated.</p> <p>Annual rehabilitation monitoring programs for Blue Hills and Koolanooka have been undertaken.</p> <p>SMC has been working with the BGPA for five years on research to assist in achieving the stated criteria for rehabilitation. This program was completed in April 2017.</p> | <p>Rehabilitation monitoring reports for Blue Hills and Koolanooka (2015) (see Appendix 5)</p>   |
|                         |                                     |   | <p>At least six months prior to the anticipated date of closure, provide a final closure plan.</p>   | <p>This condition is not applicable at this stage of the project.</p> <p>However, SMC produced an updated MCP for Koolanooka as part of the Mining Proposal approval process in November 2016. DMP approval was received in March 2017.</p> <p>SMC also produced a MCP for Blue Hills as part of the Mining Proposal approval process in August 2016. DMP approval was received in November 2016.</p>   | <p>NA at this stage.</p> <p>DMP letters of approval for Koolanooka MCP (March 2017) and Blue Hills (November 2016) (see Appendix 8).</p> |
| Implementation Strategy | 811:M14                             | Potential impacts from inappropriate and disputed environmental management measures prior to starting construction. | <p>Prior to ground disturbing activities, prepare a staged implementation strategy setting out management and monitoring strategies and objectives for meeting the requirements of conditions within Statement 811 for each mine site location (Koolanooka, Mungada West, Mungada East) to the satisfaction of the CEO</p>   | <p>An implementation strategy for Koolanooka was submitted to OEPA and DEC in December 2009 (prior to ground disturbance) addressing the stated criteria. The document was approved in January 2010.</p> <p>An implementation strategy was submitted for Mungada West and Mungada East in October 2012 (prior to ground disturbance). SMC is awaiting a response.</p>   | <p>OPEA letter of satisfaction provided for Koolanooka in December 2012.</p>   |

## 5.0 APPENDIX

### Appendix 1: Blue Hills Dust and Groundwater monitoring results

#### Blue Hills - Depositional Dust Monitoring Results

| 2014       | Result (g/m <sup>2</sup> /month) |      |      |      |      | Ave  |
|------------|----------------------------------|------|------|------|------|------|
|            | BHD1                             | BHD2 | BHD3 | BHD4 | BHD5 |      |
| 26/03/2014 | 3.5                              | 5.34 | 0.95 | 1.99 | 3.11 | 2.98 |
| 29/04/2014 | 3.85                             | 6.43 | 5.45 | 3.25 | 6.51 | 5.10 |
| 29/05/2014 | 3.52                             | 4.14 | 3.68 | 2.47 | 2.26 | 3.21 |
| 29/06/2014 | 1.55                             | 2.3  | 0.71 | 0.19 | 0.07 | 0.96 |
| 1/07/2014  | 5.53                             | 4.25 | 4.27 | 3.07 | 4.61 | 4.35 |
| Aug 14     | 2.23                             | 3.15 | 2.24 | 1.91 | 3.18 | 2.54 |
| Sep 14     | 4.08                             | 2.98 | 4.05 | 3.20 | 3.04 | 3.47 |
| 28/10/2014 | 1.50                             | 3.00 | 1.90 | 1.30 | 1.00 | 1.74 |
| 30/11/2014 | 0.20                             | 1.20 | 1.20 | 0.90 | 1.00 | 0.90 |
| 2015       | Result (g/m <sup>2</sup> /month) |      |      |      |      | Ave  |
| 4/01/2015  | 2.60                             | 6.80 | 1.90 | 2.00 | 3.60 | 3.38 |
| 24/02/2015 | 1.90                             | 5.50 | 0.80 | 1.00 | 1.00 | 2.04 |
| 31/03/2015 | 4.80                             | 4.90 | 3.30 | 2.80 | 3.10 | 3.78 |
| 28/04/2015 | 1.20                             | 1.60 | 1.00 | 1.10 | 1.40 | 1.26 |

#### Blue Hills - Groundwater Monitoring Results

| Date      | BHWB01    |           | BHWB02     |           | BHWB06     |           | MGW082     |           |
|-----------|-----------|-----------|------------|-----------|------------|-----------|------------|-----------|
|           | TDS (ppm) | Depth (m) | TDS (mg/L) | Depth (m) | TDS (mg/L) | Depth (m) | TDS (mg/L) | Depth (m) |
| 04-Apr-14 | 3,560     | 40.35     | 741        | 37.00     | 2,360      | 44.69     | 616        | 35.35     |
| 02-May-14 | 3,162     | 33.90     | 676        | 32.15     | 3,610      | 45.20     | 974        | 30.10     |
| 31-May-14 | 3,160     | 50.39     | 783        | 35.93     | 2.18       | 46.32     | 949        | 48.26     |
| 29-Jun-14 | 3,380     | 30.42     | 725        | 37.33     | 1,197      | 45.10     | 991        | 49.56     |
| 26-Jul-14 | 3,370     | 37.98     | 715        | 36.83     | 2,070      | 45.54     | 1,092      | 38.10     |
| 27-Aug-14 | 3,290     | 32.79     | 735        | 45.37     | 2,040      | 45.37     | 1,149      | 36.43     |
| 02-Oct-14 | 3,171     | 31.10     | 812        | 38.10     | 2,048      | 45.40     | 999        | 40.10     |
| 30-Oct-14 | 3,150     | 39.96     | 980        | 36.40     | 3,750      | 46.78     | 1,314      | 39.42     |
| 29-Nov-14 | 3,090     | 55.37     | 845        | 36.98     | 2,913      | 46.69     | 943        | 49.42     |
| 07-Jan-15 | 3,127     | 45.35     | 914        | 36.72     | 3,254      | 45.32     | 877        | 49.41     |
| 26-Feb-15 | 3,231     | 44.5      | 975        | 37.00     | 3,100      | 47.67     | 959        | 42.57     |

## **List of Appendix (on disc)**

**Appendix 2:** Blue Hills Vegetation Monitoring Report 2015

**Appendix 3:** BGPA Restoration Research Project Final Report, March 2017

**Appendix 4:** BGPA SMC Restoration Manual, March 2017

**Appendix 5:** Blue Hills and Koolanooka Rehabilitation and Erosion Monitoring Reports, 2015

**Appendix 6:** Photograph of TEC fencing and signage

**Appendix 7:** Photograph of covered trucks

**Appendix 8:** DMP letters of approval for Koolanooka and Blue Hills Mine Closure Plans

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