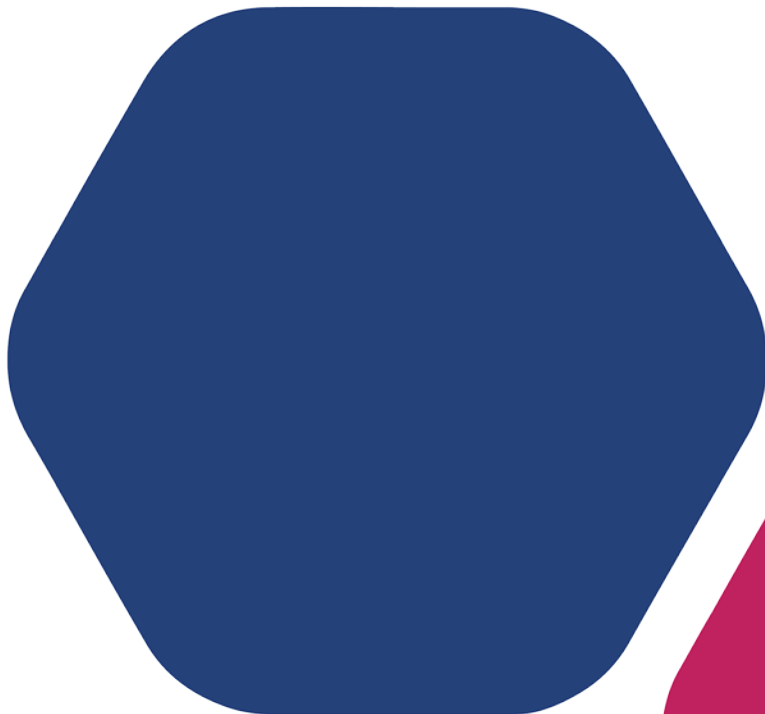


12 SEPTEMBER 2018

Biennial screening and rehabilitation audit report 2016-2018 for ministerial statement no. 912

Red Hill Quarry



Document status

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Approval for issue

Name	Signature	Date
J. Halleen		12.09.18

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(compiled at rear of report)

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1 Introduction

1.1 Project background

1.1.1 Location

Hanson Construction Materials Pty Ltd (Hanson) operates the Red Hill Quarry in Gidgegannup in the City of Swan. The quarry and associated infrastructure is located on the Darling Scarp, on the southern side of Susannah Brook, extending to Toodyay Road (Figure A).

1.1.2 Red Hill Quarry expansion and ministerial statement no. 912

The expansion of the Red Hill Quarry operation from 80 hectares (ha) to 120 ha, was approved by the Minister for the Environment in 2012 (Ministerial Statement No. 912 [MS912]), subject to a number of conditions (Appendix A). This included the preparation and implementation of a Screening and Rehabilitation Plan (SRP) for all disturbed areas in West Quarry Pit Extension Area A and associated stockpiles and overburden dumps to the satisfaction of the Chief Executive Officer (CEO) of the Office of the Environmental Protection Authority (OEPA) (Condition 10.1).

The SRP for the West Quarry Extension Area A (Hanson 2014) was approved by the, then, OEPA in August 2014.

1.2 Report purpose and scope

RPS was contracted by Hanson as the Independent Specialist to undertake the 2018 Biennial Audit of Red Hill Quarry West Quarry Pit Extension Area A in accordance with the objectives and completion criteria described in the SRP and in line with the methods used to assess rehabilitation success in other phases of the quarry to ensure compatibility of the data and allow for comparisons to be made across the broader area.

This Screening and Rehabilitation Audit Report has been prepared to address Condition 10-7 of MS912:

The proponent shall commission an Independent Specialist to assess the proponent's performance against the Screening and Rehabilitation Plan required by Condition 10-1 at intervals no greater than two years (biennially), with the Independent Specialist's assessment report being provided to the CEO within 20 business days of it being received by the proponent.

The 24-month reporting period for this Screening and Rehabilitation Audit Report is from 25 July 2016 to 25 July 2018. In accordance with Condition 10-8 this audit report shall be made publicly available.

In accordance with Condition 10-9 screening and rehabilitation audits are to be undertaken biennially for as long as screening and rehabilitation activities are undertaken by the Proponent. Condition 10-9 states:

Screening and rehabilitation activities shall continue until such time as the CEO determines that the proponent's screening and rehabilitation responsibilities required by Condition 10 have been fulfilled.

2 Current status

Whilst clearing has been undertaken within the audit period, the rehabilitation associated with the westwards expansion of the quarry has not yet commenced. It will be some time before a full rehabilitation program is undertaken here. As such the July 2018 audit involved a brief site visit to confirm that no rehabilitation works have yet been undertaken, and a desktop assessment to gather evidence relating to actions undertaken within the audit period to satisfy the completion criteria stated in the SRP relating to land surface, vegetation clearing, topsoil and overburden removal and treatment, landform reconstruction and contouring, erosion control, and hygiene management (dieback and weeds).

3 Audit methodology

3.1 Audit criteria

An audit table has been prepared in accordance with the approved Compliance Assessment Plan and contains each condition separated into the following audit elements:

- subject: environmental issue (SRP section)
- item number
- action: what the proponent must do
- evidence: information of data collected to verify compliance, i.e. report/letter/site inspection
- status: notes about the fulfilment of compliance using compliance status terms
- further information: additional comments to support compliance findings (as required).

3.2 Methodology

Methods used to conduct this audit include:

- review of aerial photographs
- review of recent Compliance Assessment Reports (2016 and 2017)
- liaison with key Hanson personnel
- review of relevant data
- a brief site visit of the West Quarry Pit Extension Area A.

3.3 Terminology

The OEPA has prepared guidance relating to the preparation of audit tables, including generic expressions that are used to identify the status of each item (Table 1)¹.

Table 1 Implementation status terminology

Status	Description
Compliant (Conformant)	Implementation of the proposal has been carried out in accordance with the requirements of the audit element. (Conformant – as above in relation to actions of management plans / programs)
Completed	A requirement with a finite period of application had been satisfactorily completed.
Not required at this stage (NRATS)	The requirements of the audit element were not triggered during the reporting period.
Potentially non-compliant (Potentially non-conformant)	Possible or likely failure to meet the requirements of the audit element. (Potentially non-conformant – as above in relation to actions of management plans / programs)
In process	Where an audit element requires a management or monitoring plan be submitted to the DWER or another government agency for approval, that submission has been made and no further information or changes have been requested by the DWER or the other agency for approval is still pending.

(Source: OEPA 2012b)

¹ The Audit provided in Table 3 uses this terminology.

Table 2 identifies the abbreviations which are used within this report for ease of reference.

Table 2 Abbreviations

Acronym	In full
CAP	Compliance Assessment Plan
CAR	Compliance Assessment Report
CEO	Chief Executive Officer of DWER
DBCA	Department of Biodiversity Conservation and Attractions
DIA	Department of Indigenous Affairs
DPaW	Department of Parks and Wildlife
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
ha	Hectare
km	Kilometre
Minister	Minister for the Environment
MS	Ministerial Statement
NRATS	Not required at this stage
OEPA	Office of the Environmental Protection Authority

4 Audit results

4.1 Compliance with conditions

RPS has completed an Audit Table which documents the measures taken to achieve compliance with the conditions in MS912 relating to screening and rehabilitation activities within West Quarry Pit Extension Area A (Table 3).

The findings of the audit are as follows:

- Hanson was assessed as being compliant with 49 of the 94 audit items.
- The remaining 45 audit items were assessed as being not required at this stage (NRATS) due primarily to the fact that no ground is available for rehabilitation as it is not at final surface and no rehabilitation monitoring has occurred within the area addressed in the SRP.
- No potential non-compliances were identified.

Photographs of the West Quarry Pit Extension Area A are provided as Plates A to D.

Table 3 Audit of ministerial statement no. 912 screening and rehabilitation plan

Item	Action	Audit evidence	Comments	Status
SRP Section 8.0 - Completion criteria for final land surface				
1	<p>Completion Criteria The land surface is to be non-eroding and stable in compliance with the <i>Mines Safety and Inspection Act 1994</i> and Department of Industry and Resources Guidelines for the Abandonment of Excavations.</p>		No ground is available for rehabilitation as it is not at final surface. No rehabilitation monitoring has occurred within the area addressed in the SRP.	NRATS
2	<p>Completion Criteria The land surface is to be consistent with the concept final contour plans.</p>		No ground is available for rehabilitation as it is not at final surface. No rehabilitation monitoring has occurred within the area addressed in the SRP.	NRATS
3	<p>Completion Criteria Rehabilitation follows the Key Directions of Rehabilitation wherever possible.</p> <p>Key Directions Local species are to be used to maximise the habitats available. Species should be matched to the microhabitat of each site. Rarer species are to be used to increase their numbers and compensate for any that had to be cleared. There is a need to consider fauna habitats and use species that are capable of supplying nectar breeding sites and other resources. Vegetation should become self-sustaining and maintenance free. Areas of rehabilitation should not add to the fire risk of the site. The provision of a weed management program. The use of a dieback prevention program. The awareness of the work force is to be encouraged to foster "ownership of the program." Local people and groups are to be involved as appropriate. Establishment of a seed orchard of on-site species. (This is less appropriate now because of the availability of local provenance seed stocks). Rehabilitation must not compromise the safety of the site. Bushland conservation has a high priority. Fast growing local species are to be used in areas where visual management is a priority. Vegetation linkages and fauna corridors will be maintained and enhanced where suitable situations exist or where the exchange of fauna may be restricted.</p>		No ground is available for rehabilitation as it is not at final surface. No rehabilitation monitoring has occurred within the area addressed in the SRP.	NRATS

Item	Action	Audit evidence	Comments	Status
4	Completion Criteria Rehabilitation is to provide satisfactory visual screening and be self sustaining to the number of plant stems and species.		No ground is available for rehabilitation as it is not at final surface. No rehabilitation monitoring has occurred within the area addressed in the SRP.	NRATS
5	Completion Criteria Weed incidence and coverage of nil or at minimal levels which does not compromise the long term effectiveness of rehabilitation.		No ground is available for rehabilitation as it is not at final surface. No rehabilitation monitoring has occurred within the area addressed in the SRP.	NRATS
6	Completion Criteria A total of 1 native shrub or tree is to be present per 1 m ² at 3 years, averaged over each rehabilitation area.		No ground is available for rehabilitation as it is not at final surface. No rehabilitation monitoring has occurred within the area addressed in the SRP.	NRATS
7	Completion Criteria A minimum of 600 trees per hectare.		No ground is available for rehabilitation as it is not at final surface. No rehabilitation monitoring has occurred within the area addressed in the SRP.	NRATS
8	Completion Criteria Ten local species per 100 m ² .		No ground is available for rehabilitation as it is not at final surface. No rehabilitation monitoring has occurred within the area addressed in the SRP.	NRATS
SRP Section 9.1 - Vegetation clearing				
9	Careful quarry planning to match the short term resource requirements to the configuration of the pit.	See Staging Plan (Appendix B) and email correspondence to OEPA confirming commencement of the project (Appendix C)	Clearing activities were undertaken on 25 July 2016 and 28 February 2018. Annual clearing is minimised in line with production demand. To date, 2.24 ha has been cleared within MS912 boundaries.	Compliant
10	Provide excavation to as great a depth as possible to maximise the resource available and minimise the progression of clearing.	See Staging Plan (Appendix B) and email correspondence to OEPA confirming commencement of the project (Appendix C)	Clearing activities were undertaken on 25 July 2016 and 28 February 2018. Annual clearing is minimised in line with production demand. To date, 2.24 ha has been cleared within MS912 boundaries.	Compliant
11	Using a staged progress of excavation wherever possible to reduce the area of clearing required having regard to safety and future pit operational issues.	See Staging Plan (Appendix B) and email correspondence to OEPA confirming commencement of the project (Appendix C)	Clearing activities were undertaken on 25 July 2016 and 28 February 2018. Annual clearing is minimised in line with production demand. To date, 2.24 ha has been cleared within MS912 boundaries.	Compliant

Item	Action	Audit evidence	Comments	Status
12	Only clearing the minimum vegetation required for each particular stage.	Figure A	Clearing activities were undertaken on 25 July 2016 and 28 February 2018. Annual clearing is minimised in line with production demand. To date, 2.24 ha has been cleared within MS912 boundaries.	Compliant
13	Selecting an appropriate time of year and local weather conditions for clearing, to avoid mid or late summer when increased dust is more likely; and avoiding very wet conditions when the risk of surface water runoff is likely to be increased reducing the safety for mobile plant.	Clearing activities were undertaken on 25 July 2016 and 28 February 2018	Clearing activities were undertaken on 25 July 2016 and 28 February 2018. Annual clearing is minimised in line with production demand. To date, 2.24 ha has been cleared within MS912 boundaries.	Compliant
14	Marking out the area to be cleared and quarantining vehicles and access to that area to minimise the disturbance to adjoining land and minimise the introduction of weeds or plant pathogens.	See Plates E to H and Environmental Compliance Checklist	Areas that were cleared had been surveyed and marked out with yellow flagging tape. The Environmental Compliance Checklist, prepared by Hanson in 2016, specifies that all vehicles are to be cleaned prior to entering the site.	Compliant
15	Ensuring that equipment brought to the site for clearing is free from soil and plant material in compliance with the Dieback and Weed Management Plans.	Environmental Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, specifies that all vehicles are to be cleaned prior to entering the site.	Compliant
16	Clearing from vegetation of high quality towards areas of disturbed vegetation.	See Staging Plan (Appendix B) and email correspondence to OEPA confirming commencement of the project (Appendix C)	Clearing activities were undertaken on 25 July 2016 and 28 February 2018. Annual clearing is minimised in line with production demand. To date, 2.24 ha has been cleared within MS912 boundaries.	Compliant
17	Operating and clearing behind vegetation or constructed bunds and working from “inside – out” wherever possible, taking into account the local landform and location of sensitive premises.	See Staging Plan (Appendix B) and email correspondence to OEPA confirming commencement of the project (Appendix C)	Clearing activities were undertaken on 25 July 2016 and 28 February 2018. Annual clearing is minimised in line with production demand. To date, 2.24 ha has been cleared within MS912 boundaries.	Compliant
18	Remaining vegetation fragments/timber is retained on site and placed on rehabilitation areas. This assists with habitat creation and serves as a seed source and source of soil microbial material.	See Staging Plan (Appendix B) and email correspondence to OEPA confirming commencement of the project (Appendix C)	Clearing activities were undertaken on 25 July 2016 and 28 February 2018. Annual clearing is minimised in line with production demand. To date, 2.24 ha has been cleared within MS912 boundaries.	Compliant
SRP Section 9.2 - Topsoil and overburden removal – treatment				
19	Assess the site and construct bunds and water management features as required to minimise sediment runoff. In many cases the surface will be configured to allow stormwater to run back into the pit during clearing.	See Plates A to D	Water runoff is directed back into the pit.	Compliant

Item	Action	Audit evidence	Comments	Status	
20	Where possible topsoil is directly transferred from an area being cleared to an area being rehabilitated. Where this is not possible the topsoil is stored in low dumps (0.5 m high for topsoil) for future use in rehabilitation.		Topsoil from cleared area in MS912 has been directly transferred onto rehabilitation onsite outside MS912 boundaries – Herne Hill (MS199).	Compliant	
21	Overburden is directly transferred from an area being cleared to an area being rehabilitated. Where this is not possible the topsoil is stored in dumps in locations from which it can be recovered for use in future land restoration.		Topsoil from cleared area in MS912 has been directly transferred onto rehabilitation onsite outside MS912 boundaries – Herne Hill (MS199).	Compliant	
22	Where possible top soil clearing and removal of overburden is undertaken in wetter months to minimise the risk of dust generation. For dieback management clearing is preferred in summer, at which time the blowing of spores could be a means of dieback spread.		Clearing and stripping of topsoil was undertaken in July 2016 and February 2018.	Compliant	
SRP Section 9.3 - Landform reconstruction and contouring					
23	Slopes left as a final sloping surface suitable for abandonment of the quarry will have reduced angles as noted below:		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently no landform construction or contouring has occurred.	NRATS	
	Description using AS 1726	Interim slopes and faces during operations			Final slopes and faces at abandonment
	Extremely weathered rock, including topsoil and overburden	30 degrees			25 degrees
	Distinctly weathered rock or saprolite	50 degrees			
	Slightly weathered rock or saprolite	70 degrees			45 degrees
	Fresh rock	70 degrees			
24	The land surface is re-contoured to match the post excavation concept plans for the pit. Interim land surfaces and batter slopes are used where appropriate. The Concept Post Excavation Contour Plans are subject to ongoing changes as the quarry develops based on resource management, safety, visual management and long term requirements.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently no landform construction or contouring has occurred.	NRATS	
25	Steep slopes and dumps are pushed down and smoothed wherever possible.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently no landform construction or contouring has occurred.	NRATS	
26	Final slopes will comply with <i>Mines Safety and Inspection Act 1994</i> and Department of Industry and Resources Guidelines for the Abandonment of Excavations.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently no landform construction or contouring has occurred.	NRATS	

Item	Action	Audit evidence	Comments	Status
27	Where safe to do so, compacted soils, gravels and clay are deep ripped in two directions at intervals of approximately one metre. Overburden is spread over the surface to a minimum depth of 500 mm where available. Along contour furrows and undulations are used on slopes to assist water penetration and minimise surface water run-off, where safe to do so.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently no landform construction or contouring has occurred.	NRATS
28	Topsoil from the clearing operations is spread directly onto the overburden to maintain seed viability when available. When topsoil is not available good growth rates from seed and tube plants are obtained by planting into dumped but uncompacted overburden.	Photos of Herne Hill rehabilitation can be provided if required (outside MS912 boundaries)	Topsoil from cleared area in MS912 has been directly transferred onto rehabilitation onsite outside MS912 boundaries – Herne Hill (MS199).	Compliant
29	Dump and batter slopes are constructed with a mixture of rock in the core, to assist slope stability, with a covering of overburden.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently no landform construction or contouring has occurred.	NRATS
30	Slopes should be left rough and not smoothed or compacted, both of which increase surface water runoff.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently no landform construction or contouring has occurred.	NRATS
SRP Section 9.5 - Erosion				
31	Cut off drains are provided upslope of any batter slope.	See Plates I to J	Surface water runoff is directed back into the pit. Compacted bunds have been formed to assist in erosion control.	Compliant
32	Prior to areas being stripped of topsoil and overburden drainage is installed to minimise sediment loss. This normally directs surface water back into the pit where sediment settlement can occur. Where this is not possible surface water is directed into detention basins that can be cleaned out, or sediment settlement dams.	See Plates I to L	Surface water runoff is directed back into the pit. Compacted bunds have been formed to assist in erosion control.	Compliant
33	Flows of water will be treated by flowing across bare fresh rock, riprap, energy dissipaters and rock lined drains. Sediment traps, detention basins and silt fences will be used to capture sediment.	See Plates K to N	All stormwater from around the pit is directed and settled at the base of the pit before being pumped into the sediment pond in MS705. The pond overflow is lined with rock to dissipate energy.	
34	Surface water flows are sampled monthly for quality when flowing.	SGS Analytical Reports	Surface water flows sampled for quality parameters during July and August (i.e. when surface water was flowing) (R_065 - R_066).	Compliant

Item	Action	Audit evidence	Comments	Status
SRP Section 9.6 - Vegetation establishment				
35	Rehabilitation is carried out after the first available winter months following the restoration earth works.		No portion of the MS912 area subject to this SRP has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
36	Topsoil is directly spread where available.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
37	Local provenance species from the attached lists are used for rehabilitation. These are ordered in sufficient time to ensure suitable numbers of species are available for use in rehabilitation.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
38	Trees are planted as tube plants in winter (June to August), and installed with a 10 g fertiliser tree tablet next to each plant. Tube plants are established in low undulations and not on the high points of furrowed soil. The planting rate is normally 500 – 1000 stems per hectare when combined with seeding. With no seeding, planting rates are significantly higher to achieve the completion criteria.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
39	Bulk fertiliser to be used will be a general NPK garden fertiliser containing trace elements.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
40	The seeding program is co-ordinated with the local weather. For example, heat and smoke treated seeds that are moist may be already germinating when spread. Prior to seeding a suitable day is selected on which it is likely to be raining or will rain immediately following seeding.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
41	Any weeds likely to significantly impact on the rehabilitation are sprayed with Roundup or similar herbicide or grubbed out, depending on the species involved, prior to seeding or tube planting.	Annual weed survey report	No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. A baseline weed survey and assessment was undertaken within the Red Hill Quarry site, including areas subject to MS912, in 2016 and 2017 respectively.	NRATS

Item	Action	Audit evidence	Comments	Status																																																			
42	Rehabilitation is progressive with completed disturbed areas revegetated as soon as practicable on a progressive basis.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS																																																			
SRP Section 9.7.1 - Visual management																																																							
43	<p>There are some areas where fast growth and visual management is required. These areas are the screening bunds, and exposed soil areas or landscape banks.</p> <p>A list of suitable species is attached, together with suggested rates of tube stock and seeding rates per hectare.</p> <p>Species to be used for maximum visual control (per hectare)</p> <p>The numbers are to be adjusted to compensate for species not available. It is assumed that both tube plants and seeds are used.</p> <p>Tube plants to be used for maximum visual control and on batters where later infill may be difficult.</p> <table border="1"> <thead> <tr> <th>Species</th> <th>Form</th> <th>Tube stock per ha</th> </tr> </thead> <tbody> <tr><td><i>Acacia acuminata</i></td><td>Shrub/Tree</td><td>100</td></tr> <tr><td><i>Acacia microbotrya</i></td><td>Shrub/Tree</td><td>100</td></tr> <tr><td><i>Acacia saligna</i></td><td>Shrub/Tree</td><td>100</td></tr> <tr><td><i>Callistemon phoeniceus</i></td><td>Shrub</td><td>50</td></tr> <tr><td><i>Calothamnus quadrifidus</i></td><td>Shrub</td><td>50</td></tr> <tr><td><i>Calothamnus rupestris</i></td><td>Shrub</td><td>50</td></tr> <tr><td><i>Calothamnus sanguineus</i></td><td>Shrub</td><td>50</td></tr> <tr><td><i>Eucalyptus accedens</i></td><td>Tree</td><td>200</td></tr> <tr><td><i>Eucalyptus calophylla</i></td><td>Tree</td><td>250</td></tr> <tr><td><i>Eucalyptus laeliae</i></td><td>Tree</td><td>50</td></tr> <tr><td><i>Eucalyptus marginata</i></td><td>Tree</td><td>100</td></tr> <tr><td><i>Eucalyptus megacarpa</i></td><td>Tree</td><td>50</td></tr> <tr><td><i>Eucalyptus patens</i></td><td>Tree</td><td>50</td></tr> <tr><td><i>Eucalyptus wandoo</i></td><td>Tree</td><td>200</td></tr> <tr><td><i>Hakea petiolaris</i></td><td>Tree</td><td>50</td></tr> <tr><td><i>Leptospermum erubescens</i></td><td>Shrub</td><td>50</td></tr> </tbody> </table> <p>Plus the seeds listed below at the rate per hectare.</p> <p>Sowing can either be in summer or early autumn for seeds and scarified leguminous seeds, or July - August for seeds and heat treated leguminous seeds.</p>	Species	Form	Tube stock per ha	<i>Acacia acuminata</i>	Shrub/Tree	100	<i>Acacia microbotrya</i>	Shrub/Tree	100	<i>Acacia saligna</i>	Shrub/Tree	100	<i>Callistemon phoeniceus</i>	Shrub	50	<i>Calothamnus quadrifidus</i>	Shrub	50	<i>Calothamnus rupestris</i>	Shrub	50	<i>Calothamnus sanguineus</i>	Shrub	50	<i>Eucalyptus accedens</i>	Tree	200	<i>Eucalyptus calophylla</i>	Tree	250	<i>Eucalyptus laeliae</i>	Tree	50	<i>Eucalyptus marginata</i>	Tree	100	<i>Eucalyptus megacarpa</i>	Tree	50	<i>Eucalyptus patens</i>	Tree	50	<i>Eucalyptus wandoo</i>	Tree	200	<i>Hakea petiolaris</i>	Tree	50	<i>Leptospermum erubescens</i>	Shrub	50		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
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<i>Callistemon phoeniceus</i>	Shrub	50																																																					
<i>Calothamnus quadrifidus</i>	Shrub	50																																																					
<i>Calothamnus rupestris</i>	Shrub	50																																																					
<i>Calothamnus sanguineus</i>	Shrub	50																																																					
<i>Eucalyptus accedens</i>	Tree	200																																																					
<i>Eucalyptus calophylla</i>	Tree	250																																																					
<i>Eucalyptus laeliae</i>	Tree	50																																																					
<i>Eucalyptus marginata</i>	Tree	100																																																					
<i>Eucalyptus megacarpa</i>	Tree	50																																																					
<i>Eucalyptus patens</i>	Tree	50																																																					
<i>Eucalyptus wandoo</i>	Tree	200																																																					
<i>Hakea petiolaris</i>	Tree	50																																																					
<i>Leptospermum erubescens</i>	Shrub	50																																																					

Item	Action	Audit evidence	Comments	Status
	Species	Form	Grams of seed per ha	
	<i>Acacia celastrifolia</i>	Shrub	100	
	<i>Acacia extensa</i>	Shrub	100	
	<i>Acacia microbotrya</i>	Shrub/Tree	200	
	<i>Acacia pulchella</i>	Shrub	200	
	<i>Acacia saligna</i>	Tree	200	
	<i>Allocasuarina fraseriana</i>	Tree	50	
	<i>Banksia grandis</i>	Tree	(200 seeds)	
	<i>Calothamnus quadrifidus</i>	Shrub	100	
	<i>Clematis aristata</i>	Ground cover	50	
	<i>Dryandra armata</i>	Shrub	(200 seeds)	
	<i>Dryandra sessilis</i>	Shrub	(200 seeds)	
	<i>Eucalyptus accedens</i>	Tree	100	
	<i>Eucalyptus calophylla</i>	Tree	100	
	<i>Eucalyptus marginata</i>	Tree	100	
	<i>Eucalyptus wandoo</i>	Tree	100	
	<i>Hardenbergia comptoniana</i>	Ground cover	200	
	<i>Kennedia coccinea</i>	Ground cover	200	
	<i>Kennedia prostrata</i>	Ground cover	200	
	<i>Kunzea recurva</i>	Shrub	50	
	<i>Leptospermum erubescens</i>	Shrub	100	
	<i>Melaleuca scabra</i>	Shrub	50	
	<i>Mirbelia dilatata</i>	Shrub	50	
	<i>Viminaria juncea</i>	Shrub	50	
SRP Section 9.7.2 - Local community restoration				
44	<p>Adjacent to remnant vegetation, where fast screening cover is not required, a greater species richness can be used because a number of species have relatively slow growth rates. A list of suitable species is attached.</p> <p>These species are normally grown from seed by the commercial nurseries and seed suppliers, and are suitable for use on site either by direct seeding or through the use of tube plants.</p>		<p>No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.</p>	NRATS

Item	Action	Audit evidence	Comments	Status
	Species	Form		
	<i>Acacia alata</i>	Shrub		
	<i>Acacia extensa</i>	Shrub		
	<i>Acacia pulchella</i>	Shrub		
	<i>Acacia saligna</i>	Tree		
	<i>Agonis linearifolia</i>	Shrub		
	<i>Allocasuarina fraseriana</i>	Tree		
	<i>Allocasuarina humilis</i>	Shrub		
	<i>Baeckea camphorosmae</i>	Shrub		
	<i>Banksia grandis</i>	Tree		
	<i>Beaufortia purpurea</i>	Shrub		
	<i>Bossiaea eriocarpa</i>	Shrub		
	<i>Callistemon phoeniceus</i>	Shrub		
	<i>Calothamnus quadrifidus</i>	Shrub		
	<i>Calothamnus rupestris</i>	Shrub		
	<i>Calothamnus sanguineus</i>	Shrub		
	<i>Clematis aristata</i>	Ground cover		
	<i>Darwinia citriodora</i>	Shrub		
	<i>Darwinia pimeleoides</i>	Shrub		
	<i>Dryandra armata</i>	Shrub		
	<i>Dryandra sessilis</i>	Shrub		
	<i>Eucalyptus accedens</i>	Tree		
	<i>Eucalyptus calophylla</i>	Tree		
	<i>Eucalyptus laeliae</i>	Tree		
	<i>Eucalyptus marginata</i>	Tree		
	<i>Eucalyptus patens</i>	Tree		
	<i>Eucalyptus rudis</i>	Tree		
	<i>Eucalyptus wandoo</i>	Tree		
	<i>Grevillea bipinnatifida</i>	Shrub		
	<i>Grevillea endlicheriana</i>	Shrub		
	<i>Hakea cristata</i>	Shrub		

Item	Action	Audit evidence	Comments	Status
	<i>Hakea lissocarpha</i>	Shrub		
	<i>Hakea petiolaris</i>	Tree		
	<i>Hakea prostrata</i>	Shrub		
	<i>Hakea stenoptera</i>	Shrub		
	<i>Hakea trifurcata</i>	Shrub		
	<i>Hakea undulata</i>	Shrub		
	<i>Hardenbergia comptoniana</i>	Ground cover		
	<i>Hypocalymma angustifolium</i>	Shrub		
	<i>Kennedia coccinea</i>	Ground cover		
	<i>Kennedia prostrata</i>	Ground cover		
	<i>Kennedia stirlingii</i>	Ground cover		
	<i>Leptospermum erubescens</i>	Shrub		
	<i>Melaleuca radula</i>	Shrub		
	<i>Melaleuca scabra</i>	Shrub		
	<i>Petrophile biloba</i>	Shrub		
	<i>Trymalium ledifolium</i>	Shrub		
45	A consultant is used to annually review the rehabilitation. This occurs at least annually as part of the annual assessment and reporting for the Annual Environmental Summary Report or more frequently as required. Assessments of the visual management are completed at the same time or more frequently where specific issues warrant further consideration.	This document	RPS has prepared this Screening and Rehabilitation Audit Report of the SRP for Red Hill Quarry West Quarry Pit Extension Area A in accordance Condition 10-7 of MS912. This audit covers the 24 month reporting period from 25 July 2016 to 25 July 2018. No rehabilitation was undertaken in the reporting period.	Compliant
SRP Section 9.8 - Monitoring				
46	Monitor the rehabilitation with respect to the Key Directions and the Completion Criteria.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
47	During late summer an assessment of the success of the rehabilitation is made to determine the rehabilitation requirements for the following winter. This is normally completed visually at the time of the site assessment for the annual reporting.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS

Item	Action	Audit evidence	Comments	Status
48	Counts of the species diversity, richness and visual coverage are made to check that each area of rehabilitation meets the Completion Criteria, using sample plots of 10 m2 as described in Appendix 1. This occurs during or at the end of three year's growth for each area of rehabilitation. At least three sample plots per area of rehabilitation will be used and the results averaged.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
49	Follow up counts using 10 m2 sample plots are conducted every five years or as required to ensure that the rehabilitation continues to meet the Completion Criteria during operation.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
50	On closure monitoring detailed in steps one to four will continue annually until the completion criteria is achieved.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
51	The results of the monitoring are reported annually to the City of Swan, EPA and Department of Environment and Conservation in the Annual Summary Report, which includes a "Rolling Rehabilitation Plan".		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
52	As necessary steps are taken to correct any deficiencies in the vegetation.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
53	Rehabilitation of each stage is monitored annually. On site completed rehabilitation will continue to be monitored for a period of at least three years to ensure that the revegetation meets the completion criteria of providing self-sustaining indigenous shrub vegetation.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS

Item	Action	Audit evidence	Comments	Status
54	Monitoring includes consideration of: <ul style="list-style-type: none"> visual protection plant density growth rates species richness plant deaths weed infestation animal damage fire impact and sustainability. 		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
SRP Section 9.9 Review of rehabilitation procedures				
55	The rehabilitation procedures are assessed, as a minimum, annually and the results matched against the Completion Criteria and the stated Key Directions. Where changes are required to improve rehabilitation or screening the rehabilitation program is updated.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
56	Areas not meeting or likely not to meet the Rehabilitation Criteria, will be replanted and/or seeded during the next winter to increase species richness and plant density as required, using the methods outlined above.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
57	Fertiliser will be used as necessary on areas that are already achieving satisfactory plant density and species richness but not achieving satisfactory visual coverage. Fertiliser to be used for this purpose will be a general NPK garden fertiliser containing trace elements.		No portion of the MS912 area subject to this audit has been completed to final landform as it opened in late 2016 and is still in the early operational stage. Consequently the Screening and Rehabilitation Program had not been commenced at the time of the July 2018 Audit.	NRATS
SRP Section 10.0 - Dieback management plan				
58	The site is maintained to minimise the spread or introduction of Dieback Diseases according to the Dieback Management Plan	Environment Compliance Checklist	Activities on the site have been undertaken in accordance with the approved Dieback Management Plan.	Compliant
59	Excavation of the site has been designed to comply with DPaW <i>Best Practice Guidelines for the Management of Phytophthora cinnamomi</i> , draft 2004 and Dieback Working Group 2005 <i>Management of Phytophthora Dieback in Extractive Industries</i>		Activities on the site have been undertaken in accordance with the approved Dieback Management Plan.	Compliant
60	Apart from the void, the remainder of the land surface remains free draining to discourage the pooling of water and reduce the potential for damp spots which might encourage dieback disease	2017 Review of Visual Management and Rehabilitation	Almost all surface water from operational areas drains to the pit and northern dam. The remainder drains to the southern dam.	Compliant

Item	Action	Audit evidence	Comments	Status
61	Drainage of disturbed areas is into the pit or to detention basins and dams	2017 Review of Visual Management and Rehabilitation	Almost all surface water from operational areas drains to the pit and northern dam. The remainder drains to the southern dam.	Compliant
62	All native vegetation is quarantined.	Environment Compliance Checklist	Vehicles cannot access bushland on MS912. Permitted tracks are in place to access authorised areas in MS912.	Compliant
63	Vehicles are only permitted along designated tracks.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, provides this information to workers and contractors regarding remaining on designated roads.	Compliant
64	Site vehicles such as loaders and light vehicles travel on formed roads or sealed and aggregate based areas such as the stockpile area.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, provides this information to workers and contractors regarding remaining on designated roads.	Compliant
65	Excavation vehicles are restricted to the pit, but do travel to service areas for maintenance.	Environment Compliance Checklist	Vehicles cannot access bushland on MS912. Permitted tracks are in place to access authorised areas in MS912.	Compliant
66	Road trucks and external traffic only access the stockpile area and entrance access road.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, provides this information to workers and contractors regarding remaining on designated roads.	Compliant
67	Light traffic accesses the site office.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, provides this information to workers and contractors regarding remaining on designated roads.	Compliant
68	External maintenance vehicles do access the site but are also restricted to formed roads.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, provides this information to workers and contractors regarding remaining on designated roads.	Compliant
69	All excavation equipment and road transport vehicles are required to be clean and free from soil and vegetable matter prior to entering the operations.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, specifies that all vehicles are to be cleaned prior to entering the site.	Compliant
70	Excavation of the site has been designed to comply with CALM Best Practice Guidelines for the Management of <i>Phytophthora cinnamomi</i> , draft 2004 and Dieback Working Group 2005, Management of <i>Phytophthora</i> Dieback in Extractive Industries.		Activities on site have been undertaken in accordance with the approved Dieback Management Plan.	Compliant
71	The pit and operations are designed to minimise water from leaving the pit and entering remnant vegetation without passing through detention and sediment settlement basins.	2017 Review of Visual Management and Rehabilitation	Almost all surface water from operational areas drains to the pit and northern dam. The remainder drains to the southern dam.	Compliant

Item	Action	Audit evidence	Comments	Status
72	The site is secured from unwanted access by locked gates, barricades and fences.	2017 Review of Visual Management and Rehabilitation	Fences, locked gates and other security measures are maintained and rubbish promptly removed as soon as practicable.	Compliant
73	Excavation vehicles are restricted to the excavation area, stockpiles and access roads.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, specifies that all vehicles remain in designated areas.	Compliant
74	Road transport vehicles are restricted to the stockpile, loading and access areas.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, specifies that all vehicles remain in designated areas.	Compliant
75	Remnant vegetation is quarantined from all vehicles.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, specifies that all vehicles remain in designated areas.	Compliant
76	Firebreaks are maintained and are tidied each year, but not extended into remnant vegetation.		Firebreaks are maintained between remnant vegetation and excavation areas.	Compliant
77	If any clearing is proposed, vegetation and soil material is pushed from "dieback free" areas towards "at risk" areas.		Topsoil from cleared area in MS912 has been directly transferred onto rehabilitation onsite outside MS912 boundaries – Herne Hill (MS199).	Compliant
78	All quarrying, excavation and transport vehicles are required to be cleaned when coming from a dieback affected area, prior to leaving their source.	Environment Compliance Checklist	The Environmental Compliance Checklist, prepared by Hanson in 2016, specifies that all vehicles are to be cleaned prior to entering the site.	Compliant
79	A hygienic site is maintained through a policy of not bringing any soil or plant material onto the site except for rehabilitation purposes.	Environment Compliance Checklist Hygiene Management Plan	The Environmental Compliance Checklist, prepared by Hanson in 2016, specifies hygiene management on site.	Compliant
80	Prompt removal of any rubbish or dumped materials is practised.	Incident records	No rubbish has been dumped on site during the reporting period. If any rubbish is dumped on site it will be promptly removed and disposed of appropriately and the incident reported.	Compliant
81	Stockpiles are contained on the dedicated stockpile area or pit floor.		No stockpiles have been created during the reporting period.	NRATS
82	Water from excavations is contained and directed to settlement dams.	2017 Review of Visual Management and Rehabilitation	Almost all surface water from operational areas drains to the pit and northern dam. The remainder drains to the southern dam. There is no pooling on slopes. All rehabilitated ground is free draining apart from the sediment trapping devices located at the bunds at the base of the faces in the pit itself and therefore contained and isolated from the natural vegetation.	Compliant

Item	Action	Audit evidence	Comments	Status
83	Ponding of surface water on rehabilitation areas and natural vegetation is avoided.	2017 Review of Visual Management and Rehabilitation	There is no pooling on slopes. All rehabilitated ground is free draining apart from the sediment trapping devices located at the bunds at the base of the faces in the pit itself and therefore contained and isolated from the natural vegetation.	Compliant
84	The Weed Management Plan is implemented.		See comments in section below.	Compliant
SRP Section 11.0 - Weed management plan				
85	No plant, soil or fill material will be brought onto the site apart from that known to be weed free.	2017 Review of Visual Management and Rehabilitation	All the weed management items and criteria are addressed and met (R_064).	Compliant
86	The site is secured against illegal entry and to prevent illegal dumping of rubbish.	2017 Review of Visual Management and Rehabilitation	Fences, locked gates and other security measures are maintained and rubbish promptly removed as soon as practicable (R_064).	Compliant
87	All rubbish is removed promptly.	Incident records	No rubbish has been dumped on site during the reporting period. If any rubbish is dumped on site it will be promptly removed and disposed of appropriately and the incident reported.	Compliant
88	When observed, weeds are treated promptly.	Annual weed survey report	No rehabilitation or weed management has been undertaken within the area subject to the SRP during the reporting period.	NRATS
89	Weed affected soils are not used for rehabilitation, but buried at least 500 mm below the surface.	Annual weed survey report	No rehabilitation or weed management has been undertaken within the area subject to the SRP during the reporting period.	NRATS
90	The site is regularly monitored for the introduction of Declared weeds and those that have the potential to become a local pest.	Annual weed survey report	No rehabilitation or weed management has been undertaken within the area subject to the SRP during the reporting period.	NRATS
91	Follow up monitoring and spraying is conducted.	Annual weed survey report	No rehabilitation or weed management has been undertaken within the area subject to the SRP during the reporting period.	NRATS
92	Liaison is maintained with Government authorities with respect to control of significant weeds such as Watsonia along Susannah Brook.	Annual weed survey report	No rehabilitation or weed management has been undertaken within the area subject to the SRP during the reporting period.	NRATS
93	Awareness of the latest control programs is sought through contact with Government Agencies and published information.	Annual weed survey report	No rehabilitation or weed management has been undertaken within the area subject to the SRP during the reporting period.	NRATS
94	The Dieback Management Plan is implemented.		The Dieback Management Plan has been implemented as per Items 58 to 83.	Compliant

5 Conclusions and recommendations

RPS has completed this screening and rehabilitation audit report in accordance with the objectives and completion criteria described in the SRP and in line with the methods used to assess rehabilitation success in other phases of the quarry.

This screening and rehabilitation audit report has been prepared to address Condition 10-7 of MS912. The 24-month reporting period for this screening and rehabilitation audit report is from 25 July 2016 to 25 July 2018. In accordance with Condition 10-8 this audit report shall be made publicly available.

Hanson was found to be compliant with 49 of the 94 audit items. The remaining 45 audit items were assessed as being not required at this stage (NRATS). No non-compliances were identified.

6 References

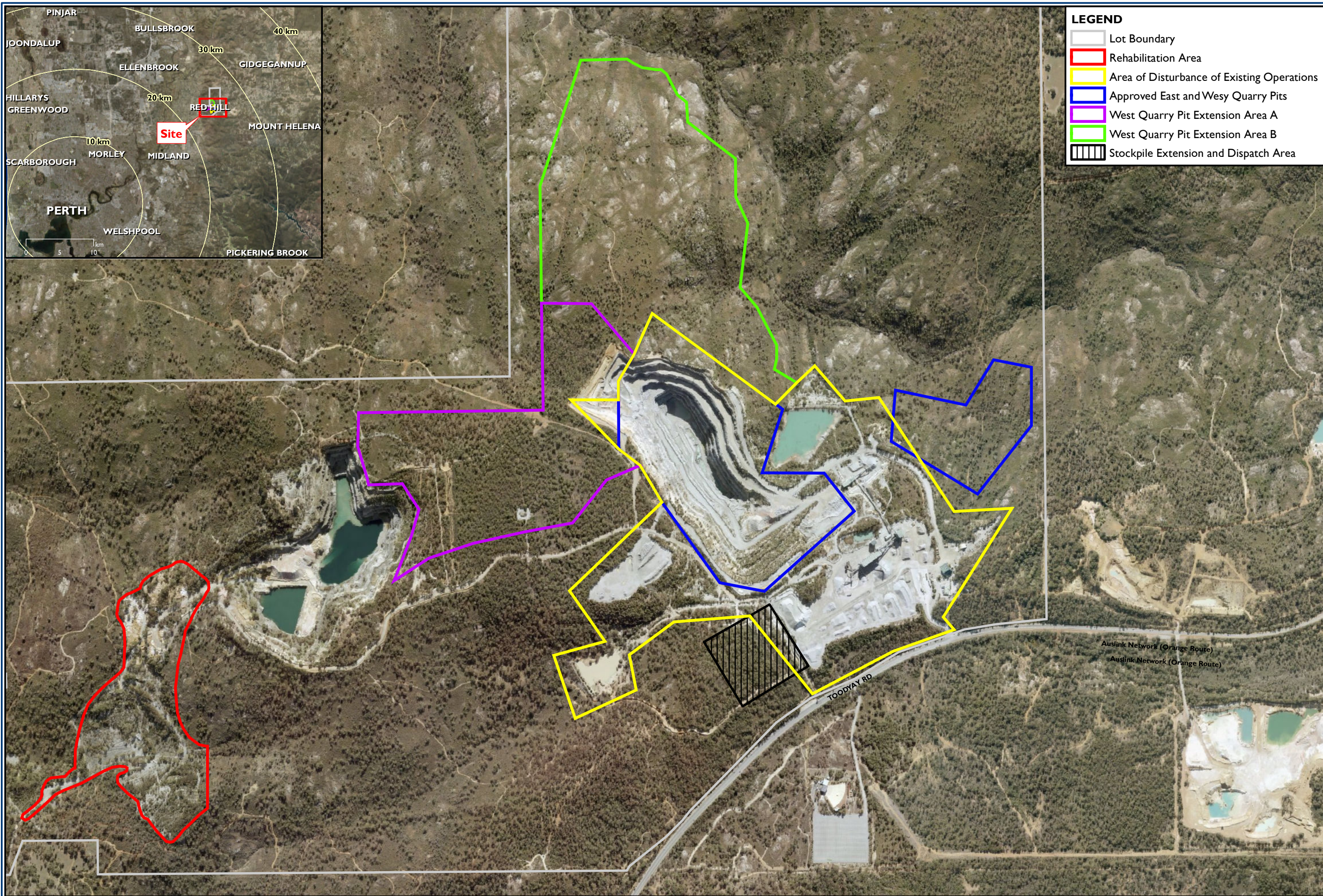
Hanson. 2014. Red Hill Quarry - West Quarry Extension Area A Screening and Rehabilitation Plan - Ministerial Statement 912.

Office of the Environmental Protection Authority. 2012a. Post Assessment Guideline for Preparing a Compliance Assessment Report.

Office of the Environmental Protection Authority. 2012b. Post Assessment Guideline for Preparing an Audit Table.

Strategen Environmental Consultants. 2018. Hanson Red Hill Quarry Annual Weed Survey.

Figures



- LEGEND**
- Lot Boundary
 - Rehabilitation Area
 - Area of Disturbance of Existing Operations
 - Approved East and West Quarry Pits
 - West Quarry Pit Extension Area A
 - West Quarry Pit Extension Area B
 - Stockpile Extension and Dispatch Area

Figure A

Site Location and Quarry Layout

Level 2, 27-31 Troode Street, West Perth | T +61 8 9211 1111 | F +61 8 9211 1122 | www.rpsgroup.com.au

Plates

Plates

📍 41°NE (T) LAT: -31.826429 LON: 116.075401 ±2m ▲ 245m



Plate A West quarry pit extension area A, SW elevation

📍 335°NW (T) LAT: -31.826429 LON: 116.075401 ±2m ▲ 245m



Plate B West quarry pit extension area A, SE elevation

RPS

📍 39°NE (T) LAT: -31.825302 LON: 116.075134 ±6m ▲ 235m



Plate C West quarry pit extension area A, SW elevation

📍 218°SW (T) LAT: -31.825424 LON: 116.075058 ±4m ▲ 236m



Plate D West quarry pit extension area A, NE elevation



Plate E **Flagging demarcating clearing area (1)**



Plate F **Flagging demarcating clearing area (2)**



Plate G **Flagging demarcating clearing area**



Plate H **Clearing area**



Plate I **Drainage channel along main haul road**



Plate J **Drainage channel along secondary road**



Plate K Pit base



Plate L Pit base and pump



Plate M MS705 sediment pond



Plate N MS705 sediment pond discharge

Appendix A

Ministerial statement no. 912

THIS DOCUMENT

This document has been produced by the Office of the Appeals Convenor as an electronic version of the original Statement for the proposal listed below as signed by the Minister and held by this Office. Whilst every effort is made to ensure its accuracy, no warranty is given as to the accuracy or completeness of this document.

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Published on: 9 October 2012

Statement No: 912

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

RED HILL QUARRY DEVELOPMENT, GIDGEGANNUP, CITY OF SWAN

Proposal: The proposal is to extend the existing Red Hill Quarry to the west (West Quarry Pit Extension Area A) and north-west (West Quarry Pit Extension Area B) of the current pit, and extend the existing stockpile and dispatch area, and install a quaternary crusher.

The proposal is further documented in Schedule 1 of this statement.

Proponent: Hanson Construction Materials Pty Ltd

Proponent Address: 123 Burswood Road
BURSWOOD WA 6100

Assessment Number: 1669

Report of the Environmental Protection Authority: 1381

Appeal Numbers: 016 to 018 of 2011

Related Ministerial Statements: 199 and 705

The proposal referred to in the above report of the Environmental Protection Authority may be implemented. The implementation of that proposal is subject to the following conditions and procedures:

1. Proposal Implementation

1-1 The proponent shall implement the proposal as documented and described in Schedule 1 of this statement subject to the conditions and procedures of this statement.

2. Proponent Nomination and Contact Details

- 2-1 The proponent for the time being nominated by the Minister for Environment under sections 38(6) or 38(7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal.
- 2-2 The proponent shall notify the Chief Executive Officer of the Office of the Environmental Protection Authority (CEO) of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change.

3. Time Limit of Authorisation

- 3-1 The authorisation to implement the proposal provided for in this statement shall lapse and be void five years after the date of this statement if the proposal to which this statement relates is not substantially commenced.
- 3-2 The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement.

4. Compliance Reporting

- 4-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.
- 4-2 The proponent shall submit to the CEO the compliance assessment plan required by condition 4-1 at least six months prior to the first compliance report required by condition 4-6, or prior to implementation, whichever is sooner.

The compliance assessment plan shall indicate:

- 1. the frequency of compliance reporting;
 - 2. the approach and timing of compliance assessments;
 - 3. the retention of compliance assessments;
 - 4. the method of reporting of potential non-compliances and corrective actions taken;
 - 5. the table of contents of compliance assessment reports; and
 - 6. public availability of compliance assessment reports.
- 4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 4-1.
 - 4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by condition 4-1 and shall make those reports available when requested by the CEO.

4-5 The proponent shall advise the CEO of any potential non-compliance within seven days of that non-compliance being known.

4-6 The proponent shall submit to the CEO a compliance assessment report in February each year addressing the twelve month period from January to December of the previous year.

The compliance assessment report shall:

1. be endorsed by the proponent's State Manager - Quarries or a person delegated to sign on the State Manager's behalf;
2. include a statement as to whether the proponent has complied with the conditions;
3. identify all potential non-compliances and describe corrective and preventative actions taken;
4. be made publicly available in accordance with the approved compliance assessment plan; and
5. indicate any proposed changes to the compliance assessment plan required by condition 4-1.

5. Performance Review and Reporting

5-1 The proponent shall submit to the CEO a Performance Review Report at ten (10) yearly intervals after the start of implementation which addresses:

1. the major environmental risks and impacts; the performance objectives, standards and criteria related to these; the success of risk reduction/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 sound 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.

6. West Quarry Pit Extension Area B

6-1 The proponent shall not implement those parts of the proposal identified as West Quarry Pit Extension Area B on the attached plan at Figure 1. The coordinates for the West Quarry Pit Extension Area B are listed in Schedule 2.

7. Fauna Habitat

- 7-1 Prior to the commencement of the proposal, the proponent shall develop a mitigation program; in consultation with the Department of Environment and Conservation, for the potential impacts from implementation of the proposal to fauna habitat for significant species, including the foraging habitat for Black Cockatoos.
- 7-2 The proponent shall develop and implement a monitoring program for the duration of the proposal, in consultation with the Department of Environment and Conservation, to monitor the outcomes of the mitigation program required by condition 7-1, in relation to significant fauna.
- 7-3 Prior to undertaking vegetation clearing, the proponent shall employ suitably trained fauna handling personnel, to identify, remove and relocate significant fauna species from areas of disturbance in consultation with the Department of Environment and Conservation.
- Note: Suitably experienced fauna handling personnel should have at least five years relevant field experience in carrying out fauna relocations in the south west of Australia to the satisfaction of the CEO.
- 7-4 The fauna handling personnel shall obtain the appropriate licenses as required for fauna relocation under the *Wildlife Conservation Act 1950*.
- 7-5 The proponent shall report the findings of the monitoring program referred to in condition 7-2 in the compliance assessment report required by condition 4-6.

8. Dieback and Weeds

- 8-1 The proponent shall ensure that dieback disease (*Phytophthora* species) is not introduced as a direct or indirect result of implementation of the proposal into uninfected areas of the project area defined by the “red coloured line” in Figure 1.
- 8-2 Prior to the commencement of the proposal, the proponent shall undertake a survey of the project area to identify and map the location of any dieback infestations.
- 8-3 At the completion of the survey identified in condition 8-2, the proponent shall provide the results and map of dieback infestations to the CEO.
- 8-4 The proponent shall use the map produced from the survey required by condition 8-2 as a baseline map of previously identified dieback infestations when determining compliance with condition 8-1.
- 8-5 No new species of weeds (including both declared weeds and environmental weeds) shall be introduced into the project area defined by the “red coloured line” in Figure 1 as a result of the implementation of the proposal.

- 8-6 Prior to the commencement of the proposal, the proponent shall undertake a survey of the project area to identify and map the location of any known weed infestations.
- 8-7 The proponent shall use the map produced from the survey required by condition 8-6 as a baseline map of previously identified weed infestations when determining compliance with condition 8-5.
- 8-8 The proponent shall use the maps produced from the surveys required by condition 8-2 and 8-6 to produce a Hygiene Management Plan in consultation with the Department of Environment and Conservation, to ensure compliance with 8-1 and 8-5.
- 8-9 The proponent shall report on measures taken to achieve the requirements of conditions 8-1 and 8-5 in the compliance assessment report required by condition 4-6.

9. Dust Monitoring and Management

- 9-1 The proponent shall only detonate explosives on the premises when wind directions favour the carriage of dust away from residential areas to the west of the quarry, unless undertaken in accordance with the *Mines Safety and Inspection Regulations 1995*.
- 9-2 For the duration of the proposal, including construction activities, the proponent shall measure dust emissions at the western boundary of Lot 11 that is adjacent to the nearest sensitive receptor, which is identified in Figure 3, against an ambient PM₁₀ target of 50 micrograms per cubic metre averaged over a 24 hour period.
- Note: Dust monitoring should be conducted in accordance with Australian Standard AS/NZS 3580.1.1:2007 *Guide to siting air monitoring equipment*, to ensure the accuracy of data collected.
- 9-3 In the event that dust emission levels are in excess of the maximum allowable PM₁₀ target defined by condition 9-2, the proponent shall notify the CEO within seven days of the exceedence.
- 9-4 The proponent shall within fourteen days of the exceedence of the maximum allowable PM₁₀ target defined by condition 9-2 being recorded, provide a report to the CEO outlining the causes for the exceedence and management measures being implemented to ensure compliance with the requirements of condition 9-2.
- 9-5 The proponent shall report the results of measurement required in condition 9-2 in the compliance assessment report required by condition 4-6.
- 9-6 The proponent shall maintain a complaints register for the duration of the proposal and immediately investigate and alleviate any dust complaints.

10. Screening and Rehabilitation of West Quarry Pit Extension Area A

- 10-1 Prior to undertaking vegetation clearing, the proponent shall prepare a Screening and Rehabilitation Plan for all disturbed areas in West Quarry Pit Extension Area A (Figure 1) and associated stockpiles and overburden dumps, to the satisfaction of the CEO.
- 10-2 The objective of the Screening and Rehabilitation Plan required by condition 10-1 is to ensure that rehabilitation of the West Quarry Pit Extension Area A and associated stockpiles and overburden dumps achieves a stable and functioning landform which provides generally similar landscape characteristics having regard to the use of the land and which minimises visual impacts of the quarry operation on other land.
- 10-3 The Screening and Rehabilitation Plan required by condition 10-1 shall:
1. identify land within a six kilometre radius of the West Quarry Pit Extension Area A from which the quarry pit is visible;
 2. detail the screening and rehabilitation practices to be implemented over the life of the operations (including planting of indigenous vegetation) for West Quarry Pit Extension Area A and associated stockpiles and overburden dumps;
 3. specify the short and long term measures to be taken to address visual impacts from West Quarry Pit Extension Area A, particularly for land identified in 10-3-1; and
 4. specify time frames for the implementation of all screening and rehabilitation measures.
- 10-4 In preparing the Screening and Rehabilitation Plan required by condition 10-1 the proponent is to consult with owners and occupiers of the land referred to in condition 10-3-1.
- 10-5 The proponent shall implement the Screening and Rehabilitation Plan required by condition 10-1.
- 10-6 The proponent shall report the progress of conditions 10-1 to 10-5 in the compliance assessment report required by condition 4-6.
- 10-7 The proponent shall commission an Independent Specialist to assess the proponent's performance against the Screening and Rehabilitation Plan required by condition 10-1 at intervals no greater than two years, with the Independent Specialist's assessment report being provided to the CEO within 20 business days of it being received by the proponent.
- 10-8 The proponent shall make the Screening and Rehabilitation Plan required by condition 10-1 and the reports under conditions 10-6 and 10-7 publicly available in a manner approved by the CEO.

10-9 Screening and rehabilitation activities shall continue until such time as the CEO determines that the proponent's screening and rehabilitation responsibilities required by Condition 10 have been fulfilled.

11. Decommissioning and Closure

11-1 At least two years prior to the anticipated date of closure, or at a time approved by the CEO, the proponent shall submit a Final Decommissioning Plan designed to ensure that the site is suitable for future land uses, for approval by the CEO.

The Final Decommissioning Plan shall set out procedures and measures for:

1. decommissioning of all plant and equipment;
2. rehabilitation of all areas disturbed through implementation of the proposal (except the final quarry pit). Revegetation should be composed of native plant species of local provenance (defined as seed or plant material collected within 10 kilometres of the proposal); and
3. inventory of all contaminated sites and proposed management; and
4. final closure of all areas disturbed through implementation of the proposal so that they are safe, stable and non-polluting.

11-2 The proponent shall implement the Final Decommissioning Plan required by condition 11-1 until such time as the CEO determines that the proponent's decommissioning responsibilities have been fulfilled.

11-3 The proponent shall make the Final Decommissioning Plan required by condition 11-1 publicly available in a manner approved by the CEO.

12. Conservation of Native Vegetation

12-1 Prior to the commencement of clearing for this proposal, the proponent shall ensure that not less than 87 hectares of native vegetation, identified within the area shaded green in Figure 2 and delineated by the co-ordinates listed in Schedule 2 of this statement, is protected in perpetuity by an instrument or instruments approved by the CEO.

12-2 Within five years of the date of this statement, the proponent shall rehabilitate not less than 28 hectares of degraded area identified in Figure 2 and delineated by the co-ordinates listed in Schedule 2 of this statement, to the requirements of the CEO. Revegetation should be composed of native plant species of local provenance (defined as seed or plant material collected within 10 kilometres of the proposal)

13. Vibration Monitoring and Management

13-1 Prior to the commencement of ground disturbing activities for this proposal, the proponent shall prepare a Vibration Monitoring and Management Plan to the requirements of the CEO on the advice of the Department of Environment and Conservation.

The objective of this Plan is to manage blasting operations to ensure that Aboriginal heritage sites in West Quarry Pit Extension Area B, in particular the Ancestral Owl Stone, are not impacted by ground vibrations.

13-2 In preparing the Vibration Monitoring and Management Plan referred to in condition 13-1, the proponent is to consult with the Department of Indigenous Affairs and relevant local indigenous people.

13-3 The proponent shall implement the Vibration Monitoring and Management Plan referred to in condition 13-1, until such time as the CEO determines that the objective of the Plan has been achieved.

13-4 The proponent shall report the progress of conditions 13-1 to 13-3 in the compliance assessment report required by condition 4-6.

13-5 The proponent shall make the Vibration Monitoring and Management Plan required by condition 13-1 and the reports under condition 13-4 publicly available in a manner approved by the CEO.

[Signed 9 October 2012]

**HON BILL MARMION MLA
MINISTER FOR ENVIRONMENT; WATER**

The Proposal (Assessment No. 1669)

The proposal is to extend the existing Red Hill Quarry to the west (West Quarry Pit Extension Area A) and north-west (West Quarry Pit Extension Area B) of the current pit, and extend the existing stockpile and dispatch area, and install a quaternary crusher.

The main characteristics of the proposal are summarised in Table 1 below. A detailed description of the proposal is provided in the environmental review document, Red Hill Quarry Development - *Public Environmental Review* (June 2008).

Table 1: Summary of Key Proposal Characteristics

Element	Description
West Quarry Pit Extension Area A	No more than 32 hectares as shown in Figure 1 and delineated by the co-ordinates listed in Schedule 2.
West Quarry Pit Extension Area B	No more than 43 hectares as shown in Figure 1 and delineated by the co-ordinates listed in Schedule 2.
Extension of existing stockpile and dispatch area, and installation of a quaternary crusher.	No more than five (5) hectares as shown in Figure 1 and delineated by the co-ordinates listed in Schedule 2.

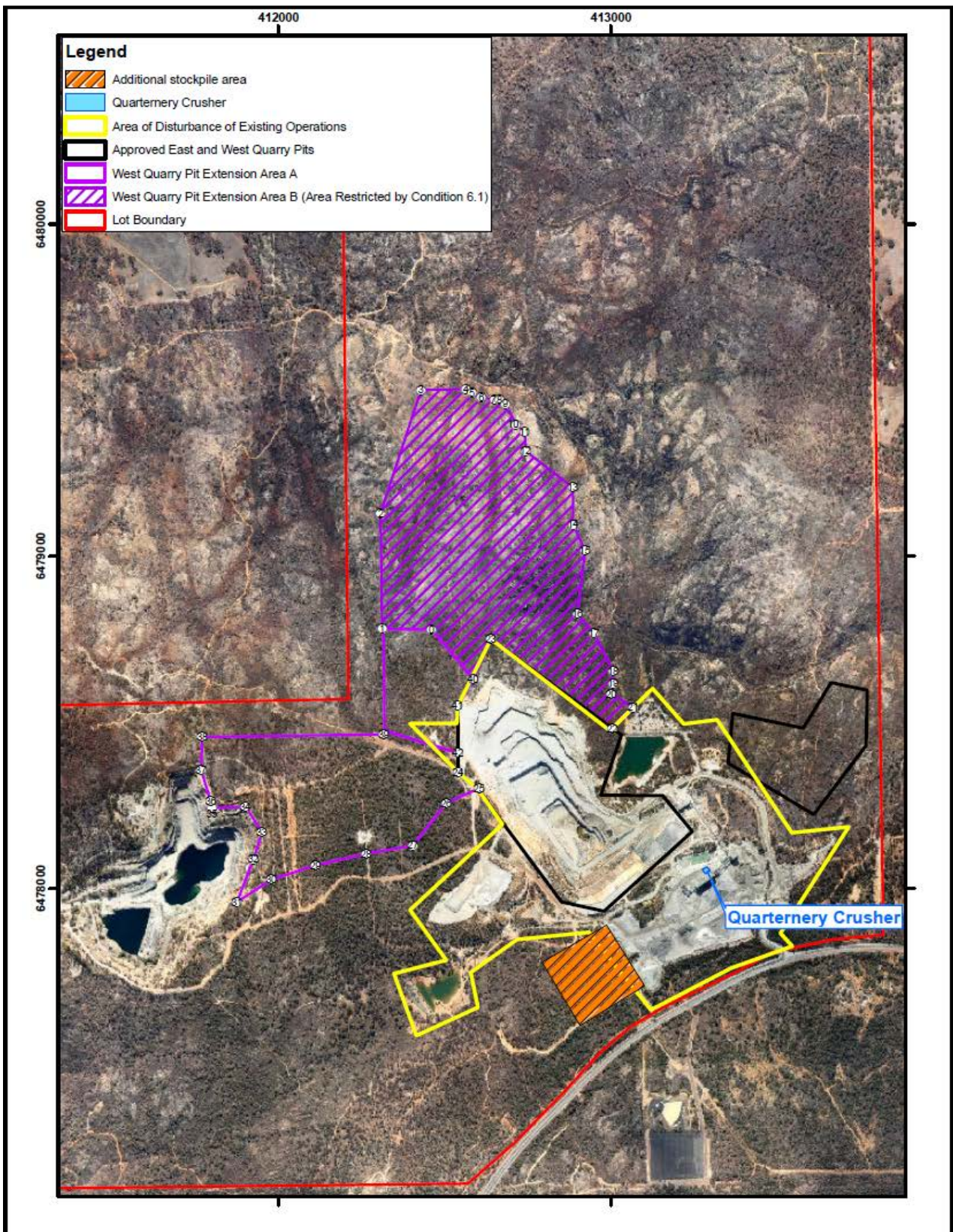
Figures

Figure 1: Proposal Area

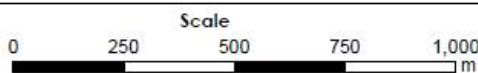
Figure 2: Conservation Covenant and Rehabilitation Area

Figure 3: Sensitive Receptors

Figure 1: Proposal Area



Proposal Area

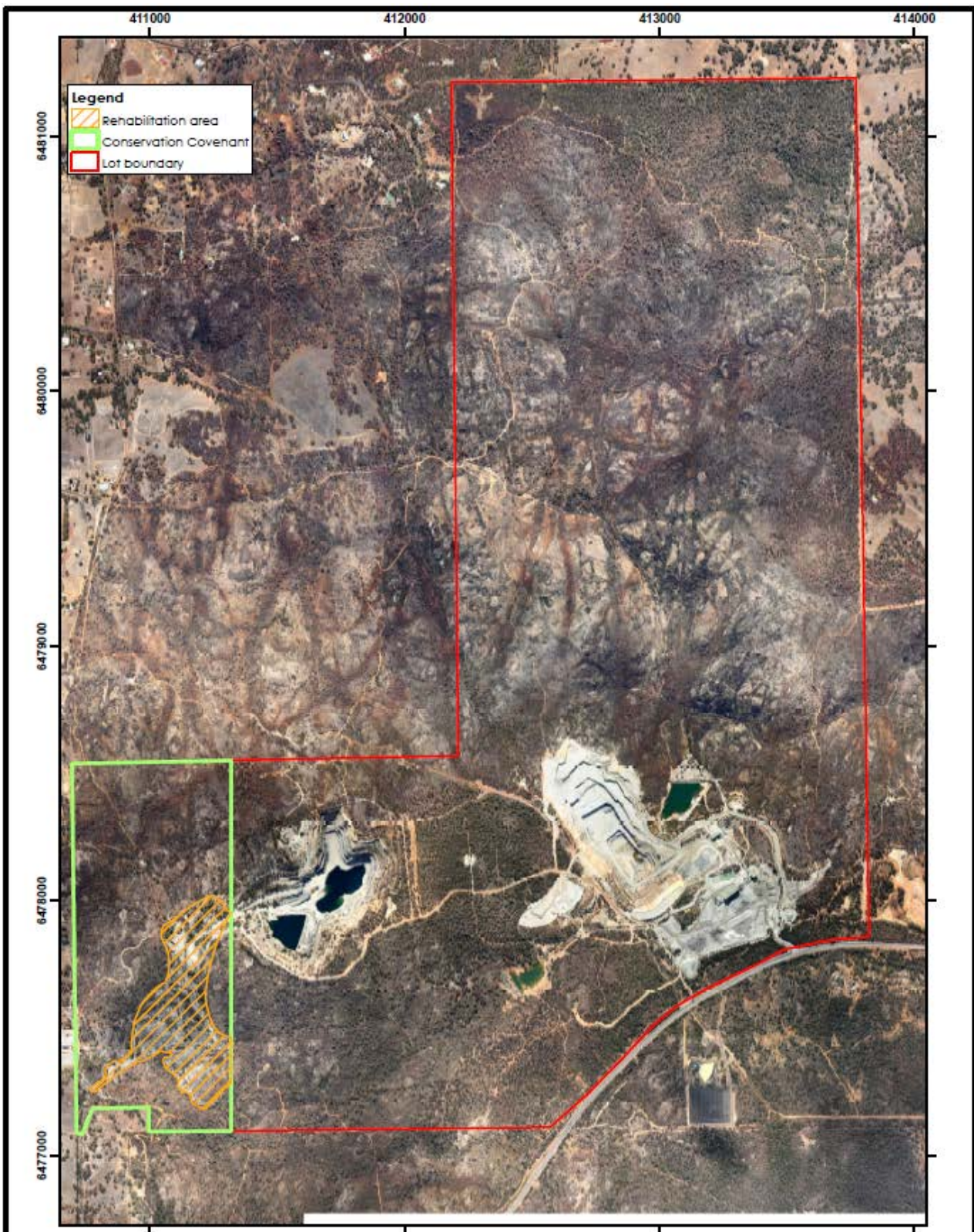


1:15,000
at A4

Coordinate System: GDA 1994 MGA Zone 50
Date: 8/02/2012
Author:
Path: \\G:\01\GIS\Consult\2011\XHAN\XHAN11028\ArcMap documents\Figure 1.mxd

Source: Imagery sourced from Nearmap_20/04/2011
Note that positional errors may occur in some areas

Figure 2: Conservation Covenant and Rehabilitation Area




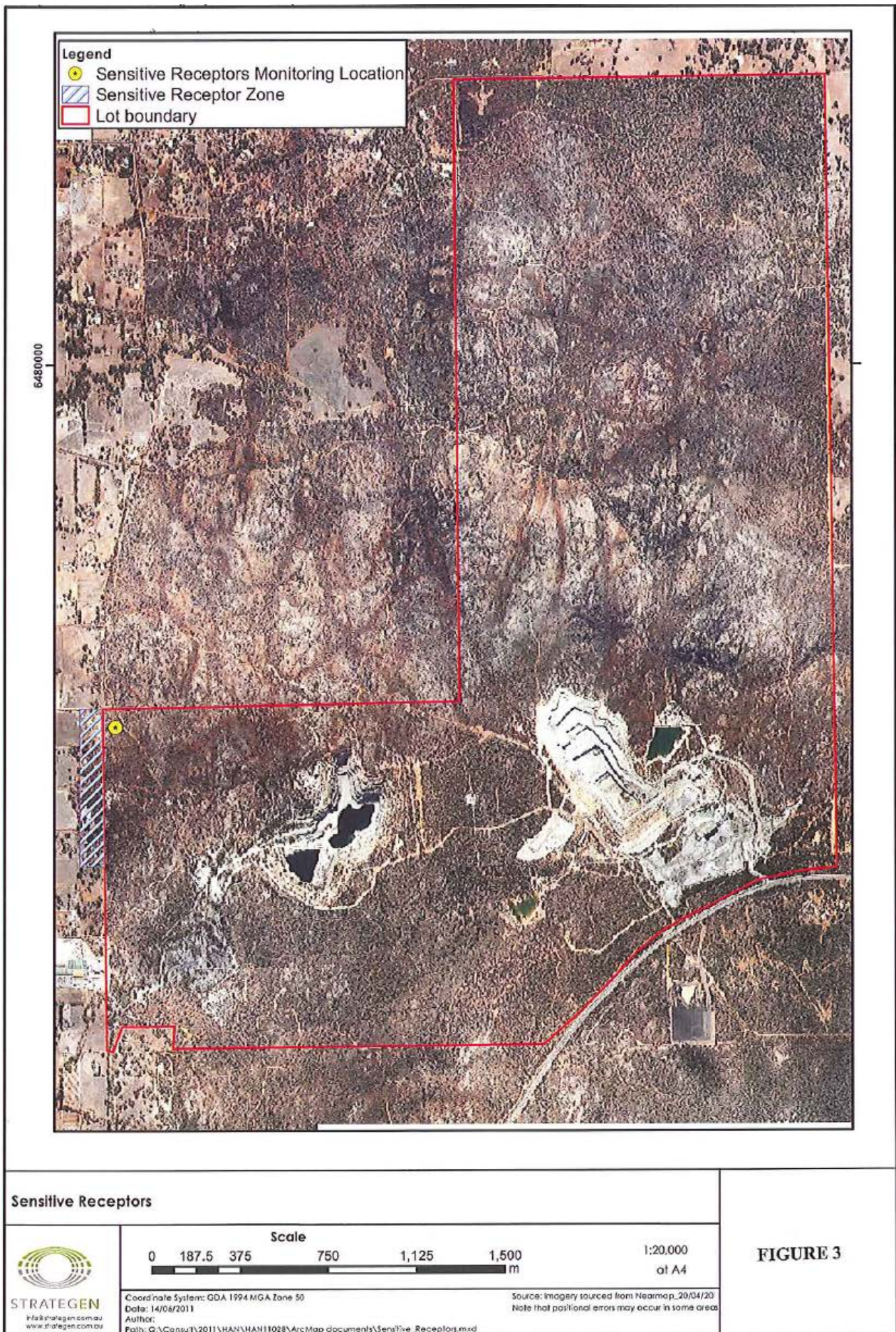
<p>Conservation Covenant and Rehabilitation Area within Ecological Corridor</p>	
 <p>STRATEGEN info@strategen.com.au www.strategen.com.au</p>	<p>Scale</p> <p>0 250 500 750 1,000 m</p> <p>1:20,000 at A4</p> <p><small>Coordinate System: GDA 1994 MGA Zone 50 Date: 3/10/2012 Author: JCulle Path: G:\GIS\Consult\2011\HAN\HAN11028\ArcMap documents\HAN11028_01_Conservation_Covenant\Rehab_awa.mxd</small></p> <p><small>Source: Imagery sourced from Nrcamap_20/04/2011 Note that positional errors may occur in some areas</small></p>

Figure 3: Sensitive Receptors



Co-ordinates

The correct recreation of the boundaries below requires the sequential connection of the co-ordinates as per its co-ordinate number.

All co-ordinates are listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geodetic Datum of Australia 1994 (GDA94).

Table 1: West Quarry Pit Extension Area A

Ref	Easting	Northing
1	412313	6478781
0	412461	6478779
40	412587	6478630
41	412540	6478550
42	412541	6478408
24	412541	6478349
25	412605	6478300
26	412505	6478257
27	412405	6478130
28	412264	6478104
29	412112	6478070
30	411980	6478026
31	411876	6477959
32	411926	6478088
33	411950	6478170
34	411901	6478246
35	411801	6478243
36	411797	6478262
37	411769	6478356
38	411771	6478456
39	412318	6478464

Table 2: West Quarry Pit Extension Area B

Ref	Easting	Northing
0	412461	6478779
1	412313	6478781
2	412308	6479128
3	412429	6479500
4	412566	6479503
5	412583	6479492
6	412611	6479478
7	412652	6479472
8	412667	6479472
9	412683	6479459
10	412715	6479397
11	412742	6479375

12	412745	6479317
13	412887	6479208
14	412888	6479095
15	412923	6479017
16	412900	6478827
17	412950	6478769
18	413009	6478656
19	413009	6478616
20	413002	6478585
21	413068	6478545
22	413005	6478482
23	412640	6478750
40	412587	6478630

Table 3: Stockpile extension and dispatch area, and quaternary crusher

Easting	Northing
412988E	6477889N
412794E	6477778N
412908E	6477587N
413103E	6477707N

Table 4: Conservation area (87 hectares)

Easting	Northing
410695.4E	6478537.9N
411319.3E	6478551.2N
411320.2E	6477952.9N
411320.2E	6477466N
411315.2E	6477281.1N
411319.3E	6477096.4N
410995.6E	6477093.2N
410995E	6477188.8N
410777.1E	6477185.7N
410714.4E	6477088.8N

Table 5: Rehabilitation area (28 hectares)

Easting	Northing
410763.5E	6477256.5N
410924.2E	6477404.3N
411061.9E	6477678.7N
411052.7E	6477896.4N
411236.5E	6478020.6N
411320.2E	6477952.9N
411228.8E	6477705.3N
411320.2E	6477466N

Easting	Northing
411315.2E	6477281.1N
411210.5E	6477183.2N
411083.7E	6477391.5N

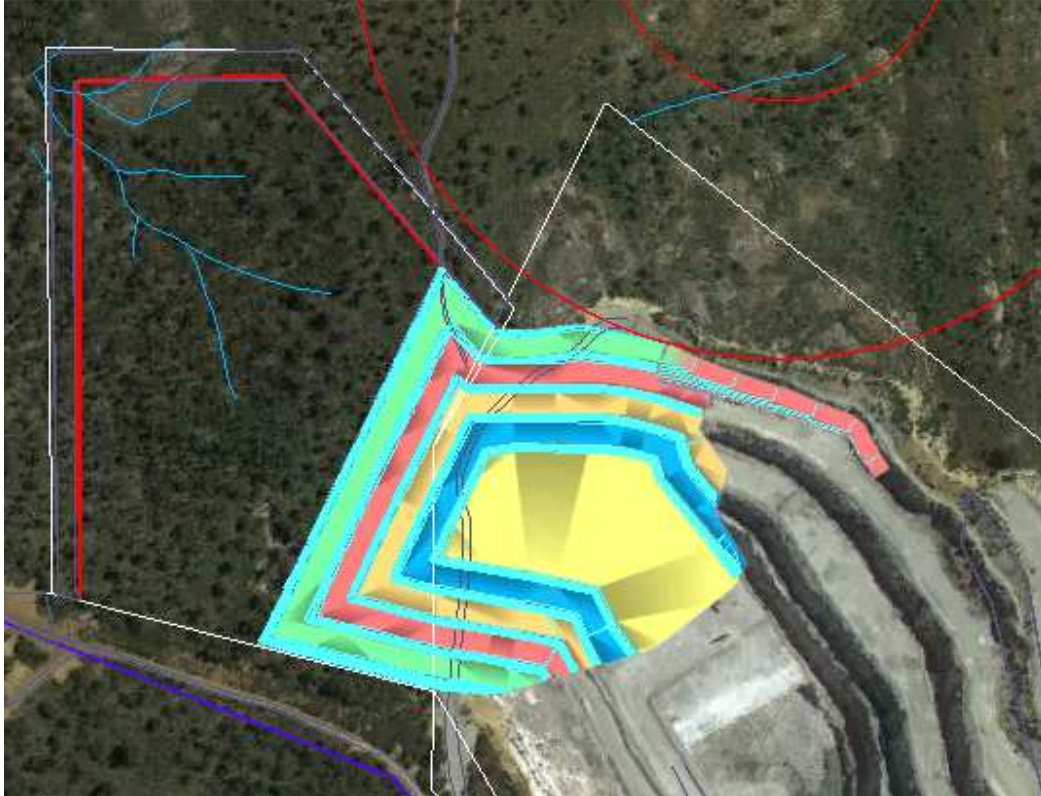
Table 6: Sensitive receptors monitoring location

Easting	Northing
410747.27E	6478459.74N

Appendix B

Staging plan

Stage 1



Stage 1 Image ✕

Granite: 1,979,676 TO
Waste: 318,554 m3

Ramp Image ✕

11,385 m3
1:10 gradient

165	Yellow
180	Blue
185	Orange
210	Red
225	Green
240	Purple

Stage 2



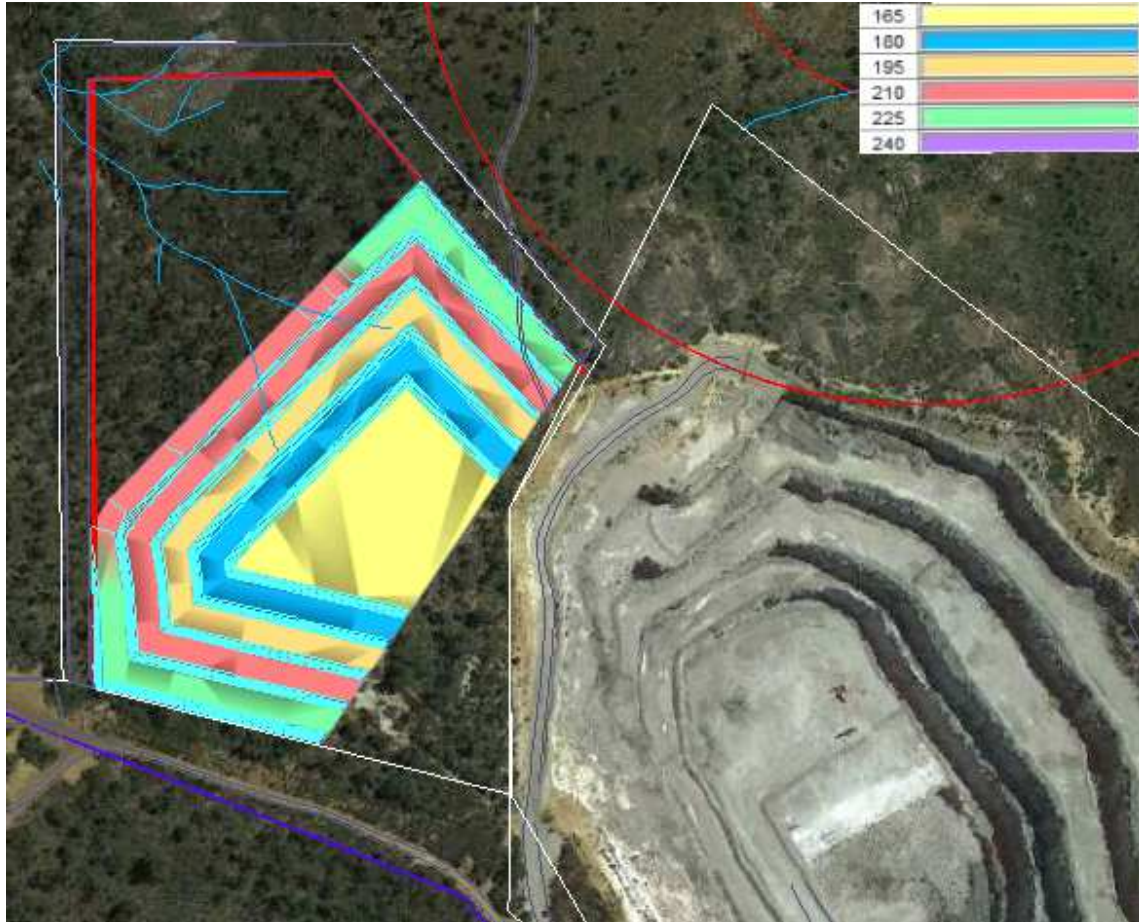
Stage 2 Image ✕

Granite: 1,047,253 TO

Waste: 229,395 m3

165	Yellow
180	Blue
195	Red
210	Green
225	Cyan
240	Purple

Stage 3

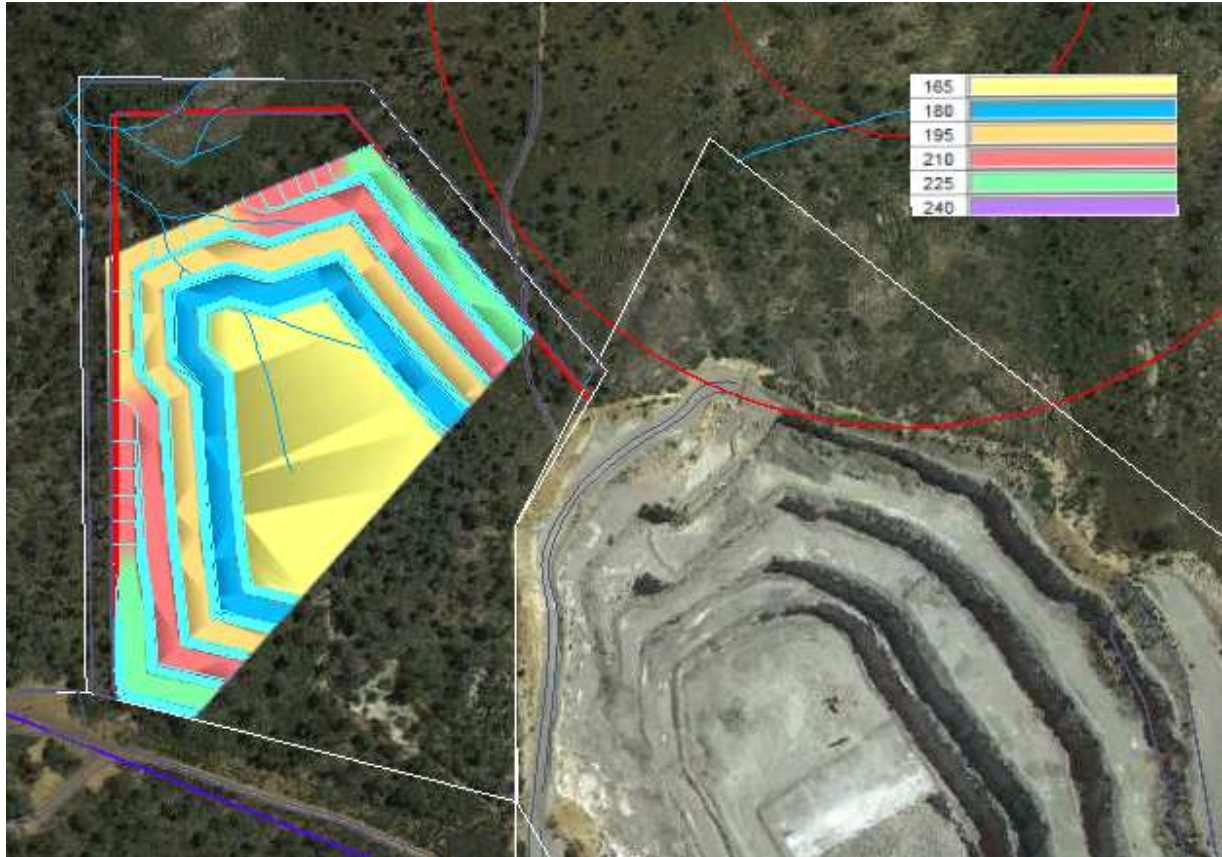


Stage 3 Image ✕

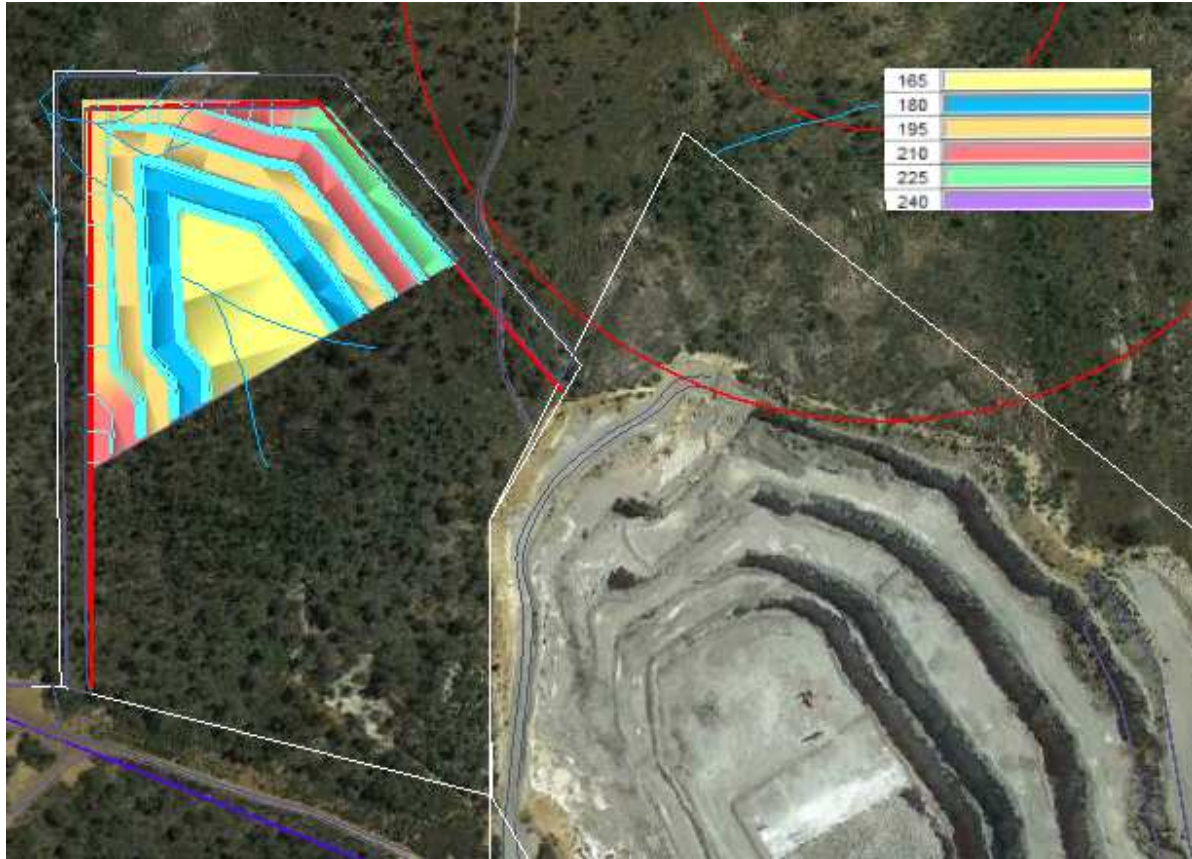
Granite: 1,223,385 TO

Waste: 118,856 m3

Stage 4



Stage 5

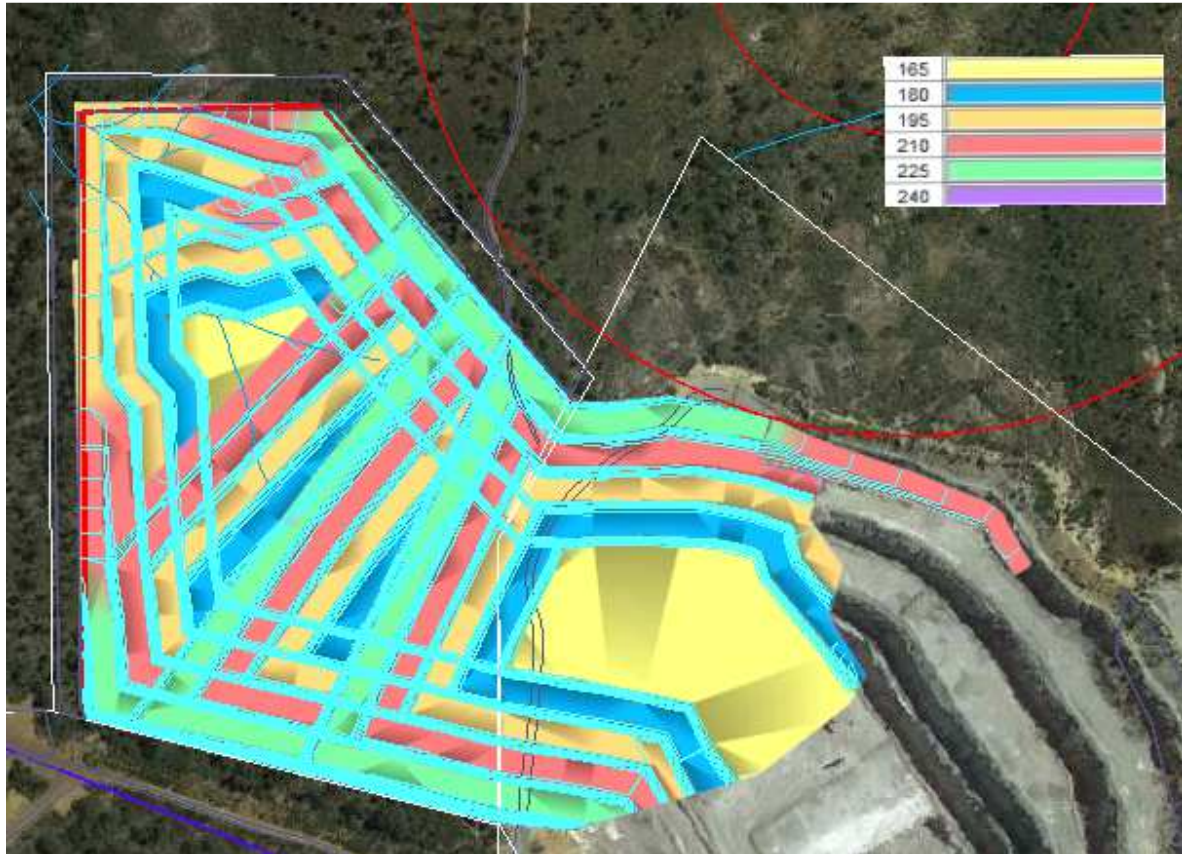


Stage 5 Image ✕

Granite: 262,691 TO

Waste: 37,962 m3

All Stages



All stages need to be loaded to see the development sequence and the width of the stages. It would be preferable to address this in the plan so that is clearer stage by stage.

Appendix C

Confirmation of substantial commencement

Giles Glasson

From: Floyd Browne <Floyd.Browne@epa.wa.gov.au>
Sent: Wednesday, 21 December 2016 10:32 AM
To: Case, Damon (Rivervale) AUS
Cc: Newton, Vern (Rivervale) AUS; Keller, Zoe (Rivervale) AUS; Hults, Lisa-Jane (Rivervale) AUS; OEPA Compliance
Subject: RE: Hanson Red Hill - MS912 3-2

Hi Damon

Thank you for the notification of substantial commencement.

I have forwarded the confirmation to our Compliance Branch so they can update their Compliance records for Ministerial Statement 912.

Kind regards

Floyd Browne
Principal Environmental Officer
Assessment and Compliance Division
Office of the **Environmental Protection Authority**

The Atrium, Level 8, 168 St Georges Terrace, Perth
Locked Bag 10, East Perth WA 6892
direct: 08 6145 0804 | reception: 08 6145 0800 | fax: 08 6145 0895
email: Floyd.Browne@epa.wa.gov.au | web: <http://www.epa.wa.gov.au>
[@EPA_WA](#)



Office of the
Environmental Protection Authority

From: Case, Damon (Rivervale) AUS [<mailto:Damon.Case@hanson.com.au>]
Sent: Wednesday, 21 December 2016 10:16 AM
To: Floyd Browne
Cc: Newton, Vern (Rivervale) AUS; Keller, Zoe (Rivervale) AUS; Hults, Lisa-Jane (Rivervale) AUS
Subject: Hanson Red Hill - MS912 3-2

Hi Floyd

As required under condition 3-2 of MS 912, please find attached written confirmation that we have commenced the proposal.

Hard copy is in the mail.

Regards
Damon

Damon Case
Operations Manager Aggregates



T +61 8 9311 8831 | M +61 407 795 840

damon.case@hanson.com.au | www.hanson.com.au



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The image shows a white and orange Hanson Super Maxi Semi Agitator truck. The truck is a semi-trailer unit with a large, cylindrical concrete agitator drum. The drum is white with an orange band around the middle and the word "Hanson" printed on it. The truck is parked on a paved surface, and the background is a blurred outdoor setting.