

HILLGROVE

RESOURCES

EPBC-ACT CONTROLLED ACTION

EPBC 2013/6965

**NATIVE VEGETATION MANAGEMENT PLAN
COMPLIANCE REPORT FOR THE**

KANMANTOO COPPER MINE EXTENSION

2018/ 2019 (Version 3)



Cover Picture – Mine Rd SEB-Offset Area: (175 Mine Rd); Mid-row areas highlighting native grass establishment following seeding in autumn 2018. Note growth of mid-story and canopy species on either side of the native grass sward highlighting *Eucalyptus odorata* vegetation community development since seeding in 2015. The 141 Mine Rd and 175 Mine Rd plantings now show landscape-scale conversion of cropping land into native vegetation communities with minimal weed competition.

<u>Table of Contents</u>	<u>Page Number</u>
Table of Contents	1
Definitions	2
1.1 Executive summary	3
1.2 Background	4
2.0 Table of conditions associated with Controlled Action EPBC 2013/6965	4
3.0 Details of compliance with EPBC 2013/6965 conditions	6
3.1 Peppermint Box clearance areas	6
3.2 Iron-grass clearance areas	6
3.3 Native Vegetation Management Plan submission	7
3.4 Security of SEB-Offset areas	8
3.5 Written evidence of compliance: SEB-Offset area establishment	9
3.6 Notification of commencement	11
3.7 Record keeping: Implementation of the Offset and NVMP	12
3.7.1 Item 1: Removal of grazing/ cropping	12
3.7.2 Item 2: Schedule offset programs	13
3.7.3 Item 3: Survey revegetation plots	29
3.7.4 Item 4: Install rabbit-proof fencing	31
3.7.5 Item 5: Source equipment and engage contractors	31
3.7.6 Item 6: Weed and feral animal control	31
3.7.7 Item 7: Investigative studies	32
3.7.8 Item 8: Enhancement of native vegetation	33
3.7.9 Item 9: Adjust boundaries	34
3.7.10 Item 10: Build up seed reserves	34
3.7.11 Item 11: Land preparation	36
3.7.12 Item 12: Planting programs	37
3.7.13 Item 13: Assess results and adjust methods	38
3.7.14 Item 14: Replanting program	40
3.7.15 Item 15: Establish heritage agreement	40
3.7.16 Item 16: Inspect and maintain fences	40
3.8 EPBC 2013/6965 Compliance Report	40
3.9 Participation in Audit (if required)	41
3.10 Approval for non-approved activities	42
3.11 Revision of NVMP	42
3.12 5-Year sunset date for commencement	42
3.13 Publication of Native Vegetation Management Plan	42
4.0 Conclusions	43

1.0 Definitions

Abbreviation	Definition
141 Mine Rd	Hillgrove-owned property & designated SEB-Offset area, 141 Mine Rd Kanmantoo SA 5252
<i>Acacia pycnantha</i> (<i>A. pycnantha</i>)	Open woodland community dominated by <i>Acacia pycnantha</i>
ADEE	Australian Department of the Environment and Energy
Botanic Gardens	South Australian Seed Conservation Centre, Botanic Gardens of Adelaide
BushRAT	Bushland Rapid Assessment Technique/ DEWNR SA
CD	Compact Disk
CEO	Hillgrove's Chief Executive Officer, Mr Steven McClare
DEM	Department for Energy and Mining SA
DEWNR	Department of Environment, Water and Natural Resources, SA
DSD	Department of State Development, South Australia
DPC	Department of Premier and Cabinet, South Australia
EBS Ecology	Fauna and Flora Consultancy division of the EBS Group, Adelaide SA
EBS Restoration	Ecological restoration division of the EBS Group, Adelaide SA
EM	Hillgrove's Environment Manager (Ms Catherine Davis)
EPBC 2013/6965	Approval granted to disturb vegetation under provisions of the EPBC Act
EPBC Act	Ecosystem and Biodiversity Conservation Act (1999)
<i>Eucalyptus odorata</i> (<i>E. odorata</i>) Ferguson's	Critically endangered grassy woodland community dominated by <i>Eucalyptus odorata</i> Hillgrove-owned property & designated SEB-Offset area, adjacent to Mine Rd Kanmantoo SA 5252
Hillgrove	Hillgrove Resources Ltd/ Hillgrove Copper Pty Ltd
KCM	Kanmantoo Copper Mine
LFA	Landscape Function Analysis/ Ludwig & Tongway (1997)
<i>Lomandra effusa</i> (<i>L. effusa</i>)	Critically endangered natural temperate grassland vegetation community dominated by <i>Lomandra effusa</i>
LOM-Extension Lot 25	Life of Mine Extension Hillgrove-owned property & designated SEB-Offset area, adjacent to Mine Rd Kanmantoo SA 5252
ML	Mining Lease 6345
Mulawa	Hillgrove-owned property & designated SEB-Offset area, 175 Mine Rd Kanmantoo SA 5252
NRM Act	Natural Resources Management Act 2004 (SA)
NVMP	Native Vegetation Management Plan
PEPR	Program for Environmental Protection and Rehabilitation
SA	South Australia
SEB x:1	A native vegetation condition rating for SEB-Offset purposes
SEB-Offset	Significant Environmental Benefit - Offset. New vegetation areas established to offset clearance.
SMA	Seed Multiplication Area/ 5ha seed multiplication plot
SPA	Seed Production Area/ 1ha intensive seed farm

1.1 Executive Summary

This compliance report describes our progress against the approval conditions listed in EPBC 2013/6965 during the 2018-2019 reporting period from 01Sep18 to 31Aug19. Please refer to our 2014/2015, 2015/2016, 2016/2017 and 2017/2018 EPBC compliance reports for details relating to approval conditions discharged in previous reporting periods. Previous compliance reports can be accessed via the following link;

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to...

- **2015 EPBC Act Compliance Report**
- **2016 EPBC Act Compliance Report**
- **2017 EPBC Act Compliance Report** or
- **2018 EPBC Act Compliance Report** then click to download

Hillgrove Resources have worked towards complying with the approval granted by EPBC 2013/6965. During the 2018/2019 reporting period, Hillgrove consolidated the topsoil pre-stripping and direct seeding carried out on approximately 10.15ha of the Mine Rd areas commenced in April 2018. This brings the total area of SEB-offset commenced at Mine Rd to 20.3ha since April 2015, including the rehabilitation and direct seeding of an gully-erosion channel and direct seeding of the headlands associated with the topsoil pre-strip rows.

Topsoil pre-stripping and direct seeding was also consolidated on new land areas totalling 13.35ha at 'Lot 25' and 'Ferguson's'. Topsoil pre-stripping and direct seeding was completed on approximately half of the available land area at Ferguson's/Lot 25, or 6.7ha of these new blocks in April 2018. The total area of EPBC SEB-offset commenced at all sites by the end of the 2018/2019 reporting period is approximately 27ha. A further 152 *Diuris behrii* orchids and 6,250 *Lomandra effusa* seedlings were also planted at various locations with the Mine Rd SEB-offsets and within the ML.

Seed production programs and wild-seed seed collection programs continued. Adequate seed supplies were available for approximately 17ha of rehabilitation hydroseeding within the ML during 2019 (this was ML rehabilitation and does not relate to EPBC 2013/6365). Approximately 431kg of native seed was harvested dried and packaged during this reporting period. Poor winter rainfall impacted the overall volume of seed which was harvested in 2018/ 2019.

External/commercial seed supplies were either unavailable or in very short supply during this reporting period. The extent to which native grass seed became available from the new Mine Rd/ Ferguson's/ Lot 25 SEB-Offset areas in spring/summer 2019 will be reported in the 2019/2020 EPBC compliance report.

Our SEB-offset establishment program during 2019 was constrained by seed availability and the relatively large area of hydroseeding to be completed within the ML during 2019. Our revised NVMP will address this and will present a revised SEB-offset program for consideration. We will have sufficient land available for a 1:1 exchange of land assigned for the creation of SEB-offset areas within Hillgrove-owned properties from the 'old NVMP to a new NVMP'. This land is adjacent to the ML and is well suited to the topsoil pre-strip method of SEB-offset establishment.

1.2 Background

The Kanmantoo Copper Mine (ML6345) is located approximately 45km SE of Adelaide, near the townships of Kanmantoo and Callington. The 440 ha mining lease (ML) is on the eastern side of the Mt Lofty ranges, within a 425mm rainfall zone. The Kanmantoo Copper Mine (KCM) is operated by Hillgrove Copper Pty Ltd. The current mining operation is the third cycle of mining

on-site since the 1850's. The ML contains a range of remnant native vegetation, including stands of Peppermint Box (*Eucalyptus odorata*) grassy woodland of South Australia and Iron-grass (*Lomandra effusa*) Natural Temperate Grassland of South Australia, both of which are listed as critically endangered under the EPBC Act (1999). The ML's vegetation has been significantly altered by more than 150-years of agriculture and mining; however, remnant stands of native vegetation can be found within the ML, varying in condition from SEB-Offset classes of 2:1 to 8:1 in some areas. Clearance of 1.8ha of Peppermint Box woodland and 3.4ha of Iron-grass grassland was required to allow extension of mining activities until 2019 under the *Life of Mine Extension proposal*, ('the LOM Extension').

The LOM Extension was approved under a revised Program for Environmental Protection and Rehabilitation (PEPR), regulated by the South Australian Department for Energy and Mining, or DEM (formerly Department of Premier & Cabinet SA) (DPC), and prior to that, Department of State Development (DSD), henceforth the 'Regulator'. Both clearances were deemed 'controlled actions' under the EPBC Act, requiring approval by the Australian Department of the Environment and Energy (ADEE) before the LOM Extension PEPR could be approved by the Regulator. An NVMP was written to encompass the controlled actions associated with the LOM Extension. The NVMP was subsequently approved by the ADEE and permission to proceed with both controlled actions was granted by the ADEE under the conditions outlined in the approval document for this action Ref: EPBC 2013/6965 dated 6th May 2014. Both controlled actions subsequently commenced on 11Sep14, with due notice given to the ADEE and the Regulator.

This document is an annual compliance report demonstrating that the controlled actions have been carried out within the 13 conditions attached to EPBC 2013/6965 and that progress has been made against the delivery of SEB-offsets required by EPBC 2013/6965. This year's report has been revised at the request of ADEE to include information not provided in the original version. The original version was published as close as possible to 'within 3-months of every 12-month anniversary of the commencement of the action', as required by the approval granted on 06May14.

2.0 Conditions associated with Controlled Action EPBC 2013/6965

The following table lists the conditions applied to Controlled Action EPBC 2013/6965 and Hillgrove's compliance with each condition. Details associated with Hillgrove's actions relating to each condition during the period from 11Sep18 to 10Sep19 are presented in section 3 (below).

Condition No.	Conditions applied to the approval of EPBC 2013/6965	Compliance with condition (✓ or X)
1	The person undertaking the action must not clear more than 1.8ha of the ecological community <i>Peppermint Box Grassy Woodland</i> of South Australia within ML 6345	✓ (See 3.1, below)
2	The person undertaking the action must not clear more than 3.4 ha of the ecological community <i>Iron-grass Natural Temperate Grassland of South Australia</i> within ML 6345	✓ (See 3.2, below)
Condition No.	Conditions applied to the approval of EPBC 2013/6965	Compliance with condition (✓ or X)
3	The person taking the action must prepare and submit a Kanmantoo Copper Mine Native Vegetation Management Plan (NVMP) for the Minister's written approval prior to commencing the action. The NVMP must include the following;	✓

3a	Management actions are undertaken to improve the ecological quality of Peppermint Box and Iron-grass communities within ML6345 and offset lands and protect (them) from degradation for the duration of the action	✓
3b	Regeneration and revegetation strategies implemented for Peppermint Box and Iron-grass communities within the proposed SEB-Offset areas to improve the ecological quality of these areas	✓
3c	An ecological monitoring program is undertaken to monitor success of management actions within the NVMP and define measurable targets of management actions, performance indicators and adaptive management framework for the duration of the action's impact	✓
4	To compensate for the loss of 1.8ha of <i>Peppermint Box</i> and 3.4ha of <i>Iron-grass</i> communities, the person taking the action must secure the lands identified as the SEB-Offset Areas... as a conservation offset	✓
5	The person taking the action must provide written evidence to the Department of their compliance with Condition 4... to clearly define the location and boundaries of the offset sites prior to the commencement of the action	✓
6	Within 30-days after the commencement of the action, the person taking the action must advise the Department in writing of the actual date of commencement	✓
7	The person taking the action must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval... and make them available upon request to the Department	✓ Agreed/ Ongoing record keeping is undertaken
8	Within 3-months of every 12-month anniversary of the commencement of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval	✓ Report published by 09Dec19
9	Upon direction of the Minister, the person taking the action must ensure that an independent audit of compliance is conducted and a report submitted to the Minister	✓ Agreed. No audit yet requested
10	If the person undertaking the action wishes to carry out any activity otherwise than in accordance with the NVMP as specified in the conditions, the person taking the action must submit to the Department for the Minister's written approval a revised version of the NVMP	✓ Agreed. No unapproved activities undertaken as of 11Sep19
11	If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the Minister may request that the person taking the action make specified revisions to the NVMP and submit the revised NVMP for the Minister's written approval	✓ Agreed. No request received as of 11Sep19
12	If at any time after 5-years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the Minister	✓ Agreed. The action was commenced on 11Sep14

Condition No.	Conditions applied to the approval of EPBC 2013/6965	Compliance with condition (✓ or X)
13	Unless otherwise agreed to in writing by the Minister, the person taking the action must publish the NVMP referred to in these conditions of approval on their website. The NVMP must be published on the website within 1-month of being approved. The NVMP must remain on their website for the life of the action.	✓ Published on Hillgrove's web page

3.0 Details of compliance with EPBC 2013/6965 conditions

Details of Hillgrove's compliance with each condition associated with EPBC 2013/6965 can be summarised as follows: (Figure 1, below, illustrates extent of clearance as of 01Jan15)

3.1 Peppermint Box clearance areas

In accordance with the approved NVMP, no more than 1.8ha of *Peppermint Box* (*Eucalyptus odorata*) *Grassy Woodland* of South Australia was cleared within ML 6345 between the commencement date of 11Sep14 and the 1st anniversary of commencement on 11Sep15.

3.2 Iron-grass clearance areas

In accordance with the approved NVMP, no more than 3.4ha of 8:1 *Iron grass Natural Temperate Grassland* of South Australia and 1.01ha of 6:1 and 4:1 *Iron grass Natural Temperate Grassland* of South Australia was been cleared within ML 6345 between the commencement date of 11Sep14 and the 1st anniversary of commencement on 11Sep15. Precise areas of *Iron grass Natural Temperate Grassland* of South Australia cleared within ML 6345 after 11Sep14' are highlighted by Figure 2, below



Figure 1: PEPR-Approved clearance limit

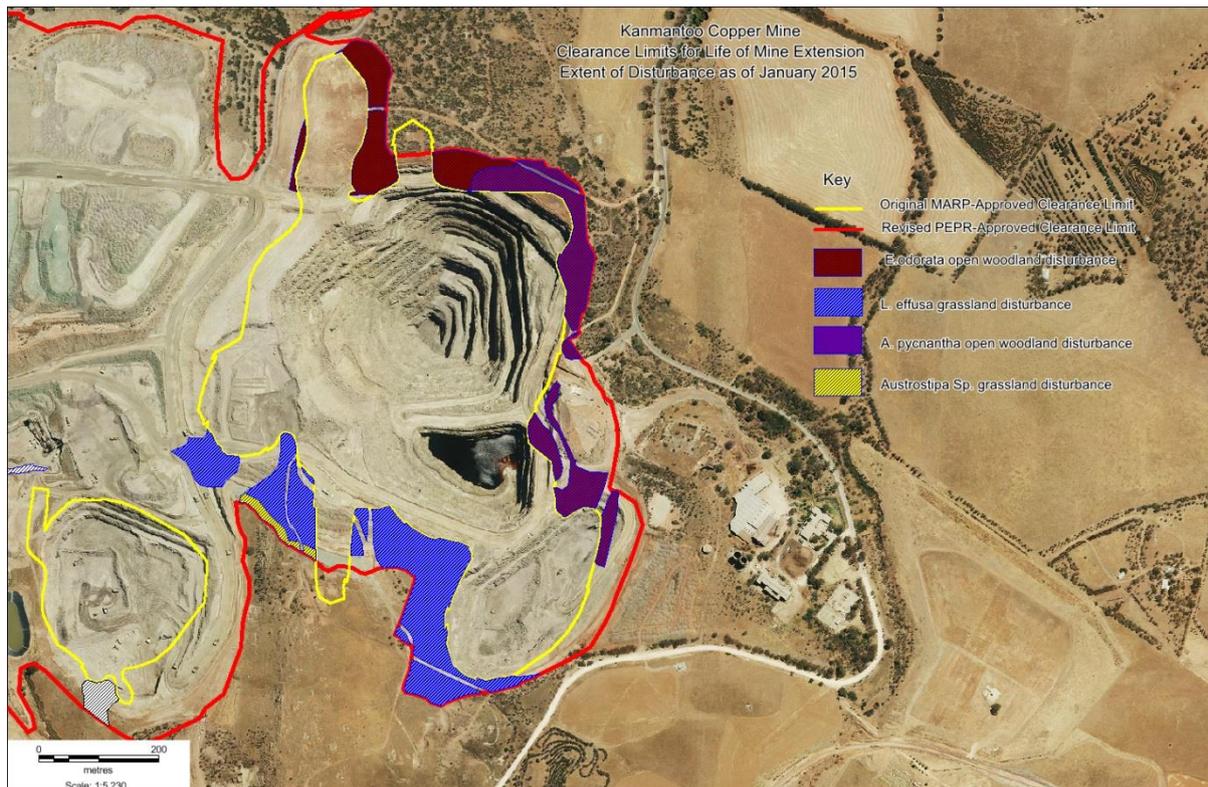


Figure 2: Disturbance of vegetation communities as of January 2015

3.3 Native Vegetation Management Plan Submission

A Native Vegetation Management Plan (NVMP) was written to address the disturbance of vegetation communities and provision of SEB-Offsets associated with the controlled actions approved by EPBC 2013/6965. Hillgrove's NVMP for controlled action EPBC 2013/6965 was approved on the 6th of May 2013. . It specifically addresses the following approval conditions:

- 3a. Management actions designed to improve the ecological quality of Peppermint Box grassy woodland and Iron-grass natural temperate grassland and offset lands for the duration of the action
- 3b. Regeneration and revegetation strategies for Peppermint Box woodland and Iron-grass natural temperate grassland within the proposed 'SEB-Offset areas' to improve the ecological quality of these areas
- 3c. An ecological monitoring program to monitor the success of the management actions in the NVMP and define measurable targets of management actions, performance indicators and an adaptive management framework for the duration of the action's impact on Peppermint Box grassy woodland and Iron-grass natural temperate grassland

The NVMP was approved and has been posted on the internet at the following internet address:

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation'. Navigate to 'PEPR Appendices Vol 3' and click to download...Open the downloaded document...

The NVMP is located under 'Appendix 9b Native Vegetation Management Plan 2014' and extends from page 147 to 213.

The approved NVMP will continue to be available via the Hillgrove web page for the life of the Action.

3.4 Security of SEB-Offset areas

The areas of Peppermint Box grassy woodland and Iron Grass natural temperate grassland disturbance approved under EPBC 2013/6965 are illustrated in Figure 2, above. SEB-offsets for this action are illustrated in Figure 3, below.

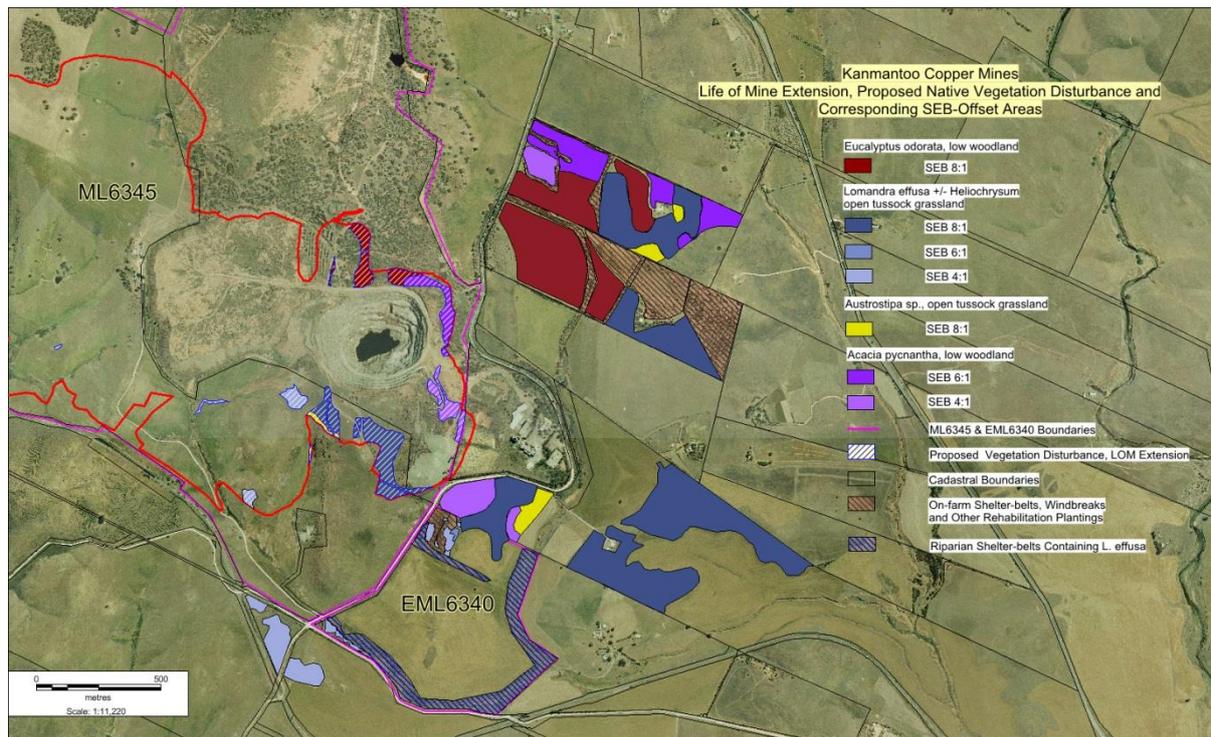


Figure 3: Approved disturbance areas and approved SEB-Offsets associated with action EPBC 2013/6965

All SEB-Offsets are located directly adjacent to the Kanmantoo Copper Mine on Hillgrove-owned properties. Hillgrove has quarantined the SEB-Offset areas from future development and has designated them as 'SEB-Offset blocks' to the exclusion of all other activities. Details of the land titles associated with each land parcel and the SEB-Offsets assigned to each patch are described below and in the NVMP on p30, 'Table 3', and in Figure 4, below.

Property Name	Parcel ID : Title ID & (Owner)	Allocated Offset Patches (ref NVMP)	Offset Types
141 Mine Rd	F160800 A61 : CT5548/435 (Hillgrove)	38, 39, 40, 41, 42, 43, 44, 45, 46, 47	E. odorata (8:1), L. effusa (8:1), Austrostipa (8:1), A. pycnantha (6:1 & 4:1)
Mulawa	F1636 A1 : CT5516/79 (Hillgrove)	48, 49, 50	E. odorata (8:1), L. effusa (8:1)

Property Name	Parcel ID : Title ID & (Owner)	Allocated Offset Patches (ref NVMP)	Offset Types
Ferguson	D80644 A21 : CT5863/768 (Hillgrove)	51, 55	L. effusa (8:1)
Lot 25 Back-Callington Rd/ Éclair Mine Rd (Carmen's East)	D60948 A25 : CT5892/419 (Hillgrove) D4767 A4 : CT5552/582 (Hillgrove) and D30934 Q1 : CT5366/650 (Hillgrove)	52, 53, 54, 56, 57, 58, 62 59, 60, 61	L. effusa (8:1, 6:1 & 4:1), Austrostipa (8:1) L. effusa (4:1)

Figure 4: Hillgrove-owned properties and their assigned SEB-Offsets

Hillgrove intends to establish the designated SEB-Offset areas as conservation areas protected under Heritage Agreements (or similar), as stated in the NVMP on p31. This has not occurred as Hillgrove will seek approval to move our SEB-offset establishment onto equivalent areas of remnant vegetation or other owned by Hillgrove, under a revised NVMP to be submitted for approval or seek payment into a fund when such an instrument is developed as part of the current review of the Act.

As of the 11th of September 2014 onwards, conventional farming operations have been modified or progressively withdrawn from the SEB-Offset areas highlighted above. Note the Google Earth image in Figure 5 (below), dated November 2018, illustrating that SEB-Offset work has commenced on '141 Mine Rd' and 'Mulawa', and the Google Earth image in Figure 6 (below) dated November 2018, illustrating that SEB-Offset works have commenced on the patches labelled Ferguson's/Lot 25 and Lot 25 .

3.5 Written evidence of compliance: SEB-Offset area establishment

2018/ 2019 Reporting Period

The Google Earth image in Figure 5, below, illustrates the completion of topsoil pre-stripping and direct seeding in the Mine Rd SEB-Offset areas designated in the NVMP as patches 38, 39, 40,41,48 and 49 on 141 Mine Rd and Mulawa. The combined areas within both blocks (including headlands and a rehabilitated gully erosion feature) total approximately 20.3ha.



Figure 5: SEB-Offset completion of sowing at 141 Mine Rd and Mulawa – November 2018 image

Note the red-brown strips within the yellow highlighted blocks in Figure 5, which demonstrate that topsoil has been pre-stripped and direct-seeded between the adjacent 2015 direct-seeded rows. An erosion gully, previously running through 141 Mine Rd was rehabilitated, formed into a broad gently-sloping grassed waterway and direct-seeded with native plant species as a component of the topsoil pre-stripping operation in April/May 2018.

Both 141 Mine Rd and Mulawa have been extensively maintained since 2015, with mowing, selective brushcutting, selective weed spraying, hand weeding, tube-stock planting and slashing for fire risk reduction being among the many activities undertaken.

The Google Earth image in Figure 6, also illustrates that SEB-Offset works have commenced on the patches labelled Ferguson's/Lot 25 and Lot 25. The total area of new SEB-offsets commenced on Ferguson's/ Lot 25 in 2018 was approximately 6.68ha or approximately half of the available area of 13.35ha.

All areas have been intensively managed and maintained during the 2018/2019 reporting period, however, further planting of the inter-row strips at Ferguson's Lot 25 or in other new areas did not continue as planned in autumn 2019, due to a combination of commercial restrictions and seasonal constraints.

Details of work completed during this reporting period is summarised by the 2019 EBS Progress report, which can be accessed and viewed via the following link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to the following document; '2019 EBS Annual Report.pdf' , Click to download...



Figure 6 GE Image November 2018, SEB Offset Commencement on Ferguson's & Lot 25. Note the red/brown strips, which have been pre-stripped, ripped and direct seeded with native seed mixes.

3.6 Notification of commencement

As reported previously, notification of commencement of the action covered by EPBC 2013/6965 on 11th September 2014 was forwarded to Justin Williams by Catherine Davis on the 9th of October 2014 as per the following email...

From: Catherine Davis [mailto:catherine.davis@hillgroveresources.com.au]
Sent: Thursday, 9 October 2014 6:41 PM
To: Williams, Justin
Subject: RE: EPBC 2013/6965 : final approval decision [SEC=UNCLASSIFIED]

Dear Justin,

In accordance with the conditions of referral EPBC 2013/6965

6. **Within 30 days after the commencement of the action, the person taking the action must advise the Department in writing of the actual date of commencement.**

We wish to notify the department of commencement of the action to clear Native Vegetation for the purpose of expansion of the mine pit occurred 11th September 2014.

Regards,

HILLGROVE RESOURCES Catherine Davis | Environment Manager | Kanmantoo Copper Mine
 Éclair Mine Road (cnr Back Callington Road), Kanmantoo SA 5252
 W hillgroveresources.com.au | T 08 8538 6800 | F 08 8538 5255 | M 0408 396 964

Confirmation of notification receipt by Justin was forwarded to Catherine on the 10th of October 2014 as per the following email...

From: Williams, Justin [mailto:Justin.Williams@environment.gov.au]
Sent: Friday, 10 October 2014 8:17 AM
To: Catherine Davis
Cc: Strike, Kelly
Subject: FW: EPBC 2013/6965 : final approval decision [SEC=UNCLASSIFIED]

Hi Catherine,

I have forwarded the information to the post approval officer responsible for your project.

Action Officer: Kelly Strike
AWD Section: Approval Monitoring South

Regards,

Justin Williams
Assessment Officer
South West Section
West Assessment Branch
Department of the Environment
GPO Box 787 Canberra, ACT 2601
Phone: 02 6275 9492
justin.williams@environment.gov.au
<http://www.environment.gov.au/epbc/index.html>



3.7 Record keeping: Implementation of the Offset and NVMP

Hillgrove maintains a range of records associated with delivery of the outcomes required by our NVMP and the conditions associated with EPBC 2013/6965. A range of preparatory activities and studies have been undertaken by Hillgrove as previously reported in the 2014/2015, 2015/2016 and 2016/2017 EPBC compliance reports. Details of activities undertaken, studies completed and records of progress under the NVMP are documented in this compliance report and the reports posted on Hillgrove's Web Page.

Documentary evidence of progress on actions specified by the NVMP for Year 1 to year 5 (11Sep14 to 11Sep19) is as follows:

3.7.1 Item 1; 'Removal of grazing/cropping pressure – summer 2014 to spring 2019'

A map highlighting land management limitations for the 2018/19 reporting period was provided to our share farmers in autumn 2018 (see Figure 7, below). The same instructions and map were provided to our share farmers before the commencement of cropping activities in 2019. Instructions to our sharefarmers will be amended in future years as the area of cropping land used to progressively establish SEB-offsets is expanded.

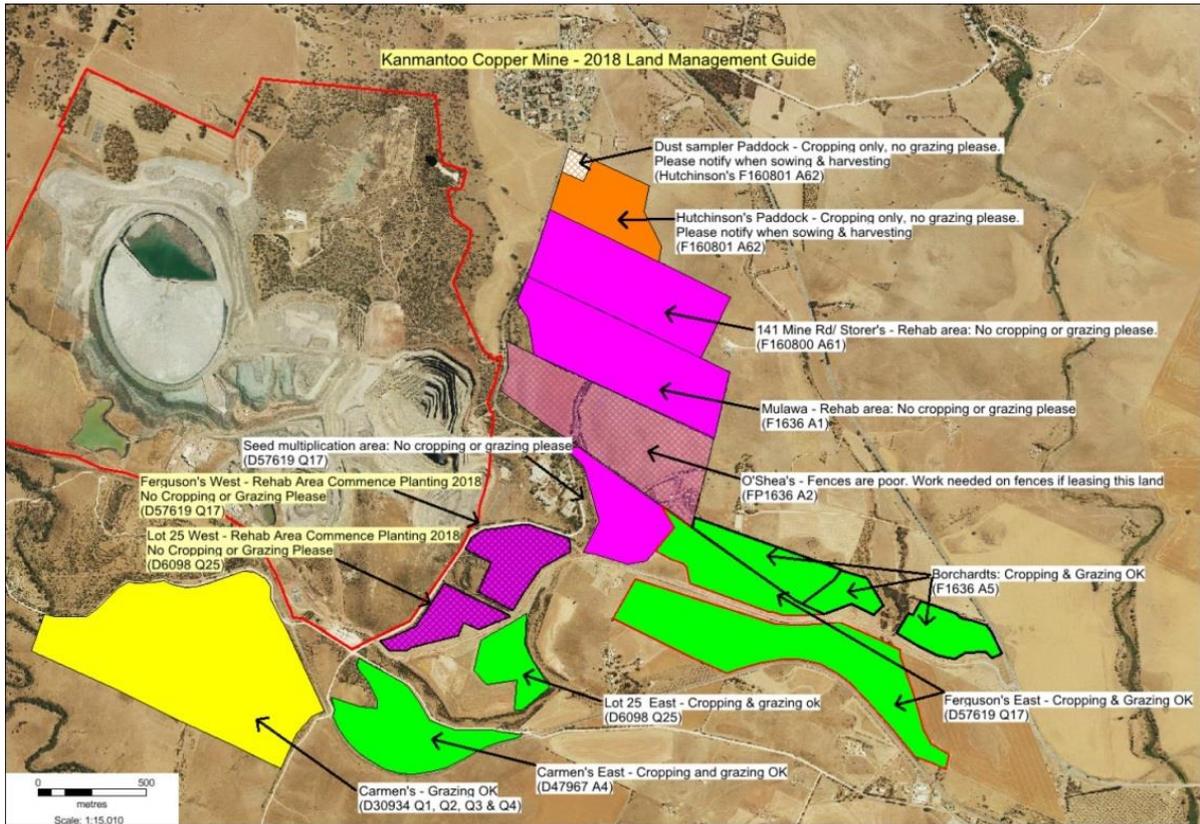


Figure 7: Hillgrove’s Land management instructions to our share-farmer, autumn 2018/ autumn 2019.

3.7.2 Item 2: Schedule offset programs

A program of progressive SEB-Offset commencements associated with our initial ML conditions and EPBC 2013/6965, coincides with the scheduled completion of mine landforms in accordance with the Mine Plan and the projected availability of local-provenance native seed for hydroseeding and direct seeding.

The following map illustrates the projected total area of mine landform rehabilitation and SEB-offset commencements proposed between 2015 and 2020. These areas are collectively associated with our initial ML approval and the NVMP approved by EPBC 2013/6965. Please note that the schedule originally presented in our NVMP has changed due to operational constraints and will not be achieved. This will require review and resubmission of our NVMP.

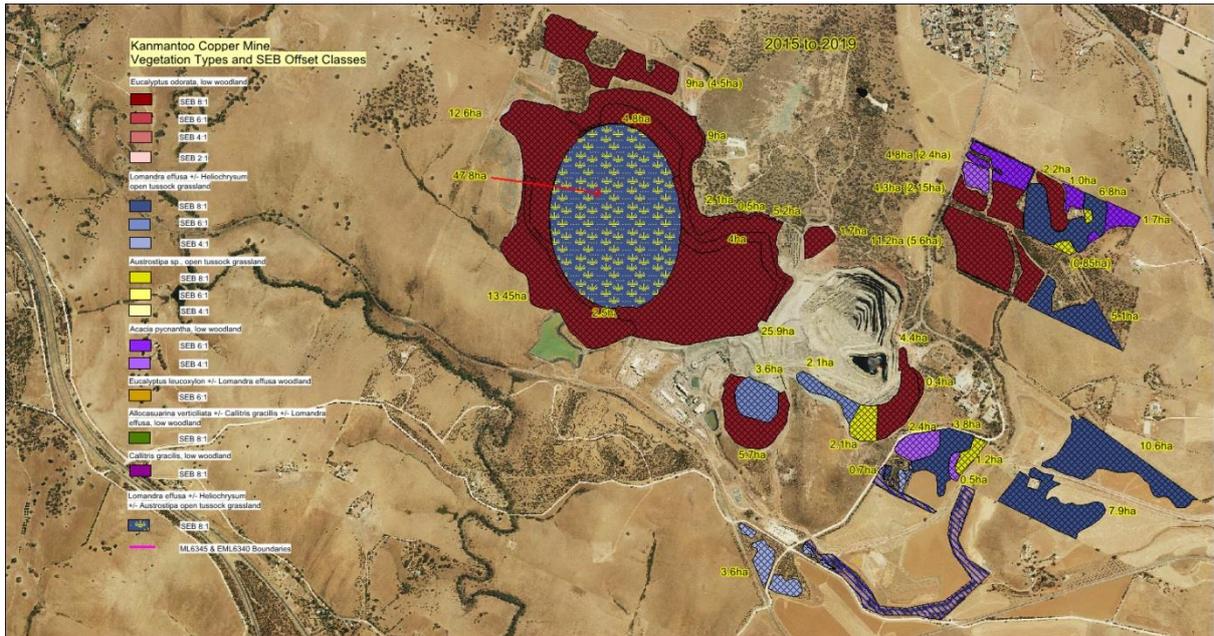


Figure 8: Projected cumulative area of Mine rehabilitation and SEB-Offset program commencements, 2015 to 2020.

Figure 9 (below), illustrates the areas within the ML and outside the ML where rehabilitation and delivery of SEB-offsets were commenced by September 2018.

*Please note: It is becoming increasingly apparent that the planned schedule of SEB-offset commencements to be delivered by our NVMP by 2019 have become unachievable and a revision of our NVMP for EPBC 2013/6965 will be necessary. Regulators will be formally notified of this change and a request to vary our NVMP will be submitted for consideration to the ADEE and SA DEM **as soon as possible.***

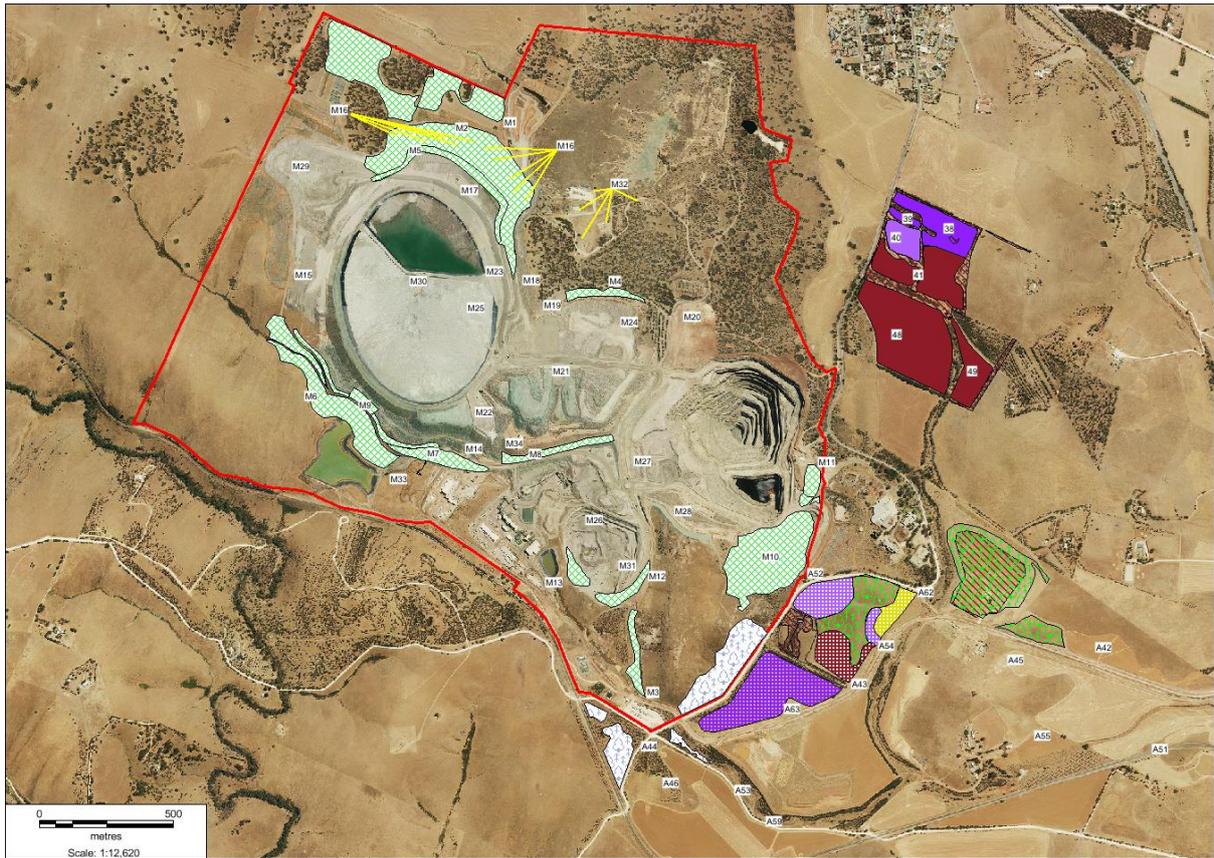


Figure 10: Mine rehabilitation and SEB-Offset program: Summary of Areas Commenced by September 2018.

Summary of Progress on delivery of SEB Offsets approved by EPBC 2013/6965

2018/ 2019 Reporting Period

Unfortunately, a combination of operational constraints did not allow our mine rehabilitation and EPBC SEB-offset programs to proceed as planned during the 2018/2019 reporting period.

Progress during this reporting period was highlighted by the consolidation of vegetation establishment in the areas of 141 Mine Rd, Mulawa, Ferguson's/Lot 25 & Lot 25. Approximately 27ha of EPBC SEB-offsets have now been commenced under EPBC 2013/6965.

Intensive weed control and land management programs continued on all EPBC SEB-offsets commenced to date. This acted to reduce weed competition and weed seed-set through precision-brushcutting, spot-spraying, hand weeding and selective boom spraying. Careful mowing and selective boom-spraying of the strips sown in 2018 also reduced seed set and competition by remnant grassy weeds. Tractor-slashing and selective spraying of the direct-seeded headlands and rehabilitated erosion channel also reduced weed competition and assisted native grass establishment.

Progress towards ensuring seed reserve capacity for future SEB-offset establishment programs continued during this reporting period. Spring/summer 2018-2019 provided significant quantities mixed *Rytidosperma* and *Austrostipa* seed from maturing native grass swards at Mine Rd, in addition to seed harvested from our SPA and SMA. Significant quantities of mixed grass seed were also harvested during this reporting period from the areas sown on Ferguson's/ Lot 25 during 2018-2019. Seed from these areas was collected using hand-propelled 'grass grabbers' and a large ATV-mounted grass grabber. Seed from diverse range of local species was also collected by our wild-seed collection program from the ML and near-mine region.

The following table illustrates work conducted within all aspects of our SEB-offset program by EBS-Restoration and Hillgrove staff during the 2018/2019 reporting period. Approximately 470 person-days of input was required to execute the 2018/2019 SEB-offset program (note table in Figure 11, below)... This work also included weed control and other vegetation enhancement activities undertaken in remnant Peppermint Box and Iron-grass vegetation areas within the ML.

Kanmantoo Copper Mine												
EBS Day Sheet Records: 01Sep18 to 31Aug19												
SEB-Offset Establishment and Maintenance Activities												
(Includes 'Woodland Enhancement' work on ML)												
Task & Location	Month & Year x Hours per Task											
	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19
Admin (office), Meetings, Inductions, returns,		2	2		4		2		8			2
Boom spray / SEB Maintenance Mine Rd (38,40,41,48,49)				4		12		8			40	
Boom Spray SMA	8										16	12
Boom spray/ SEB Maint. Fergs				2		7					12	
Boom Spray/ SEB Maint. Lot 25 (A63)				2		12					20	
Brush cut SMA		8										
Brush cut/ spot spray Lot 25 (A63)					4					24		24
Brush cut/spot spray Mine Rd areas		48			4							16
Bushcare/ Woodland areas											92	
Cut/swab woody weeds/ Mine Rd (48)						2						
Property management (weed control/ fence repairs etc)											24	32
Report writing/ Annual progress report	8											16
SEB Maintenance / Mine Rd (38, 39, 40, 41, 48, 49)			64	12			24	28	84	128	93	56
SEB Maintenance in Lomandra Paddock (Car E/BC Rd)	28		32	14			24	56		8		16
SEB Maintenance/ Ferguson's/ A52, A43			42	12		4	4	16	36	56	8	
SEB Maintenance/ Lot 25 (A63)			14	24			4	12	24			
Seed collection		12	304	19	216	76	84	112	68	12	24	
Seed processing/ cleaning/ batching/ transport		6	14	56	28	136	10	50	24			12
SMA Maintenance			8	12			20	8	24	40	20	8
SPA maintenance	16	88		2	8			34	176		32	32
Spot spray & brush cut SMA	12	16	4								24	6
Spot spray & brush cut SPA		12										
Spot Spray Ferguson's (A43, A52, A54, A62)		4				8	16				8	4
Spot Spray Lot 25 (A63)							20				8	36
Spot spray Mine Rd (38, 39, 40, 41, 48, 49)		16				16					60	64
Spot spray thistles/ McFarlane's Hill	48											
Tractor Slash fire breaks, roadways and block perimeters		8					11					
Tractor slash mid-rows Ferg's (A43, A52, A62, A54)	16	8										6
Tractor slash Lot 25 (A63)	16	16										8
Tractor slash Mine Rd SEB	4	24						4				
Tractor slash SMA	16	8	8									16
Tractor slash SPA & surrounds	4	16										
Totals (hours/month)	176	292	492	159	264	273	219	328	444	268	481	366
% of Total Effort by Month	4.7%	7.8%	13.1%	4.2%	7.0%	7.3%	5.8%	8.7%	11.8%	7.1%	12.8%	9.7%
Total Hours (Sep18 to Aug19)	3762											
Total Days (Sep18 to Aug19)	470.25											

Figure 11: Table summarising the 2018/2019 SEB-offset work program by EBS

Detail of progress by EBS during this reporting period is summarised by the EBS annual Report. This report can be accessed from the Hillgrove web page via the following link;

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to the following document;

'2019 EBS Annual Report.pdf'

Click to download...

Pictorial record of SEB-Offset establishment on assigned SEB-Offset areas

The following photographs document the progress of SEB-offset establishment on the Mine Rd offset areas since commencement in 2015 and document the development of new SEB-offset areas at Ferguson's and Lot 25 commenced in 2018.

SEB-Offset establishment on assigned SEB-Offset areas... 141 Mine Rd



Figure 12: 141 Mine Rd, SW Corner; April 2015, following crop residue removal by grazing and prior to preparation for direct seeding



Figure 12A: 141 Mine Rd, SW Corner; November 2018. Note the emergence of canopy and mid-story species from the strips which were direct-seeded in 2015 and the completion of topsoil pre-strip/ direct seeding on weedy pasture inter-rows



Figure 12B: 141 Mine Rd, SW Corner; November 2019.

Mine RD Blocks, (Continued): – ‘Mulawa’ NE Corner of the ‘main block’



Figure 13: ‘Mulawa’, April 2015. Photograph was taken following removal of cropping residues by grazing and prior to preparation for direct seeding.



Figure 13A: ‘Mulawa’ NW Corner, November 2018. Photograph was taken following 3-years of managing the initial rows, which were topsoil pre-stripped and direct seeded in 2015 and completion of the remaining topsoil pre-stripping and direct-seeding rows in May 2018.



Figure 13B: 'Mulawa' NW Corner, May 2020.

Mine RD Blocks, (Continued): – 'Mulawa' SW Corner of the 'main block'



Figure14: Mulawa SW Corner, main paddock: October 2016, growth of direct seeded strips.



Figure 14A: Mulawa SW Corner, Main Paddock, November 2018



Figure 14B: Mulawa SW Corner, Main Paddock, May 2020

Mine RD Blocks, (Continued): – ‘141 Mine Rd’ Central



Figure 15: 141 Mine Rd Central; Native grass establishment, November 2015



Figure 15A: 141 Mine Rd Central; Canopy and mid-story establishment, November 2018



Figure 15B: 141 Mine Rd Central, May 2020

Mine RD Blocks, (Continued): – ‘Mulawa’ NW Corner of the ‘main block’



Figure 16: Mulawa, NW Corner; November 2015, Grass establishment following direct seeding



Figure 16A: Mulawa, NW Corner; November 2018, note growth of canopy and mid-story species and completion of topsoil pre-stripping and direct seeding on adjacent rows.



Figure 16B: 175 Mine Rd – Spring 2019

Commencement of new SEB-offset provision at Ferguson's and Lot 25 during April 2018



Figure 17: Ferguson's, lower block looking SW – November 2018



Figure 17A: Ferguson's, lower block looking SW – May 2020



Figure 18: Ferguson's, upper block looking NE – November 2018



Figure 18A: Ferguson's upper block looking NE – May 2020. Note establishment of native grass and broad-leaved species in the foreground



Figure 19: Ferguson's/Lot 25 - November 2018 (note green seedlings indicating strong native grass establishment in the foreground)



Figure 19A: Ferguson's/Lot 25 in spring 2019 – Note strong native grass establishment



Figure 19B: Ferguson's/Lot 25 , May 2020



Figure 20: Lot 25 – November 2018



Figure 20A: Lot 25, highlighting native grass sward establishment – spring 2019

3.7.3 Item 3; Survey of revegetation plots

As reported previously, vegetation surveys and fauna surveys were conducted on the SEB-Offset patches after commencement of the action covered by EPBC 2013/6965. See previous compliance reports for details...

2018/2019 Reporting Period

EBS conducted a fauna survey of the ML and Mine Rd SEB-offset areas during late September 2018 . The 2019 fauna survey occurred in late September 2019 and will be included in the 2019/2020 EPBC Compliance Report.

This 2018 fauna survey report can be downloaded by visiting the following link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension. Navigate down the page to 'Extension Documentation', then Navigate to the following document;

2018 Kanmantoo Mine Fauna Survey.pdf

The 2018 fauna survey Executive Summary is as follows...

EXECUTIVE SUMMARY

EBS Ecology (EBS) has been engaged by Hillgrove Resources since 2011 to conduct an annual fauna monitoring program over the Kanmantoo Copper (Kanmantoo Mine) Mining Lease (ML). The fauna monitoring program was undertaken in accordance with the conditions and outcomes required in Program for Environment Protection and Rehabilitation (PEPR) for Kanmantoo Mine. As such, there must be no net adverse impacts on native fauna abundance or diversity in the ML and in adjacent areas.

The fauna monitoring program aimed to determine whether Kanmantoo Mine had met its conditions and outcomes detailed in the PEPR by:

- Conducting roaming transect surveys to record the abundance and diversity of birds;
- Performing targeted spotlighting surveys to record the abundance of Common Brush-tailed Possums (*Trichosurus vulpecula*) as well as other nocturnal fauna; and
- Opportunistically recording all other fauna species encountered within the Project area.

The 2018 bird surveys recorded a total of 700 birds from 56 species over the Project area. This included five State threatened species, including the State rare Restless Flycatcher (*Myiagra inquieta*), which had not previously been recorded in the Project area. In 2018, species richness was the second highest on record at Kanmantoo Mine. However, the number of birds was substantially less than that recorded in 2017. Over the lifetime of the fauna monitoring program, the abundance and species richness of birds has shown annual fluctuations, which may be driven by a series of factors including rainfall, food resources and the presence (or absence) of nomadic and flocking species.

Twenty (20) Common Brushtail Possums were observed within the ML during the 2018 spotlight survey, while no individuals were observed in the Significant Environmental Benefit (SEB) area. To date there have been no observations of Common Brushtail Possums within the SEB area due to an absence of suitable habitat. Over the lifetime of the fauna monitoring program the numbers of Common Brushtail Possums have remained relatively stable despite annual fluctuations.

The results from the 2018 fauna monitoring program confirm that there is no discernible loss of native fauna abundance or diversity within the ML and in adjacent areas as demonstrated by the results of the bird and Common Brushtail Possum surveys. As such, Hillgrove Resources has satisfied the condition (13) and outcome (21) required within the PEPR relating to the conservation of fauna.

EBS recommends the following measures to improve the management and monitoring of fauna within the Kanmantoo Mine Project area:

- Continue the fauna monitoring program at the same time each year (early spring);
- Suspend spotlighting with the SEB areas due to the low likelihood of Common Brushtail Possums using these areas within the life of mine;
- Conduct a control program to reduce the numbers of Western Grey Kangaroos, rabbits and hares within the Project area.



EBS conducted a landscape function analysis survey of the ML and Mine Rd SEB-offset areas during late September 2018. This report can be downloaded by visiting the following link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension. Navigate down the page to 'Extension Documentation', then Navigate to the following document;

'2018 Kanmantoo Mine LFA Survey.pdf'

Results from the 2018 LFA survey indicate that high-quality vegetation swards are successfully being established at the Mine Rd. SEB-offset area. LFA parameters for the new vegetation areas continue to be on a trajectory towards the development a level of vegetation diversity comparable with high-quality analogue sites. The structural diversity of these sites are expected to develop in time, as vegetation matures and succession in mid-story and canopy species delivers fallen timber and other associated niches to the landscape.

3.7.4 Item 4: Install rabbit-proof fencing

2018/ 2019 Reporting Period

Fencing maintenance during this reporting period involved minor repairs identified during fence inspections. The removal of livestock from 141 Mine Rd/ Mulawa, Ferguson's/Lot25 and surrounding Hillgrove-owned properties, continues to reduce fence damage and incursion by livestock. Fence damage this season was due to limbs falling from trees during storm events and Kangaroos moving to and from the Mine Rd SEB-offset areas.

3.7.5 Item 5: Source equipment and engage contractors

EBS Restoration is the principal contractor responsible for SEB-Offset establishment, weed control and feral animal control on designated SEB areas as outlined in the NVMP. EBS-Ecology is the principal contractor responsible for fauna & flora surveying.

2018/ 2019 Reporting Period

Hunter Brothers Earthmovers were initially engaged as the contractors responsible for 'topsoil pre-stripping' and land preparation process during the initial 2015 program at Mine Rd, however they were unavailable during 2018 and Eichler Earthmovers were invited to carry out works during that reporting period. Eichler's demonstrated that they had access to the equipment and expertise necessary to effectively carry out topsoil pre-stripping, land ripping, erosion gully rehabilitation and topsoil stockpile construction. Eichler's will be invited to carry out future work programs on our behalf.

All contractors have proven continuing competence within Hillgrove's programs on the ML and SEB-offset areas adjacent to the ML. They have demonstrated access to the equipment and expertise necessary to effectively deliver SEB-Offset outcomes associated with Hillgrove's offset program.

3.7.6 Item 6; Weed and feral animal control

Details of weed and feral animal control programs during 2014/2015, 2015/2016, 2016/ 2017 and 2017/2018 reporting periods can be found in previous EPBC compliance reports...

2018/ 2019 Reporting Period

Considerable weed control work was completed in the SEB-offsets during this reporting period. Activities including brushcutting, mowing, spot-spraying and selective boom-spraying, are summarised as 'maintenance tasks' in Figure 11 (above), which highlights overall monthly EBS labour inputs by task for this reporting period.

Feral animal control was not carried out during this reporting period. Rabbit control will be recommenced in future if rabbit populations show signs of recovering

Kangaroo numbers have steadily increased in recent years, both within the ML and in the surrounding region. This may be due to below-average rainfall throughout southern Australia restricting forage availability outside of the higher-rainfall regions of the Mt Lofty ranges. Kangaroo populations will be monitored and a culling program may be instigated if they adversely impact the establishment of SEB-offset areas. It is likely that low fodder availability and limited surface water availability will have naturally culled some of the local Kangaroo population during the 2018/ 2019 reporting period, but to what extent is unknown.

An integrated feral animal control program will resume on-site during the 2019/2020 reporting period if warranted.

3.7.7 Item 7: Investigative Studies

Several investigative studies were conducted in preparation for the establishment of SEB-Offset plantings on the designated offset patches. These studies have been discussed in detail in previous compliance reports. To view the reports associated with these studies, please navigate to the Hillgrove web page via the following link;

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to the relevant document, click to download and open the downloaded document.

2018/2019 Reporting Period

No new investigative studies were commenced during this reporting period. Further investigative studies will be scheduled in future reporting periods as required.

3.7.8 Item 8: Enhancement of Native Vegetation Remnants

Vegetation condition assessment suggests there is potential to improve the overall quality of remnant vegetation areas within the ML and on adjacent Hillgrove-owned properties.

2018/2019 Reporting Period

Vegetation enhancement works during this reporting period have continued to improve vegetation condition in a section of McFarlane Hill within the ML and in two additional areas outside the ML, either side of the intersection between Mine Rd and Back-Callington Rd, labelled as 'Carmen's East' and 'Lot 25', below. The green highlighted areas (below) will be adjacent to SEB-offsets and will provide linkages to SEB-offsets when they are established.

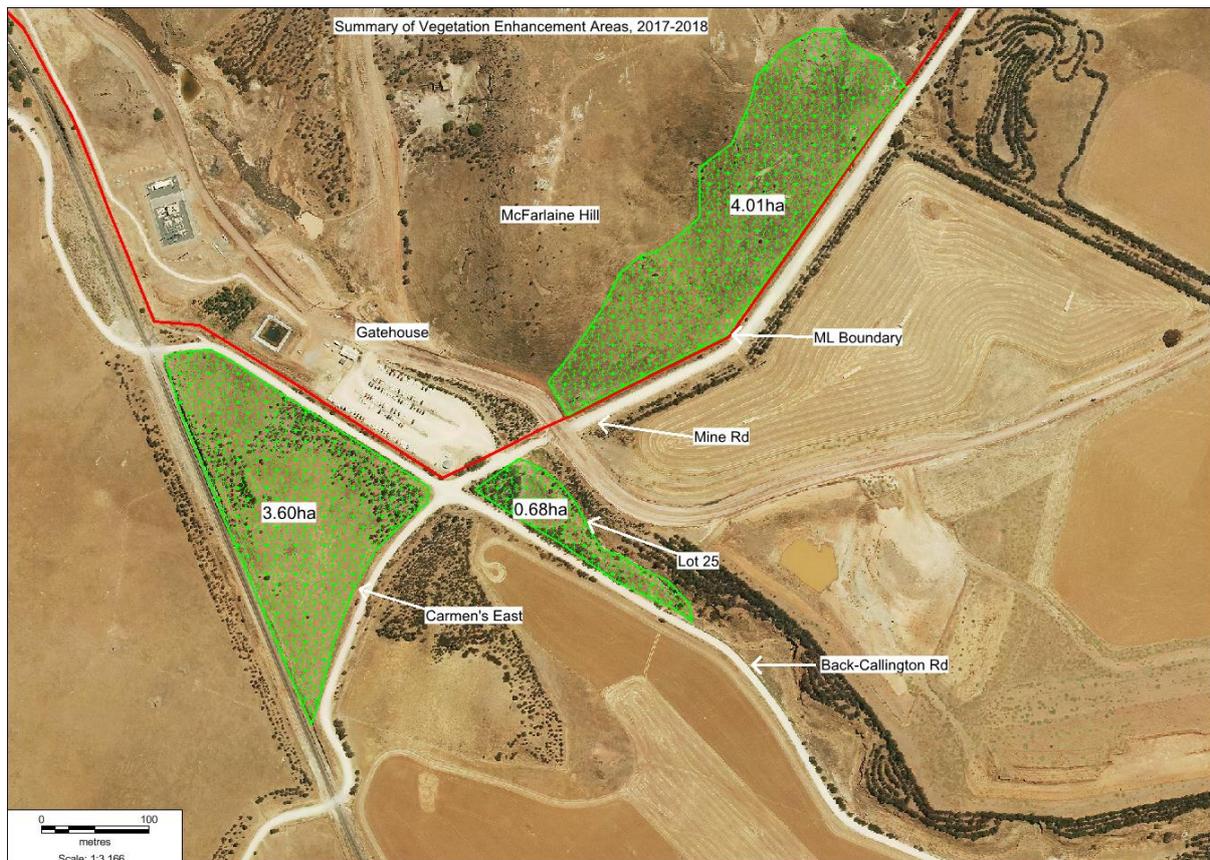


Figure 21: Vegetation Enhancement commenced during the 2017/ 2018 reporting period

The green highlighted areas contain *Iron-grass Natural Temperate Grasslands* with moderate species diversity totalling 8.29ha. These areas are degraded by a significant cover of *Scabiosa atropurpurea* (pincushion daisy), in association with a range of other broad-leaved and grassy weeds. Vegetation enhancement work included tractor-slashing and precision brushcutting to knock down the *Scabiosa* plants, followed by several rounds of selective spot-spraying to kill the plant crowns and seedlings (see Figure 22, below). Other broad-leaved weeds, including bridal creeper, thistles and cotton bush were targeted during spot-spraying.



Figure 22: Brushcutting *Scabiosa* to improve vegetation condition – Carmen’s East

3.7.9 Item 9: Adjustment of boundaries and resurvey

On-ground surveys did not indicate that either the SEB-Offset patch boundaries or the initially mapped property boundaries required adjustment during this reporting period.

3.7.10 Item 10: Build-up seed reserves/ order seeds

As reported previously, Hillgrove has invested considerable effort into the development of our seed production, seed collection, broad-acre seed multiplication and seed storage capacity. Our programs collect, multiply and nurture local-provenance genetic material. Within seed multiplication areas, particular care is taken to support the growth of parent plants with minimal inputs to prevent possible epigenetic creep that could be fostered if we allowed seeds to be grown under ‘soft’ conditions, for example, through fertilising or over-irrigation to drive seed production volume at the expense of seed quality. Hillgrove has not purchased additional seed from external sources to date, with all direct seeded patches being established using locally-collected or locally grown seed.

2018/ 2019 Reporting period

This reporting period has been characterised by significantly lower rainfall than normal at Kanmantoo, following a very dry year in 2018. By the end of the reporting period (11Sep19), we had received 83% of our average YTD rainfall. By the end of the calendar year, 2019 returned the lowest total rainfall that Hillgrove has recorded at Kanmantoo since 2012, with the total finishing at 76% of the 2012-2019 average. The EBS annual progress report summarises seed production and processing activities during this reporting period as follows...

1.1 Seed collection, cleaning and management of seed

Between November 2018 and April 2019 approximately 431 kilograms of native seed were collected from various sources within the Kanmantoo mine lease and surrounding areas (Refer Table 1 – 2018-19 seed collection tally). This number was down on the previous year and may be attributed to the dryer than average season leading up to harvest time.

Austrostipa sp. and *Rytidosperma sp.* grasses were the main species collected from the 2015 pre-stripped areas along Mine road and from the Seed Multiplication Area (SMA), located adjacent to access road. A small amount of *Aristida behriana*, *Chloris truncata* and *Enneapogon nigricans* was also collected from the SMA. The Seed Production Area (SPA) located in the north-west corner of the mine lease produced *Themeda triandra*.

Over-storey, shrub and under-storey species were collected from the SPA, from within the woodlands on the mine lease and surrounding off-lease areas such as Frahns Scrub and Monarto woodlands. Additional opportunistic *Eucalyptus odorata* collections took place within the North West woodlands of mine lease to bolster stock levels.

Allocasuarina verticillata seeded prolifically during the summer of 2018-19. EBSR collect this species in a sensitive manner by using a telescopic lopper where clusters of cones were selectively removed from numerous locations throughout the region to ensure genetic diversity. This method is employed with other over storey species including *Eucalypts sp.* and *Callitris sp.*

Grass collection was undertaken using three Grass Grabbers, two wheel mounted and one vehicle mounted. Given the limited time in which to harvest the grass seed it is imperative to have this equipment available and in good working order.

EBS Restoration has a large warehouse that it uses to dry and store seed after collection. Ferguson's shed, located near the mine lease was also used during the 2018-19 seed harvesting period to dry, clean and store seed. Seed is laid on tarps where it is turned regularly until dry. Depending on the type of seed it is both threshed and sieved (e.g. *Acacia sp.*) or mulched (grasses). Bulk grass seed is then stored in Wool bales or Chaff bags while smaller amounts of varied seed is sealed in vacuum packed airtight bags to prolong the shelf life of the seed.

During autumn of 2018 pre-stripping occurred within several locations surrounding the mine lease (approximately 20 hectares in total). It is hoped that a proportion of these strips will supply grass species during the 2019-20 seed collection period.

Refer Appendix 2.2 for September 2019 Seed Inventory.

Details of seed reserves are contained in the 2018/2019 EBS annual report, which can be accessed via the link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to the following document;

'2019 EBS Annual Report.pdf'

3.7.11 Item 11: Land preparation

During the previous reporting period (2017/2018), Eichler Earthmovers provided earthmoving services for SEB-offset establishment. They replaced the Cat 623 Scraper used by Hunter Brothers in 2015, with a land plane towed by a Case IH STX380 tractor to lift topsoil and remove it from the planting bays (see Figure 24, below). While this was an effective equipment combination, we observed higher than expected weed germination in the pre-stripped areas this reporting period. We addressed this through a combination of mowing to reduce grassy weed seed-set and selective herbicide spraying to remove broadleaved weeds. Ongoing monitoring of weed emergence during autumn 2019 has indicated that weed control and management efforts have effectively suppressed weed emergence, indicating that the land plane is suitable for continued use in future years.



Figure 23: Picking up windrowed topsoil with a Case IH/ Land Plane combination – 141 Mine Rd.

3.7.12 Item 12: Planting programs

2017/2018 Reporting Period

As mentioned previously, approximately 10.15ha of topsoil pre-stripping and direct seeding was completed on the remainder of the Mulawa/ 141 Mine Rd blocks during April 2018 and 6.7ha of new SEB-offset area was also commenced on Ferguson's and Lot 25. Collectively, this brings the total area of SEB-offsets 'commenced' to approximately 27ha by the end of this reporting period.

2018/2019 Reporting Period

Further expansion of SEB-offset plantings did not proceed as planned during this reporting period. Commercial and seasonal constraints in previous years have caused the proposed planting program to deviate from that originally approved in our NVMP for EPBC 2013/6965. A proposal to vary our NVMP will be submitted for consideration.

3.7.13 Item 13: Assess results and adjust methods

Initial results from topsoil pre-strip trials for SEB-Offset establishment within the NW corner of the ML, Smelter Rd and Mine Rd have proven very promising with strong stands of native vegetation established during the first 6-years of establishment. Figures 24 to 24D (below), illustrates the sequence of native vegetation establishment with minimal weed competition on the 'Smelter Rd' SEB-Offset trail area within the ML.

Preliminary observations from the nearby Mine Rd SEB-Offset patches indicate they are trending towards the promising result we have observed on the Smelter Rd trial area. *Ongoing observations indicate that an adjustment to planting methodology is not warranted at this stage.*



Figure 24: Rehabilitation of Smelter Rd just prior to direct seeding, April 2012. Smelter Rd provides an analogue site for the Mine Rd plantings. It provides a benchmark to track the development of direct-seeded vegetation using the topsoil pre-strip technique.



Figure 24A: Establishment of native vegetation in the third year following topsoil pre-strip (Smelter Rd, Kanmantoo Copper Mine), October 2015. Note *A. pycnantha* beginning to emerge above grasses.



Figure 24B: Smelter Rd rehabilitation, Year 4 – October 2016, *A. pycnantha* and *Atriplex* spp. emerging from a well-established *Rytidosperma* (Wallaby Grass)/ *Stipa* sward. This patch will mature to form a grassy-woodland vegetation association dominated by an *A. pycnantha*, *E. odorata* and *A. verticillata* overstorey.



Figure 24C: Smelter Rd rehabilitation, Year 5 – July 2017, *A. pycnantha*, *A. verticillata* and *Atriplex* spp. emerging from a maturing *Rytidosperma* (Wallaby Grass)/ *Austrotipa* sward. This patch is developing into an *A. pycnantha* open woodland community.



Figure 24D: Smelter Rd rehabilitation, Year 6 – December 2018, *A. pycnantha*, *A. verticillata* and *Atriplex* spp. emerging from a maturing *Rytidosperma* (Wallaby Grass)/ *Austrostipa* sward. This photograph was taken 5-months later than the photograph in 2017 and in a very dry season, so the density of herbaceous species appears to have reduced due to reduced winter growth and grazing by kangaroos this season. The mid-story and canopy species continue to mature and this area is progressing well towards forming an *A. pycnantha* open woodland community.

3.7.14 Item 14: Replanting program

Initial results have been promising. Replanting was not warranted at this stage of the SEB-Offset establishment program. Establishment within the new Mine Rd, Ferguson's and Lot 25 plots was assessed during late spring 2019. Replanting was not considered to be necessary, due to strong vegetation establishment and manageable weed competition.

3.7.15 Item 15: Establish heritage (or other) agreement

All areas allocated for SEB-Offset establishment are on Hillgrove-owned land. Both Hillgrove's CEO and our Environment Manager have undertaken to allow the establishment of Heritage Agreements (or similar instruments) over the SEB-Offset patches, with the Heritage Agreements (or similar) to be lodged against the Land Titles for each property.

Though Heritage Agreements (or similar) are not currently established for the Mine Rd or the Ferguson's/ Lot 25 patches, it is Hillgrove's intention to proceed with establishment in the foreseeable future.

3.7.16 Item 16: Inspect and maintain fences

The removal of livestock from the Mine Rd patches and adjacent Hillgrove-owned land has significantly reduced livestock pressure on the ageing fences surrounding 141 Mine Rd, Mulawa, Ferguson's and Lot 25. Fence inspections were carried out during autumn/ winter 2019. The majority of fence repairs related to damage caused by falling trees during winter and kangaroo movement between properties.

3.8 EPBC Act - Compliance report for EPBC 2013/6965

This report is intended to satisfy Hillgrove's obligation to prove compliance with the conditions associated with EPBC 2013/6965. We believe that we have adequately addressed the NVMP and we are making good progress in all areas.

The initial report for 2014/ 2016 was published on the Hillgrove Resources web page. The report can be viewed via the link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to '*2015 EPBC Act Compliance Report*' and click to download... Open the downloaded document.

The 2015/ 2016 Compliance Report has also been posted on Hillgrove's web page and can be accessed via the link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to '*2016 EPBC Act Compliance Report*' and click to download... Open the downloaded document.

The 2016/2017 Compliance Report has also been posted on Hillgrove's web page and can be accessed via the link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to '2017 EPBC Act Compliance Report' and click to download... Open the downloaded document.

The 2017/2018 Compliance Report has also been posted on Hillgrove's web page and can be accessed via the link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to '2018 EPBC Act Compliance Report 11Dec18' and click to download... Open the downloaded document.

The 2018/2019 Compliance Report has also been posted on Hillgrove's web page and can be accessed via the link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to '2019 EPBC Act Compliance Report V3' and click to download... Open the downloaded document.

3.9 Participation in audit (if required)

Hillgrove will actively assist with an audit of our compliance with EPBC 2013/6965 if requested to do so.

2016/2017 Reporting Period

Hillgrove participated in a site inspection by the ADE and DEM (DSD) staff on 18May17. A report of this inspection was returned to Hillgrove on 29Aug17. A copy of the inspection report and accompanying cover letter can be accessed via the following links;

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation', then Navigate to the following documents;

'EPBC 2013/6965 site inspection close out.pdf'

and...

'Mining Inspection Report_Kanmantoo Copper Mine_May 2017'

Click to download... Open the downloaded document...

During the site inspection, the reporting officer found that there were no non-compliances with approval conditions, but commented that some areas had not yet commenced management actions.

Hillgrove acknowledged these comments and intended to re-commence management actions as approved in autumn 2018.

2018/2019 Reporting Period

Hillgrove received no further requests for audits or inspections from Regulators during the 2018/2019 reporting period.

3.10 Approval for non-approved activities

No non-approved activities have been undertaken or are planned to be undertaken at the time of writing this report.

3.11 Revision of NVMP (if required by the Minister)

Mine activities have proceeded in accordance with approvals. A formal request for revision of the NVMP has not been received from The Minister at the time of writing this report.

Due to SEB-offset and mine rehabilitation program deferrals as a result of difficult operating conditions for Hillgrove between 2015 and 2019, we will voluntarily seek to revise the current NVMP as soon as possible.

The 'topsoil pre-strip method' of SEB-offset establishment has proven to be so successful, that a revision of the land areas currently allocated for SEB-offset establishment will be requested in an amended NVMP. This would see a 1 for 1 exchange of Hillgrove-owned land currently under cropping, for the areas currently allocated to SEB-offsets under this approval. This would result in no change to the total area of each category of SEB-offset delivered under this approval, but it would significantly improve the likelihood of achieving a high-quality outcome for the SEB-offset program overall. If these changes are approved, Hillgrove would seek to operate under a revised NVMP for EPBC 2013/6965 as soon as possible.

3.12 5-year sunset date for commencement

Work commenced according to approvals on the 11th of September 2014. Subsequently, the 5-year sunset date for commencement will not apply to this approval.

3.13 Publication of NVMP

The NVMP was published on Hillgrove's Web Page and can be accessed via the following link...

http://www.hillgroveresources.com.au/article/Community/Mine_Life_Extension

Navigate down the page to 'Extension Documentation'

Navigate to 'PEPR Appendices Vol 3' and click to download...Open the downloaded document...

The NVMP is located under 'Appendix 9b Native Vegetation Management Plan 2014' and extends from page 147 to 213. The approved NVMP will continue to be available via the Hillgrove web page for the life of the Action.

4.0 Conclusions

Hillgrove Resources continue to actively work towards complying with the approval granted by EPBC 2013/6965.

Vegetation disturbance associated with EPBC 2013/6965 was commenced on 11Sep14 and continued to the approved limit of disturbance during the initial reporting period (11Sep14 to 11Sep15). Vegetation disturbance has not subsequently extended beyond the limit described by the approved NVMP.

Hillgrove have addressed all of the elements outlined by our Controlled Action. Progress has been made on the establishment of SEB-Offset areas, with approximately 27ha of plantings commenced by the end of the 2017/2018 reporting period.

Seed production programs and wild-seed collection programs are continuing. Adequate seed supplies were available for the future SEB-offset plantings and the Mine landform rehabilitation hydroseeding program.

Observations continue to suggest that the topsoil pre-strip technique is well suited to the conversion of farming land to native vegetation with minimal follow-on weed competition. Management programs during 2018/2019 further consolidated the initial plantings and provided an excellent basis for the resumption of topsoil pre-strip and direct seeding in future years.

Hillgrove will continue to work actively towards establishment of our assigned SEB-Offsets and look forward to requesting a revision to our NVMP as soon as possible. We hope to report further progress against our revised NVMP in the 2019/ 2020 Compliance Report.