

Independent Environmental Audit

Tanilba Northern Dune

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Tanilba Northern Dune

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Executive Summary

AECOM Australia Pty Limited has been commissioned by Sibelco Australia Pty Ltd to conduct the Independent Environmental Audit for Tanilba Northern Dune sand mine in accordance with Clause 13(1) of the *Hunter Water (Special Areas) Regulations 1997* for engaging in extractive industry in the Tomago Sandbeds Catchment Area, dated 18 July 2002.

This audit was undertaken generally in accordance with *ISO 14010 – Guidelines and General Principles for Environmental Auditing* and *ISO 14011 Procedures for Environmental Auditing*.

This audit covers the period between December 2007 to 4 December 2015, and includes:

- Comments on Sibelco Australia Pty Ltd's compliance against the conditions of the Hunter Water Approval (**Table 9** and **Appendix A**);
- Comments on Sibelco Australia Pty Ltd's compliance with the supporting Groundwater Management Plan and Rehabilitation Management Plans, as well as progress under the Rehabilitation Management Plans (SSS, AAA);
- Comments on whether the environmental objectives of the Ground Water Management Plan and the Rehabilitation Area are being met; and
- Comments on the Operational Area in terms of the Release Criteria set out in the Environmental Management Plan;
- Comments on the recommendations that were made during the previous Independent Environmental Audit in 2008 (URS, 2008); and
- A list of recommendations flowing from the findings of this audit (**Table 7**, **Table 8**, and **Section 7.0**).

This audit was conducted by Nick Ballard and Jessica Miller, and consisted of a detailed desktop review of documentation, interviews with key Sibelco staff and a site visit of the Tanilba Northern Dune sand mine. Additional desktop reviews were conducted prior to and following the site inspection. A peer review of the Independent Environmental Audit was conducted by Ian Richardson.

A total of ten non-compliances were found (including repeat findings from the 2008 IEA, URS, 2008) with 18 recommendations made for conditions identified to be compliant and/or non-compliant. These recommendations can be found in **Table 7**, **Table 8**, and **Section 7.0**. Detailed findings of compliance and non-compliance are outlined in more detail in **Appendix A** and **Appendix B**. At the time of the audit, Sibelco management were made aware of these identified non-compliances.

Various good practices were noted during the Independent Environmental Audit. Sibelco Australia Pty Ltd. Particularly noteworthy examples of environmental management at the Tanilba Northern Dune mine include:

- Progressive rehabilitation works appear to be successful, with seed collection, storage, weed management, topsoil re-establishment, and vegetation survival rates all progressing well;
- Extraction plant and hydrocarbons were observed to be appropriately stored offsite during a period of no sand extraction works taking place; and
- Sibelco personnel seemed knowledgeable about operational, rehabilitation and monitoring works taking place at the Site, and demonstrated intimate knowledge of the Site during the site inspection.

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by Sibelco Australia Ltd (Sibelco) to undertake an Independent Environmental Audit (IEA) of the Sibelco sand extraction operation located on the eastern side of Oyster Cove Road, on an elevated sand dune known as the Tanilba Northern Dune, Oyster Cove in the Shire of Port Stephens, New South Wales (NSW), 2318 (the Site).

Interviews with Site personnel and a document review were undertaken at Sibelco Salt Ash facility located at 8 Oakvale Drive, Salt Ash NSW 2318 and the Site on 4 December 2015.

1.1 Background

In 2011 Unimin Australia Limited (Unimin) adopted the parent company name of Sibelco.

The purpose of this report is to provide the findings of an IEA of compliance with the conditions of approval for engaging in extractive activities in the Tomago Sandbeds Catchment Area. Approval for the operation was granted by the Director-General of the then NSW Department of Land and Water Conservation (now NSW Department of Primary Industries: Water – DPI Water, formerly the NSW Office of Water (NOW)) to Unimin on 16 July 2002 under Clause 13(1) of the *Hunter Water (Special Areas) Regulations 1997*. The operation is for sand extraction undertaken by Sibelco at the Northern Dune of Tanilba Bay, in the Tomago Sandbeds Catchment Area (“the approval”).

The audit was undertaken to meet the requirements of conditions 8(1) and 8(4) of the approval. A summary of the conditions of approval is provided in **Appendix A**.

This is the second IEA of the Site. The first IEA was conducted in 2008 by URS Australia Pty Ltd (URS, 2008). URS (2008, p.1-1) stated that “*It should be noted that some of the approval conditions are not relevant to the current operations. Agreement as to which conditions were subject to the audit was obtained with the DWE and Hunter Water Corporation (HWC) prior to the commencement of the audit*”.

Those conditions which are not relevant are identified as such in **Appendix A** of this audit report.

1.2 Audit Methodology

The audit methodology consisted of a review of documentation, interviews with key Sibelco staff (Ian Clark - Area Manager, Jeffrey Clarkson - Operations Manager and Elizabeth Alexander - Safety and Environmental Coordinator), and a site visit conducted by the audit team. The audit assessed Sibelco’s compliance against Approval under Clause 13(1) of the *Hunter Water (Special Areas) Regulation 1997* for engaging in extractive industry in the Tomago Sandbeds Catchment Area, dated 18 July 2002. The audit also noted where conditions were already found to have been closed out during the 2008 IEA (URS, 2008), and furthermore, addressed Sibelco’s progress against the findings made in the 2008 IEA.

1.3 Scope of Works

The audit was undertaken in accordance with Condition 8 of the approval. The requirements of approval conditions 8(1), 8(2) and 8(4) are provided as follows.

Clause 8(1) - Requirements for Environmental Audits – Any Environmental Audits undertaken for the purpose of this Approval must:

- a) *be carried out in accordance with ISO 14010 – Guidelines and General Principles for Environmental Auditing and ISO 14011 Procedures for Environmental Auditing;*
- b) *assess compliance with the requirements of this Approval;*
- c) *assess compliance with the Ground Water Management Plan;*
- d) *assess compliance with and progress of work under Rehabilitation Plans;*
- e) *assess whether the environmental objectives of the Ground Water Management Plan and the Rehabilitation Area are being met;*
- f) *assess the Operational Area in terms of the Release Criteria set out in the Environmental Management Plan;*
- g) *be conducted by an independent consultant, nominated by the Approval Holder and approved in advance by the HWC and the Department; and*
- h) *be carried out at the cost of the Approval Holder.*

Clause 8(2) - Environmental Audit Report –

- a) *The results of an Environmental Report must be presented in a comprehensive report (Environmental Audit report).*
- b) *An Environmental Audit Report may include recommendations as to works that could be performed or additional obligations that could be imposed in order to rectify any of the matter assessed under paragraph (1).*
- c) *Supplementary Environmental Audit – If the approval holder performs further works or satisfies additional obligations based on recommendations made in an Environmental Audit Report, the approval holder may cause a further audit to be carried out in relation to those further works or obligations (Supplementary Environmental Audit).*
- d) *The results of a Supplementary Environmental Audit must be presented in a comprehensive report (Supplementary Environmental Audit Report).*

Clause 8(4) - Four year Audit – The approval holder must cause an Environmental Audit to be carried out four years after the commencement of the Extractive Operations.

Extractive operations commenced in November 2003. The audit period comprises the eight years from December 2007 to 4 December 2015 (the 'audit period') and is the second IEA that has been undertaken at the Site under the Conditions of Approval. This audit report presents the findings of the second IEA undertaken for the operation.

1.3.1 Audit Exclusions

The scope of the audit specifically excluded:

- Additional approvals (such as Project Approval 09_0091, granted on 8 March 2014) and licences held by the Site, such as its Environmental Protection Licence (EPL) 11633 conditions;
- Assessment of compliance against non-environmental conditions, such as compliance with building codes, road works, Section 94 contributions and fire protection conditions;
- Conducting environmental monitoring (such as dust, odour, air, noise and water) in order to assess the Site against Development Approval or EPL conditions or management plan requirements;
- Additional Site visits or meetings with Sibelco, other than those stated;
- Liaison with local community groups or regulators; and
- Sibelco Salt Ash processing plant.

1.4 Sensitive Information

It is understood that information collected during the audit may be sensitive. Documents used during the audit were kept secure and not distributed outside the relevant personnel involved in the audit.

1.5 Report Format

The format of this report is as follows:

- **Section 1.0** is introduction and provides the scope and nature of the audit;
- **Section 2.0** briefly describes Site operations and history as observed during the site inspection;
- **Section 3.0** summarises the audit process;
- **Section 4.0** summarises Site observations and includes photographs;
- **Section 5.0** summarises the audit findings;
- **Section 6.0** provides a summary of the Site's environmental performance; and
- **Appendix A** and **Appendix B** provide a detailed breakdown of the Site's compliance against the audit criteria and the recommendations from the 2008 IEA.

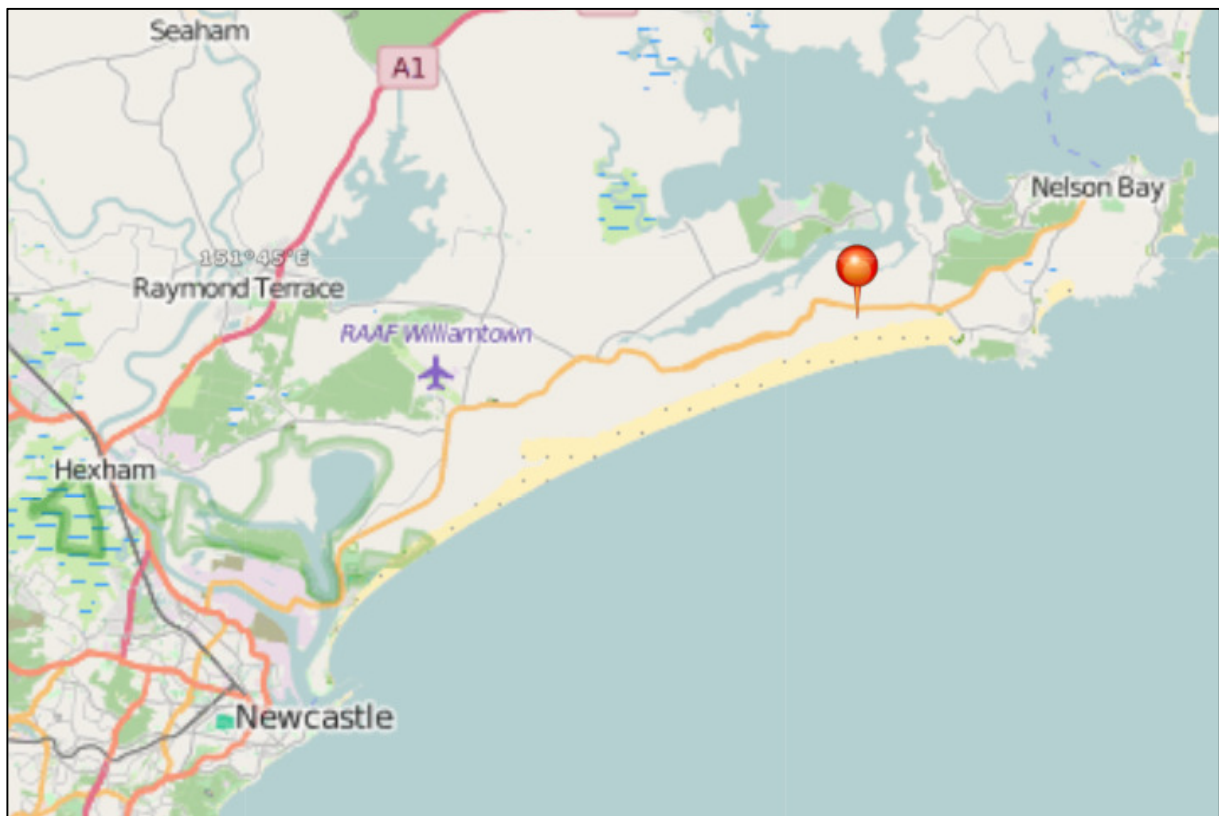
2.0 Site Description

This **Section 2.0** provides a brief overview of the development of the Tanilba Northern Dune sand mine and operations carried out on-site.

2.1 Site Location and History

The Northern Dune is located either side of Oyster Cove Road, immediately south of Oyster Cove and west of Tanilba Bay, north of Newcastle, NSW. **Figure 1** shows the location of the Site.

Figure 1 Site Location



(Source: NASA, NGA USGS, ArcGIS Explorer)

The sand mining operations undertaken by Sibelco (previously trading as Unimin) at the Northern Dune comprise: clearing of vegetation, stripping of top soil, excavation of sand to the permitted depth, replacement of top soil, replacement of cleared vegetation, seeding and planting of seedlings.

Excavation activities typically involve one bulldozer, one front end loader and several haulage trucks. The excavated sand is transported to Unimin's sand processing plant at Salt Ash. The sand processing plant was not subject to this audit.

The operations commenced in 2003 in the western part of the site and are progressively moving eastwards, with rehabilitation and revegetation works closely following the extraction operation.

During the audit period Zone 2 (2006 – 2008), Zone 3 (2008 – 2010) and Zone 4 (2011 to present) had been mined. **Figure 2** shows the location of the extraction zones at Northern Dune.

Figure 2 Northern Dune Extraction Zones

(Source: Tanilba Northern Dune Environmental Management Plan, December 2014, Rev 2, Groundwater Management Plan, Appendix 1)

A new project approval (PA 09_0091) was granted by the then NSW Department of Trade and Investment on 26 November 2013 (now the NSW Department of Planning and Environment (DP&E)), allowing extraction from Lots 11-13 extraction area. Operations in these Lots have not yet commenced and are expected to begin in 2016.

2.2 Activities Occurring During Site Inspection

At the time of the site inspection, operational activities were concentrated in Zone 4, however, no extraction was taking place on 4 December 2015. Plant used for extraction in Zone 4 was observed to be securely stored near the administration building at the Sibelco Salt Ash facility. No plant was stored at the Northern Dune during the time of the site visit.

3.0 Audit Process

3.1 Introduction

The audit was carried out in general accordance with Australia/New Zealand ISO 19011:2014 *Guidelines for auditing management systems* following established audit procedures and practices that included documentation review, interviews, a field visit and verification activities. A brief description of the audit programme is provided in **Sections 3.2.1 to 3.2.5**.

3.2 Programme

The audit followed established audit procedures and practices that included document reviews, interviews, field visits and verification activities. A brief description of the audit programme is provided in **Table 1**.

Table 1 Audit Programme

Start Date	End Date	Actions	Location
26 November 2015	26 November 2015	Project kick-off - define audit scope	AECOM and Sibelco offices (teleconference)
27 November 2015	3 December 2015	Preparation of audit protocol and review of initial documentation	AECOM office
4 December 2015	4 December 2015	Site visit	Sibelco Northern Dune Site and Salt Ash facility
14 December	23 December	Review of additional documentation requested during site visit, and reparation of draft audit report	AECOM office.

3.2.1 Project Kick-off

A project kick-off was held via teleconference on 26 November 2015 between AECOM and Sibelco staff. This defined the scope of the audit, as well as the required timeline for delivery of the draft and final audit report, and also allowed the audit team to understand site-specific health and safety matters relating prior to the Site inspection. The project kick-off also addressed the following issues:

- Definition of the audit period (refer **Section 1.3**);
- How audit findings are to be classified (refer **Sections 1.2 and 5.2**); and
- The agenda to be followed during the Site inspection.

3.2.2 Document Review

A review of Site documentation took place prior to, during and following the Site inspection. This allowed the audit team to familiarise themselves with the Site prior to conducting the Site visit, to ask Sibelco staff specific questions about documentation, and also to review documentation which was not able to be thoroughly reviewed during the Site inspection.

3.2.3 Site Inspection

A one day Site inspection was conducted on 4 December 2015. The Audit Team consisted of the personnel listed in **Table 2**.

Table 2 Audit Team

Name	Position	Organisation
Nick Ballard	Lead Auditor	AECOM
Jessica Miller	Auditor	

Nick Ballard is registered by Exemplar Global as Certified Lead Auditor for Environmental Management, Site Contamination Assessment and Compliance Auditing. Jessica Millar is registered by Exemplar Global as Certified Auditor for Environmental Management Systems.

The names of personnel interviewed during the audit are provided in **Table 3**.

Table 3 Name and Position of Personnel Interviewed During Site Inspection

Name	Position	Remarks
Elizabeth Alexander	Safety & Environment Coordinator	Attendance at opening and closing meetings. Accompanied auditors on Site inspection. Participated in interviews.
Jeffrey Clarkson	Operations Manager	
Ian Clarke	Area Manager	

3.2.3.1 Opening and Closing Meetings

In accordance with Australia/New Zealand ISO 19011:2014 *Guidelines for auditing management systems* an opening and closing meeting was held during the Site inspection. Details of attendees at both meetings are provided in **Table 3**.

3.2.4 Audit Verification Activities

The auditors undertook verification activities to confirm the reliability of audit evidence. This included interviews, data checking, the examination of records, and a site inspection. Records were provided in electronic and/or hard copy by the Site and additional documents were reviewed whilst on site.

Some aspects of the audit process may have relied on information, such as judgements and assumptions where external supporting evidence was unavailable or limited. Where this information was considered, its validity was confirmed to the extent possible prior to use by the auditors and is noted in appropriate areas of the register.

The majority of information was assessed off site (e.g. preparation of a management plans). The Site inspection concentrated on assessment of the effectiveness of environmental management and adequacy of performance.

3.2.5 Audit Difficulties

Two separate Project Approvals, Hunter Water Approval, granted on 18 July 2002 and Project Approval (PA) 09_0091 granted on 8 March 2013 by the NSW Department of Planning and Environment (DP&E) apply to the Site. Both approvals require two separate Groundwater Management Plans. PA 00_0091 specifically applies to Lots 11, 12 and 13 in Deposited Plan (DP) 601306, Lot 408 in DP 1041934 and Lots 1 and 2 in DP 408240.

Due to the complexity of current approvals relating to the Site, there was some initial confusion over the relevance of the original approval in relation to the Lots 11-13 approval and how these relate to each other. Given these complexities Sibelco management were unclear as to which version of the Environmental Management Plan, Groundwater Management Plan and Project Approval apply to the Site. These issues were discussed with Sibelco personnel during the site visit.

4.0 Site Observations

This **Section 4.0** provides a brief overview of key observations made during the Site inspection on 4 December 2015.

Observations from the Site inspection conducted at the time of the Site audit are provided in **Table 4**. The auditors were escorted around the site by mine personnel who made themselves available for this purpose.

Table 4 Site Inspection Photographs



Photo #	Comment	Photograph
4-1	Rehabilitation from former extracted areas.	
4-2	A groundwater data monitoring location at ACI-09.	




Photo #	Comment	Photograph
4-3	<p>Groundwater monitoring bore ACI-09 with data cable showing. The cover at this location was easily removed allowing a potential direct link to groundwater.</p> <p>Refer to REC-2015-12.</p>	 <p>A photograph showing a circular concrete cover on a sandy surface, likely a groundwater monitoring bore. The cover is surrounded by sparse vegetation and a data cable is visible. A date stamp '3 DEC 2015' is in the bottom right corner.</p>
4-4	<p>Evidence of rehabilitation in Zone 2/Zone 3. In general rehabilitation of extracted areas appeared to be well established.</p>	 <p>A wide-angle photograph of a landscape showing evidence of rehabilitation. The ground is sandy with sparse vegetation and some fallen branches. The sky is blue with scattered clouds. A date stamp '3 DEC 2015' is in the bottom right corner.</p>
4-5	<p>Grass trees in a former extracted area.</p>	 <p>A photograph showing grass trees (Xanthorrhoea) growing in a sandy area, likely a former extracted area. The ground is sandy with some other vegetation. A date stamp '3 DEC 2015' is in the bottom right corner.</p>




Photo #	Comment	Photograph
4-6	Groundwater monitoring well ACI-10 in Zone 4 with no lockable cover allowing a potential direct link to groundwater. Refer to REC-2015-12 .	
4-7	Evidence of survey boundary marking in a new extraction area.	
4-8	Evidence of survey boundary marking in a new extraction area.	






Photo #	Comment	Photograph
4-9	<p>Extracted area in Zone 4 with stockpiled topsoil in the background. Markers were evident to guide the dozer operator to re-shape the land to specified levels.</p>	
4-10	<p>Groundwater monitoring bore ACI-19 located in Zone 4. Areas of Zone 4 were in the process of being reinstated with topsoil at the time of the Site inspection.</p> <p>Topsoil was in the process of being spread against the side of the small hill to reform the land.</p>	
4-11	<p>Zone 4 - Topsoil was in the process of being spread against the side of the small hill to reform the land.</p>	

Photo #	Comment	Photograph
4-12	A registered surveying point at Zone 4 that the Site uses to survey boundaries and levels.	
4-13	Topsoil stockpiled in Zone 4 with warning signs to manage public access.	

5.0 Audit Findings

5.1 Progress from Previous Independent Environmental Audit

The previous IEA Report in (URS, 2008) included a number of recommendations for improvement. This audit has assessed whether recommendations have been carried out in the period since the last audit.

A total of three conditions were identified as partially compliant or indeterminate during the previous IEA (URS, 2008). An additional 21 conditions were provided with continuous improvement recommendations. The three conditions identified as non-compliant or indeterminate remain open or ongoing despite actions being undertaken by the Site to address these matters.

The following general observations are made concerning environmental management at the Site:

- There appeared to be a reliance on off-site advice and support for preparation of management plans and general advice concerning environmental matters. This was highlighted with the confusion over which management plan applied to the current extraction area and which applied to new extraction area covered by PA 09_0091.
- Progressive rehabilitation works appear to be successful, with seed collection, storage, weed management, topsoil re-establishment, and vegetation survival rates all progressing well;
- Extraction plant and hydrocarbons were observed to be appropriately stored offsite during a period of no sand extraction works taking place; and
- Sibelco personnel seemed knowledgeable about operational, rehabilitation and monitoring works taking place at the Site, and demonstrated intimate knowledge of the Site during the site inspection.

Table 5 summarises those conditions identified as partially compliant or indeterminate in the 2008 IEA (URS, 2008) and their status at the time of the Site inspection.

Table 5 2008 IEA Conditions Identified as Remaining Open or Ongoing

Condition	2008 IEA Recommendation / Comment Auditors Comments	Sibelco Comment / Status (at December 2015)	2015 Update – Assessment by AECOM	Status 2015
<p>5(4) (a) Environmental Management Report – The Approval Holder must submit a report to the Director General on each anniversary of the Date of Issue for the term of this approval (Environmental Management report), addressing:</p> <p>(i) the performance of and compliance with the provisions of the Groundwater Management Plan by the Approval Holder;</p> <p>(ii) the performance of and compliance with the provisions of the rehabilitations plans by the approval holder;</p> <p>(iii) the performance of and compliance with the provisions of any other requirements of this approval by the approval holder</p> <p>(iv) any instances in which the Approval Holder has not satisfied the requirements of the Environmental Management Plan or this Approval indicating any reason for that non-compliance and any action that is proposed to be introduced, or has already been implemented, to prevent or remedy the non-compliance</p> <p>(v) identification of trends in monitoring data from the Groundwater management Plan and Rehabilitation Plan over the life of the extractive Operations, and</p> <p>(vi) environmental management targets and strategies for the subsequent year</p> <p>(b) Annual Inspection – The approval holder must arrange an annual inspection of the Extraction Area to be attended by HWC and the Department.</p>	<p>Partial Compliance. Regarding item (ii) It is not clear that all requirements of the document titled 'Rehabilitation of Tanilba Dunes After Silica Sand Extraction' (Appendix H of the EMP) are being addressed in the annual assessment of compliance in the AEMR. A spot check of a couple of issues (a post extraction vegetation map and re-use of organic screenings) suggests that not all obligations in the Rehabilitation Plan are being met.</p> <p>It is recommended that the table of proposed environmental management strategies in the AEMR be included in the same format in the subsequent year's AEMR, with an additional column noting whether the action has been completed, to provide consistency and transparency in reporting.</p>	<p>These matters are now being dealt with in the AEMRs.</p>	<p>AEMRs for 2008-2015 were reviewed. The following comments are noted:</p> <p>(a) (i) Section 3.1 of the AEMR 2015 fulfils these requirements.</p> <p>(ii) Section 3.2 of the AEMR 2015 fulfils these requirements.</p> <p>(iii) Section 3.3 of the AEMR 2015 fulfils these requirements.</p> <p>(iv) Section 3.4 of the AEMR 2015 fulfils these requirements.</p> <p>(v) Section 3.4 of the AEMR 2015 contains a discussion of trends for groundwater and rehabilitation monitoring data.</p> <p>(vi) Section 3.6 of the AEMR 2015 fulfils these requirements.</p> <p>(b) AEMR meeting minutes and interviews with Site personnel indicate that these regulator inspections do occur. However, there was no documented evidence from the regulators to indicate they had visited the Site.</p> <p>Table 8 of the AEMR 2015 provides this tracking against environmental management strategies.</p>	<p>Ongoing - Compliant</p> <p>REC-2015-01 - It is recommended that AEMRs reference regulator visits, particularly as agencies do not formally acknowledge (i.e. by letter) that they have attended Site.</p>
<p>12 (3) Appointment of Rehabilitation Supervisor – The Approval Holder must appoint a Rehabilitation Supervisor with relevant qualifications approved by HWC and the Department in order to supervise the rehabilitation work under the Vegetation Rehabilitation Plan.</p>	<p>The site's Rehabilitation Supervisor is John Pola, a contractor employed by Unimin. John's qualifications comprise a Bachelor of Engineering (Civil). John is assisted by Ecobiological Pty Ltd (Colin Driscoll, Botanist, BSc, PhD candidate, Plant Sciences Group, School of Environmental and Life Sciences, University of Newcastle, and Dan Pedersen, Ecologist, BSc(Biology)) who undertake 6-monthly flora surveys of the progress of rehabilitation. The HWC confirmed retrospectively by email to Emma McGloin of Unimin on 1 April 2008 that it approved Unimin's engagement of John Pola as the Rehabilitation Supervisor. No formal letter was available confirming the such approval by the Department of John Pola's appointment as the Rehabilitation Supervisor has been sighted. John visits the site every two months to inspect progress of</p>	<p>This approval has still not been formalised.</p>	<p>Sibelco's environmental subcontractor (JP Environmental Pty Ltd) remains the rehabilitation supervisor for these purposes. However this has still not formally been approved by HWC and the Department.</p>	<p>Open</p> <p>REC-2015-02- It is recommended that the appointment of JP Environmental Pty Ltd as Rehabilitation Supervisor be confirmed with the regulators.</p>

Condition	2008 IEA Recommendation / Comment Auditors Comments	Sibelco Comment / Status (at December 2015)	2015 Update – Assessment by AECOM	Status 2015
	rehabilitation. Partial compliance as no confirmed approval by DWE of appointment of Rehabilitation Supervisor was available.			
13 (3) Form of security - Any bank guarantee given in accordance with any provision of this Approval must be in a form approved by the Director-General and with a financial institution approved by the Director-General. The form of security annexed to this Approval and marked "C" is a form of security approved by the Director-General for the purposes of a bank guarantee under this Approval.	A copy of the form of security was not available for review. Unable to be assessed. Indeterminate	These securities have been obtained.	The auditors sighted the Zone 4 request for approval which was provided to the Department of Natural Resources. A notice from the Office of Water dated 22 May 2014 was also sighted by the auditors, approving the receipt of a supplementary bank guarantee to mine Zone 4. The auditors also sighted similar correspondence regarding the commencement of operations in Zone 3 in 2008.	Closed REC-2015-03 -It is recommended that the initial bank guarantees for the Site be located, as these could not be produced during the 2008 IEA.
Recommendation from 2008 IEA.	The site has not undertaken a review of its performance against the release criteria. It is recommended that the annual reports address the performance indicators and release criteria which are relevant to the year of revegetation for each Block of rehabilitated land. The annual vegetation rehabilitation monitoring report contains a detailed assessment of the status of revegetation in each Block. The report does not contain a map showing the location of each Block to assist the reader. It is recommended that such a map be included.	-	Repeat Finding AECOM consider that the finding and recommendation from the 2008 IEA (URS, 2008) is valid. While the Post-3 Year Monitoring reports provide some assessment against release criteria, the annual vegetation rehabilitation monitoring reports and the AEMRs do not.	Open REC-2015-06 - It is recommended that the annual vegetation rehabilitation monitoring reports assess the Site against its release criteria including forecasted and actual landform. The Site should also consider providing a summary of this assessment against release criteria within the AEMRs.
Recommendation from 2008 IEA against Action Plan - Groundwater Management Plan - Section 3.2.3 Groundwater Quality Monitoring.	Unimin advised that there have not been any changes to provisional limits in Table 3 of the Groundwater Management Plan. It is noted that the references to Table 2 in Section 3.2.3 should be to Table 3. It is recommended that this be amended to avoid confusion.	-	Repeat Finding It does not appear that the Groundwater Management Plan has been updated. It is likely that the reference should still be updated to Table 3, as Table 3 contains trigger values for certain chemical parameters and that this reference should also include Table 4, which sets out trigger levels for heavy metals.	Open REC-2015-07 -References to Tables 2, 3 and 4 should be revised in the Tanilba Northern Dune Groundwater Management Plan (Sibelco Australia, January 2011).
Recommendation from 2008 IEA against Action Plan - EMP 7.2 Management.	No formal letter was available confirming the approval by the DWE of John Pola's appointment as the Rehabilitation Supervisor. It is recommended that Unimin obtain written confirmation of approval from DWE.	-	Repeat Finding Sibelco's environmental subcontractor (JP Environmental Pty Ltd) remains the rehabilitation supervisor for these purposes. However this has still not formally been approved by HWC and the Department.	Open Refer to REC-2015-02

5.2 Performance Categories

Performance categories in respect of compliance are defined in **Table 6**.

Table 6 Performance Categories

Performance Category	Definition
Compliant	Currently in compliance. Sufficient verifiable evidence was available to demonstrate that the intent and all elements of the requirement of the regulatory instrument had been complied with within the scope of the audit.
Non-compliant	Currently not in compliance. Sufficient verifiable evidence was available to demonstrate that the intent of one or more specific elements of the regulatory instrument have not been complied with within the scope of the audit.
Administrative Non-compliance	A technical non-compliance with a condition of the consent that would not impact on performance and that is considered minor in nature (e.g. report submitted but not on the due date, failed monitor or late monitoring session). This would not apply to performance related aspects (e.g. exceedance of a noise limit) or where a condition had not been met at all (e.g. noise management plan not prepared and submitted for approval).
Not Activated	Condition not applicable at time of audit or had not been triggered
Not Verified	It has not been possible to determine whether compliance exists. Sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the regulatory instrument have been complied with within the scope of the audit was not available.
Not Assessed	The condition has not been assessed as part of the scope of this audit.
Closed Out	The condition was closed out in the previous IEA (URS, 2008).

Auditor's comments are provided next to each condition to explain evidence sighted relevant to each condition. Where considered relevant, observations have been made regarding specific compliance issues.

Conditions considered Non-compliant are presented in **Table 7**, including a discussion of the compliance status and recommendations for improvement where appropriate.

Where conditions are considered compliant and it is considered a continuous improvement opportunity exists to improve the compliance status or to improve environmental performance at the Site, a recommendation has been made in the compliance table. A summary of these recommendations is provided in **Table 8**.

Table 7 Summary of 2015 IEA Findings - Non-compliant or Not Verified

Condition #	Comment	Compliance Status / Recommendation
5(1)(d) the supply purposes and groundwater dependant ecosystems	<p>2014 AEMR references the fact that a hydrogeologist had been engaged to assess impacts to GDEs. However, no findings have been reported in the AEMR. It is recommended that this be finalised.</p> <p>The 2008 IEA (URS, 2008) states that “<i>The groundwater monitoring (quality and level) undertaken at the site to date has not identified any significant impacts upon groundwater quality or level due to the mining operations. By inference, it is assumed that there have not been any impacts upon groundwater dependent ecosystems. However, no conclusion as such has been made by the consultant hydrogeologist or vegetation rehabilitation specialists.</i>”</p>	<p>Administrative Non-compliance</p> <p>REC-2015-04 - It is recommended that groundwater dependant ecosystems be formally assessed by the in-house hydrogeologist and that the outcomes of this assessment are reported in the AEMR.</p>
8(5) Maximum period for Audits.	The current IEA has been undertaken outside of the required timeframe.	Administrative Non-compliance
11(3) Parameters of Plan.	Given no evidence of sign off from the regulators was able to be produced by the Site for the Landform Rehabilitation Plan, this condition was identified as administrative non-compliance.	Administrative Non-compliance
12(2)(a) Vegetation Rehabilitation Plan.	No evidence of approval from the regulators was able to be provided for the Vegetation Rehabilitation Plan.	<p>Administrative Non-compliance</p> <p>REC-2015-05. It is recommended that this approval be located, as it was not able to be produced during the 2008 IEA.</p>

Table 8 Summary of 2015 IEA Findings – HWC Approval Compliant but with Further Recommendations

Condition #	Comment	Compliance Status / Recommendation
5(2) Compliance with EMP	Sibelco personnel were not clear which version of their EMP applied to the site (as there are two separate EMPs applicable to different portions of land owned/leased by Sibelco). The Tanilba Northern Dune Environmental Management Plan (January 2011) relates to the majority of the Site (Zones 1-4). A new EMP was developed to meet the requirements of the new Project Approval PA 09_0091. However this new EMP (Environmental Management Plan Tanilba Northern Dune (December 2014, Revision 2) has not yet been formally implemented, as extraction has not yet commenced in that area. It seems that the new EMP only applies to the new extraction area approved under PA 09_0091, whereas the Tanilba Northern Dune Environmental Management Plan (January 2011) would continue to relate to the rest of the Site. However, this was not clear, and staff were not able to confirm this either way.	Compliant REC-2015-08 -Staff should familiarise themselves with the differences between the two EMPs currently prepared for the Site, and consider merging these two documents in consultation with the regulators to ease confusion.
5(4)(c)	AEMR meeting minutes and interviews with site personnel indicate that these regulator inspections do occur. However, this evidence should be clarified.	Compliant. Refer to REC-2015-01
5(4)(d)	Interviews with onsite staff confirmed that AEMRs are provided to these regulators as required. However, correspondence could not be provided to back this up.	Compliant REC-2015-09 AEMRs should record the date of when draft AEMRs are provided to the required regulators.
7(1) Preparation of the EMP	The previous Tanilba Northern Dune Environmental Management Plan (January 2011) and newly prepared Environmental Management Plan Tanilba Northern Dune (December 2014, Revision 2) fulfil these requirements. A letter from the then Department of Planning and Environment dated 20 January 2015 was sighted by the auditors, confirming the Department's approval of the updated Soil and Water Management Plan, Erosion and Sediment Control Plan, and Ground Water Monitoring Program. However no letter could be produced evidencing the Department's approval of the Tanilba Northern Dune Environmental Management Plan (January 2011) or the current Environmental Management Plan: Tanilba Northern Dune (December 2014, Revision 2).	Compliant REC-2015-10 Locate previous approvals from the Department, or otherwise confirm the Director General's satisfaction with the current EMP, as this could not be produced during the 2008 IEA.
13(3) Form of Security	The auditors sighted the Zone 4 request for approval which was provided to the Department of Natural Resources. A notice from the Office of Water dated 22 May 2014 was also sighted by the auditors, approving the receipt of a supplementary bank guarantee to mine Zone 4. The auditors also sighted similar correspondence regarding the commencement of operations in Zone 3 in 2008.	Compliant. Refer to REC-2015-03

6.0 Environmental Performance

This **Section 6.0** addresses the requirements of Conditions 8(c) and (e) of the HWC Approval.

It is noted that Sibelco personnel were not clear which version of their EMP applied to the site (as there are two separate EMPs applicable to different portions of land owned/leased by Sibelco). The Tanilba Northern Dune Environmental Management Plan (January 2011) relates to the majority of the Site (Zones 1-4). A new EMP was developed to meet the requirements of the new Project Approval PA 09_0091. However this new EMP (Environmental Management Plan Tanilba Northern Dune (December 2014, Revision 2) has not yet been formally implemented, as extraction has not yet commenced in that area. It seems that the new EMP only applies to the new extraction area approved under PA 09_0091, whereas the Tanilba Northern Dune Environmental Management Plan (January 2011) would continue to relate to the rest of the Site. However, this was not clear, and staff were not able to confirm this either way. The assessment of environmental performance carried out in this **Section 6.0** was therefore based on the commitments made in the 2011 EMP.

6.1 Groundwater Management Plan – Assessment of Compliance (Condition 8(1)(c))

The Tanilba Northern Dune Groundwater Management Plan (January 2011) (the GWMP) sets out a groundwater monitoring program to facilitate Sibelco's compliance with its conditions of consent and licensing requirements. It provides the locations and design/construction specifications for the required monitoring network, in addition to a groundwater sampling and groundwater level measurement plan specifying monitoring schedules and analytical suites, standard operating procedures for taking measurements, sampling, sample handling and completing appropriate documentation, quality assurance/control procedures, and reporting schedules. The GWMP has not been updated during the current audit period.

6.1.1 Section 2.1 of the GWMP – Monitoring Network Layout

Twenty-four monitoring bores are listed in the groundwater monitoring data excel spreadsheet. However the GWMP notes that there are currently:

- Nineteen monitoring wells installed at locations surrounding and down gradient from the mining area; and
- Three monitoring bores previously constructed by HWC, to be used for level measurement only.

REC-2015-11-It is recommended that the number of bores referenced in the GWMP be reviewed for consistency against monitoring data.

6.1.2 Section 2.2 of the GWMP – Well Design Requirements

Sibelco staff advised that wells continue to be designed in accordance with Section 2.2 of the GWMP. Confirmation of this design and construction could not be verified by the auditors during the Site inspection, as the wells are subsurface structures.

6.1.3 Section 2.3 of the GWMP – Co-existence with HWC Infrastructure

The Auditors viewed evidence of the HWC Oyster Cove water supply pipe that had been avoided during mining operations so as not to damage HWC infrastructure.

6.1.4 Section 3.1 of the GWMP – Monitoring Network

Bores were seen to be marked onsite and with GIS mapping. However, not all bores viewed by the auditors were capped in between sampling events. The auditors observed groundwater bores ACI-09, ACI-10 and ACI-19 during the Site inspection. The groundwater bores observed during the Site inspection either had no cover or an easily removable cover. Evidence of public access to the Site was observed during the audit, such as burnt out cars, Sibelco management also reported that some groundwater bores had been tampered with during the audit period. Given that the Site is accessible to the public the ease of access to the groundwater bores and potentially the groundwater presents a risk.

REC-2015-12-It is recommended that the Site install secure covers on groundwater monitoring bores.

6.1.5 Section 3.2 of the GWMP – Monitoring Schedule

Baseline monitoring for the newly commissioned extraction Zone 4 commenced in March 2008, these results are outlined in the AEMR 2012.

Records of monthly level monitoring, including additional monitoring following heavy rainfall was sighted by the auditors. Six monthly groundwater quality monitoring reports were also sighted by the auditors.

6.1.6 Section 3.5 of the GWMP – Investigation Monitoring

The auditors sighted email correspondence with Sibelco's groundwater monitoring subcontractor indicating that a high monitoring result discussed on 3 October 2014 was subsequently resampled on 10 October 2014. However no formal record of these re-sampling events is maintained by the Site. Records were available in inbox emails that were not able to be immediately located by Sibelco management.

REC-2015-13-It is recommended that records of re-sampling (and results) be maintained in formal manner, such as the groundwater monitoring database.

6.1.7 Section 3.6 of the GWMP –Groundwater Assessment Plan

In the March 2008 sampling event, ACI-14 had an exceedance of the iron and manganese trigger values. Repeat and investigation monitoring confirmed the exceedances. In accordance with the GWMP, a groundwater assessment plan was developed: Groundwater Assessment Plan, Northern Dune Mine Site, May 2008 Oyster Cove, (ENSR, May 2008).

In the 2009 reporting period, ACI-13 had an exceedance of trigger values for Iron. A letter report was developed, incorporating data, and was accepted by Department of Water and Energy as an alternative to implementing investigatory sampling and the development of a groundwater assessment plan. A re-sample of AC-16 was required on 12 October 2015 following an initial sampling event on 29 September 2015 (i.e. within 14 days).

Re-sampling events generally appeared to have been conducted within 14 days during the audit period as required by the Groundwater Management Plan (Section 3.2.3, p.). However, it was not possible to easily determine whether re-sampling was completed within the timeframe from the data presented in the Northern Dune Groundwater database (October 2015) as results were not marked as a 're-sample event.

REC-2015-14-It is recommended that Sibelco update the Northern Dune Groundwater Database to easily identify where a groundwater re-sampling event has been required and that it was completed within 14 day timeframe.

6.1.8 Section 3.7 of the GWMP - Contamination Remediation Plan

No groundwater contamination remediation plans have been required for the Site.

6.1.9 Section 3.8 of the GWMP – Measurement and Sampling Procedures

A sub-consultant undertakes groundwater level monitoring as per the requirements in the GWMP. Recommendations made in the previous IEA (URS, 2008) have been implemented, including the use of a waterproof, hard-bound field notebook, the use of an appropriate cleaning solution to prevent instrument cross contamination, and the recording of sample times.

6.1.10 Section 3.9 of the GWMP – Sample Handling and Documentation

No groundwater sampling activities were being conducted at the time of the Site inspection therefore AECOM is unable to provide comments concerning the handling and documentation of groundwater samples. Chain of Custodies were available in the appendices of groundwater monitoring reports reviewed dated April 2010 July 2010, October 2010, January to March 2011, October to December 2011, July to September 2011, March to June 2011, January to March 2012 and September 2013. It is noted that from 2014 Sibelco started in-house groundwater sampling and reporting. The in-house groundwater reports reviewed dated September 2014 and March 2015 did not include evidence of Chain of Custodies or other handling and documentation in accordance with Section 3.9 of the GWMP (2011).

REC-2015-15-It is recommended that internal groundwater monitoring reports include sample and handling documentation for groundwater monitoring events.

6.1.11 Section 3.10 of the GWMP – Quality Assurance/Quality Control

No groundwater sampling activities were being conducted at the time of the Site inspection therefore AECOM is unable to provide comments concerning the handling and documentation of groundwater samples. Data quality indicators (e.g. field QA/QC and laboratory QA/QC) were observed in the groundwater monitoring reports reviewed dated April 2010, July 2010, October 2010, January to March 2011, October to December 2011, July to September 2011, March to June 2011, January to March 2012 and September 2013. It is noted that from 2014 Sibelco started in-house groundwater sampling and reporting. The in-house groundwater reports reviewed dated September 2014 and March 2015 did not include evidence of data quality indicators in accordance with Section 3.10 of the GWMP (2011).

REC-2015-16-It is recommended that internal groundwater monitoring reports include evidence of compliance with the laboratory and field quality assurance objectives as detailed in Section 3.10 of the GWMP (2011).

6.1.12 Section 3.11 of the GWMP – Reporting and Review

Groundwater level monitoring occurs quarterly and the results are contained in the six monthly reports. Reports were submitted to DPI Water NSW and HWC, and copies are maintained onsite. These results are summarised in the AEMRs. The auditors sighted copies of these six monthly reports.

6.1.13 Section 3.12 of the GWMP – Notification Requirements

Sibelco management reported that there have not been any incidents of groundwater pollution requiring reporting under the *Protection of the Environment Operations Act* or the *Contaminated Land Management Act 1997*.

6.2 Assessment of Compliance under Rehabilitation Plans (Condition 8(1)(d))

The Rehabilitation of Tanilba Dunes after Silica Sand Extraction (duPreez/Smith, 2000) (RMP) outlines how rehabilitation works should be carried out after sand extraction activities take place. Progress with these requirements is reported on in the annual rehabilitation management report appended to the AEMR. It is noted that these plans have not been updated during the current audit period.

6.2.1 Part 2 of RMP – Rehabilitation Map

Block maps are provided in the Post-3 Year Monitoring reports (Post 3-year Monitoring of the Vegetation Rehabilitation at Tanilba Northern Dune: 4-5 Year Surveys of Blocks D and E, Zone 2, Kleinfelder, 2013; and Post 3-Year Monitoring of the Vegetation Rehabilitation at Tanilba Northern Dune: 4-5 Year Surveys of Blocks D, E and F, Zone 2, Kleinfelder, 2013). However, post extraction vegetation maps showing the difference between forecast and actual landforms were not identified as required by Part 2 (p.9) of the Rehabilitation of Tanilba Dunes After Silica Sand Extraction duPreez/Smith, 2000).

Refer to REC-2015-06

6.2.2 Part 2 of RMP – Vegetation Clearing

Before vegetation clearing commences, areas of natural vegetation to be retained (i.e. Flora Protection Zones) are identified, clearly marked and surveyed. Flora Protection Zones are established in areas of shallow sand < 2m deep, and must meet certain criteria. The total area of retained vegetation is not less than two per cent of the total extraction area.

Prior to vegetation clearing, searches are conducted to identify and protect hollow bearing trees (i.e. cavity of at least 10cm in diameter and 30cm in depth).

6.2.3 Part 2 of RMP – Topsoil Removal and Storage

Stripped topsoil is transferred and re-spread directly over new rehabilitation areas as close as possible to active extraction works, and any soil stockpiles are maintained for the shortest practical time period.

6.2.4 Part 2 of RMP - Organic Screenings

The practice of seed screening (capturing organic materials at the treatment plant and spreading them over rehabilitation areas) was recommended in the 'Rehabilitation of Tanilba Dunes after Silica Sand Extraction' (Appendix H of the EMP) as a means of sourcing on-site rehabilitation materials. However the JP Rehabilitation Report from 2008 made the following observation:

“Organic material screened from mined sand is not returned to site and spread over re-topsoiled areas (used for brush matting) as stipulated in the GMP – Part 1 Techniques of Rehabilitation, 5. This there is no capacity to separate sand derived from Northern Dune with other sand types at the Salt Ash processing plant. It was found that these screenings were introducing weed species and determined not best practice”.

Discussions with Sibelco management indicated that the practice of organic screening continues. During the site visit, the auditors observed rehabilitation at the Site to be progressing well, and it is considered that the potential for organic screening to lead to the introduction of weed species would be dependent on the area from which organic materials were obtained, as some areas of the Site were observed to have low rates of weed infestation. AECOM considers that the rehabilitation and weed control methods employed at the site time of the site inspection are suitable for the Site’s rehabilitation program.

REC-2015-17- It is recommended that Sibelco discuss with its rehabilitation consultant to confirm whether screening methods have the potential to introduce weed species as per the 2008 (JP, 2008) observation, and that any outcomes be documented.

6.2.5 Part 2 of RMP - Brush Matting

Vegetation is cleared and reused as brush matting during each stage of clearing. This is re-spread onto newly topsoiled areas providing a viable seed bank for revegetation.

6.2.6 Part 2 of RMP - Direct Seeding, Retained Vegetation, and Propagation and Replanting

Seeds continue to be sourced locally, and are distributed to local schools and nurseries for propagation. A comparison between desired and achieved species density is appended to each AEMR.

6.2.7 Part 2 of RMP - Transplanting

Grass Trees (*Xanthorrhoea glauca*) are transplanted prior to extraction activities into topsoiled areas. Survival rates of transplanted specimens remain well above average for transplanted trees in general.

6.2.8 Part 2 of RMP - Weed Control

Weed species at the Site are controlled through the use of herbicide spraying and manual removal.

6.2.9 Part 2 of RMP - Planting of Food Trees for Koalas

AEMR and rehabilitation reports for the audit period do not reference Koala food trees being planted.

REC-2015-18-It is recommended that future AEMRs comment on this requirement.

6.2.10 Part 2 of RMP - On-going Site Management and Monitoring

Bi-monthly inspection checklists are carried out by the Rehabilitation Supervisor. Six monthly and annual reports are also provided against rehabilitation progress.

6.2.11 Progress of Work under Rehabilitation Plans

Since mining operations commenced at the Site, more than 41.9 hectares of land has been revegetated. Overall, rehabilitation activities appear to be progressing well. For instance, the draft AEMR 2015 highlights the fact that some blocks have developed cover, height and structure to an acceptable standard, and could be considered for relinquishment over the coming AEMR period. Observation during the Site inspection indicated that rehabilitation in Zones 2, 3 and 4 were progressing well with mature rehabilitation in earlier mined zones.

6.3 Assessment of Compliance with Environmental Objectives (Condition 8(1)(e))

Condition 8(1)(e) requires an assessment of whether the environmental objectives of the GWMP and the RMP are being met. There are no specifically identified environmental objectives in the GWMP. However the auditors consider the following matters from Section 3.0 of the GWMP to identify the following objectives:

- Ensure mining operations have not resulted in the release of contaminants that might impact upon groundwater resources; and
- Ensure mining does not significantly alter the groundwater flow regime within the aquifer.

The groundwater quality monitoring undertaken to date has not identified groundwater contamination attributed to the mining operations. There the first objective can be considered to have been met. Furthermore, monitoring of

groundwater levels at the site has indicated that there has been no significant decline in groundwater levels due to mining operations.

The RMP does not set out any specific environmental objectives.

6.4 Assessment of the Release Criteria (Condition 8(1)(f))

6.4.1 Release Criteria in Section 4 of the Groundwater Management Plan

6.4.1.1 Section 4.1 Reporting

Content of groundwater monitoring reports appears to have complied with the requirements of the GWMP

6.4.1.2 Section 4.2 Monitoring Program

The groundwater monitoring program requirements appear to have been complied with.

6.4.1.3 Section 4.3 Monitoring Results

Groundwater Levels

Groundwater level monitoring results indicate that the land surface is being adequately restored post-extraction.

Groundwater Quality

Groundwater quality is assessed in six-monthly water quality reports. This reporting has not indicated that sand extraction and rehabilitation activities are influencing groundwater quality in the vicinity of the monitoring bores.

6.4.2 Release Criteria in Section 7.7 of the EMP 7 – Vegetation Rehabilitation

The Performance Indicators and Release Criteria for Vegetation Rehabilitation at the Site are documented in Table 7.7 of the EMP 7. Inspections by the Rehabilitation Supervisor during the audit period indicate that Sibelco has complied with these conditions of EMP 7 during the audit period.

Refer to REC-2015-06a

6.4.3 Release Criteria in Section 8.5 of the EMP 8 – Landform Rehabilitation

The release criteria with respect to landform rehabilitation are documented in Section 8.5 of the EMP and comprise comparing a survey of the re-topsoiled surface (prior to revegetation) with the Final Landform Plan. The surveys are undertaken following top-soiling and the results compared with the spot-heights on the Final Landform Plans. To date, rehabilitated landforms appear consistent with the Final Landform Plan.

7.0 Action Plan

The following is a summary of the recommendations identified during this audit report and forms an action plan for Sibelco:

Twenty-four monitoring bores are listed in the groundwater monitoring data excel spreadsheet. However the GWMP notes that there are currently:

- Section 2.1 of GWMP – Monitoring Network Layout. Twenty-four monitoring bores are listed in the groundwater monitoring data excel spreadsheet. However the GWMP notes that there are currently:
 - Nineteen monitoring wells installed at locations surrounding and down gradient from the mining area; and
 - Three monitoring bores previously constructed by HWC, to be used for level measurement only.

Refer to REC-2015-11

- Section 3.1 of GWMP – Monitoring Network. Bores were seen to be marked onsite and with GIS mapping. However, not all bores viewed by the auditors were capped in between sampling events. The auditors observed groundwater bores ACI-09, ACI-10 and ACI-19 during the Site inspection. The groundwater bores observed during the Site inspection either had no cover or an easily removable cover. Evidence of public access to the Site was observed during the audit, such as burnt out cars, Sibelco management also reported that some groundwater bores had been tampered with during the audit period. Given that the Site is accessible to the public the ease of access to the groundwater bores and potentially the groundwater presents a risk.

Refer to REC-2015-12

Section 3.5 of GWMP – Investigation Monitoring. The auditors sighted email correspondence with Sibelco's groundwater monitoring subcontractor indicating that a high monitoring result discussed on 3 October 2012 was subsequently resampled on 10 October 2014. However no formal record of these re-sampling events is maintained by the Site. Records were available in emails that had to be located by Sibelco management.

Refer to REC-2015-13

- Section 3.6 of GWMP – Groundwater Assessment Plan. In the March 2008 sampling event, ACI-14 had an exceedance of the iron and manganese trigger values. Repeat and investigation monitoring confirmed the exceedances. In accordance with the GWMP, a groundwater assessment plan was developed: Groundwater Assessment Plan, Northern Dune Mine Site, May 2008 Oyster Cove, (ENSR, May 2008).

In the 2009 reporting period, ACI-13 experienced an exceedance of trigger values for Iron. A letter report was developed, incorporating data, and was accepted by Department of Water and Energy as an alternative to implementing investigatory sampling and the development of a groundwater assessment plan.

In both instances it was not possible to determine whether this was completed within the 28 day timeframe required.

Refer to REC-2015-14

- Section 3.9 of GWMP – Sample Handling and Documentation. The in-house groundwater reports reviewed dated September 2014 and March 2015 did not include evidence of Chain of Custodies or other handling and documentation in accordance with Section 3.9 of the GWMP (2011).

Refer to REC-2015-15

Section 3.10 of GWMP – Quality Assurance/Quality Control. Water analyses are undertaken by ALS Environmental, a laboratory certified by NATA for the required analytes. The in-house groundwater reports reviewed dated September 2014 and March 2015 did not include evidence of data quality indicators in accordance with Section 3.10 of the GWMP (2011).

Refer to REC-2015-16.

- Part 2 of RMP – Planting of Food Trees for Koalas. AEMR and rehabilitation reports for the audit period do not reference Koala food trees being planted.

Refer to REC-2015-18.

Limitations

AECOM Australia Pty Limited (AECOM) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of Sibelco Australia Pty Ltd and only those third parties who have been authorised in writing by AECOM to rely on this Report.

It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Report.

It is prepared in accordance with the scope of work and for the purpose outlined in the AECOM Proposal – Independent Environmental Audit – Northern Dune (OPP-437264) dated 12 November 2015 and the AECOM Standard Consultancy Agreement (Appendix B) of the proposal.

Where this Report indicates that information has been provided to AECOM by third parties, AECOM has made no independent verification of this information except as expressly stated in the Report. AECOM assumes no liability for any inaccuracies in or omissions to that information.

This Report was prepared between 4 December 2015 and 27 January 2016 and is based on the [conditions encountered and information reviewed] at the time of preparation. AECOM disclaims responsibility for any changes that may have occurred after this time.

This Report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This Report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

Except as required by law, no third party may use or rely on this Report unless otherwise agreed by AECOM in writing. Where such agreement is provided, AECOM will provide a letter of reliance to the agreed third party in the form required by AECOM.

To the extent permitted by law, AECOM expressly disclaims and excludes liability for any loss, damage, cost or expenses suffered by any third party relating to or resulting from the use of, or reliance on, any information contained in this Report. AECOM does not admit that any action, liability or claim may exist or be available to any third party. Except as specifically stated in this section, AECOM does not authorise the use of this Report by any third party. It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

Appendix A

Compliance with Special Areas Consent Approval

Appendix A Compliance with Special Areas Consent Approval

Table 9 Compliance against Approval Conditions

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
1 Operational Area				
(1) (a) Operational Area – From the date of issue of this Approval, the Director General approves the Approval Holder to commence and conduct the extractive operation in that area of land within the extraction Area depicted as “Extraction Zone 1” on the plan marked “B” annexed to the Approval (operational Area), subject to the prior performance of the obligations provided in Clause 2(1)	Not applicable	Not applicable	This had already commenced prior to the current audit period.	Closed out.
(b) Limit on Extraction Operations – The Approval Holder may not undertake Extractive Operations outside of the boundary of the operational Area as it exists from time to time, excepting that the Approval Holder may utilise any road outside the Operation Area for the purpose of access to the Operational Area and for associated purposes, including without limitation for the purpose of haulage of extracted sand away from the operational area, and the performance of any obligation under the Environment Management Plan.	Yes	Interviews with onsite personnel and a review of aerial photographs by the auditors.	During the Site visit the auditors viewed evidence of survey boundaries being maintained at the Site (i.e. with survey markers). Aerial photographs are obtained annually by the Site confirming that operations continue to take place within these previously surveyed boundaries. There are no instances during the audit period where the operations have occurred outside of the previously surveyed zone.	Compliant.
(2)(a) Addition of land to Operational Area – The approval holder may apply in writing to the Director-General for variation of the Operational Area by the addition or more extraction zones.	Yes	Zones 4 and 3 requests for approval.	The auditors sighted the Zone 4 request for approval which was provided to the Department of Natural Resources. This request included rehabilitation costings and supporting maps. A notice from the Office of Water dated 22 May 2014 was also sighted by the auditors, approving the receipt of a supplementary bank guarantee to mine Zone 4. The auditors also sighted similar correspondence regarding the commencement of operations in Zone 3 in 2008.	Compliant.
(b) An application under subparagraph (2)(a) must relate only to land within the Extraction Area	Yes	Zones 4 and 3 requests for approval.	The auditors sighted the Zone 4 request for approval which was provided to the Department of Natural Resources. This request included rehabilitation costings and supporting maps. A notice from the Office of Water dated 22 May 2014 was also sighted by the auditors, approving the receipt of a supplementary bank guarantee to mine Zone 4. The auditors also sighted similar correspondence regarding the commencement of operations in Zone 3 in 2008.	Compliant.
(c) An application under subparagraph (2)(a) must include: (i) a map of the proposed operational area indicating the extraction zone or extraction zones that comprise the existing Operational Area, and the Extraction Zone or Extraction Zones proposed to be added to the Operational Area (ii) costing of rehabilitation of each Extraction Zone comprising the proposed operational area	Yes	Zones 4 and 3 requests for approval.	The auditors sighted the Zone 4 request for approval which was provided to the Department of Natural Resources. This request included rehabilitation costings and supporting maps. A notice from the Office of Water dated 22 May 2014 was also sighted by the auditors, approving the receipt of a supplementary bank guarantee to mine Zone 4. The auditors also sighted similar correspondence regarding the commencement of operations in Zone 3 in 2008.	Compliant.
(3)(a) Removal of land and release from obligations – The approval Holder may apply in writing to the Director General for variation of the operational area by the removal of one or more extraction zones and the release of the approval holder from all obligations in relation to such extraction zone of extraction zones.	Not applicable – no application yet sought	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(b) An application under subparagraph(3)(a) must include: (i) a map of the proposed Operational Area indicating the Extraction Zone or Extraction Zones that comprise the existing Operational Area, and the Extraction Zone or Extraction Zones proposed to be removed from the	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
Operational Area; and (ii) an Environmental Audit Report and any supplementary environmental Audit Report for any Extraction Zone that is proposed to be removed from the Operational Area prepared in accordance with clause 8(3).				
(c) An application under subparagraph (3)(a) must relate only to an Extraction Zone that is designated Release Eligible in accordance with Clause 8(3)	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(d) On the granting of an application by the Approval Holder pursuant to subparagraph (3)(a), the provisions of this Approval which permit the Extraction Operation on any Extraction Zone removed from the Operational Area cease to have effect.	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(4)(a) Determination of the application – The director General must determine an application made under subparagraph (2)(a) by granting or refusing that application within 28 days of the date of receipt of application.	Not applicable- as DPI Water has stated that this is not required.	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(b) In making a determination under subparagraph (4)(a), the Director General must be reasonably satisfied, having regard, where relevant to the Environmental Audit report and any Supplementary Environmental Audit Report. (i) that the approval holder has complied with limitations on the extent of Extractive Operations pursuant to Clause 3 in the existing Operational Area (ii) that the Approval holder has complied with the requirements of the Groundwater Management Plan; (iii) that the Approval holder has complied with the requirements of the Rehabilitation Plans in the existing Operational Plan; (iv) that the rehabilitation work done by the approval holder has achieved or is achieving rehabilitation objectives in the existing Operational Area	Not applicable- as DPI Water has stated that this is not required.	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(c) Notice of determination – The Director General must give notice in writing within 14 days of the determination.	Not applicable- as DPI Water has stated that this is not required.	Not applicable	This has not been required during the audit period.	Not activated.
(d) If the Direct General determines to refuse an application pursuant to subparagraph (4)(a), the notice given in accordance with subparagraph (4)(c) must include written reasons for that refusal.	Not applicable- as DPI Water has stated that this is not required.	Not applicable	This has not been required during the audit period.	Not activated.
(e) Content of Notice – If the Director General determines to grant an application, the notice must be given in accordance with subparagraph (4)(c) must	Not applicable- as DPI Water has stated that this is not	Not applicable	This has not been required during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
state: (i) the date from which the variation of the Operational Area is effective (Variation Date; (ii) the amount of security, if any, redetermined under clause 13(2) required in relation to the Operational Area as varied; and (iii) where the application was made under subparagraph (3)(a), that the Approval Holder is released from any further obligation or responsibility under this Approval in relation to the area subject of the application.	required.			
(f) Any variation of the Operational Area pursuant to subparagraph (4)(a) has effect from the date set out in the notice under subparagraph (4)(c), subject to the prior lodgement of a Supplementary Bank Guarantee required in accordance with clause 13.	Yes	Evidence of supplementary bank guarantees for zones 3 and 4 was sighted by the auditors during the site visit (including supplementary bank guarantee notification to Office of Water dated 22 May 2014).	The auditors sighted a copy of a supplementary bank guarantee notification to the Office of Water dated 22 May 2014. The auditors also sighted similar correspondence regarding the commencement of operations in Zone 3 in 2008.	Compliant
(5) (a) Amendment of the Extraction Zone – The Approval Holder may apply in writing to the Director General to amend the boundaries of one or more Extraction Zones, as indicated on the plan marked “B” annexed to the Approval.	Not applicable – no application yet sought	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(b) The director general must determine an application made under subparagraph (5)(a) by granting or refusing that application writing 28 days of the date of receipt of the application	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(c) The director general must give notice in writing to the Approval Holder of the determination of an application pursuant to subparagraph (5)(b) within 14 days of the determination	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(d) If the Director General determines to refuse an application pursuant to subparagraph (5)(b), the notice given in accordance within subparagraph (5)(c) must include a written reason for that refusal	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
2 Preconditions of extractive operations				
(1) Material to be provided – Prior to the commencement of Extractive Operations, the Approval Holder must:	Yes	Not applicable	This was noted, however the audit did not require a finding to be made against this point.	Not activated.
(a) Lodge with the Department the Initial Bank Guarantee	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Lodge with HWC and the Department a copy of the report prepared under paragraph (2)(c) of the Release Criteria	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Lodge with HWC and the department a map and	Yes	Not applicable	This has not been required during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
associated data depicting the existing topographical contours of the extractive operations to the reasonable satisfaction of HWC and the Department (Pre-extraction landform plan)				
Lodge with the HWC and the department a map and associated data depicting the landform to be achieved in the course of extractive operations subject to the limitations on the extent of Extractive Operations, including the Extraction Buffer limitation (Post-Extraction Landform Plan)	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Lodge with HWC and the department a map and associated data depicting the landform to be achieved through rehabilitation of the extraction area including the total buffer depth (final landform plan), which must be developed in consultation with HWC and the Department.	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Lodge with HWC and the department a map and associated data depicting the maximum predicted ground water level for the extraction area (Benchmark Maximum Predicted Groundwater Level Plan) which must be developed in consultation with HWC and the Department	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Lodge with HWC and the Department a document describing the proposed methods of operation for the Extractive Operations including the management of plant equipment and vehicles within the Operational Area and the manner of carrying out the extractive operations (Operations Management Procedures)	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Lodge with HWC and the Department of Environmental Management Plan prepared in accordance with Clause 7;	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Mark the limits of the site for the commencement of extractive operations within the operational area in the manner set out in the Environmental Management Plan;	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Mark all monitoring bores within the extraction area in accordance with clause 15(6); and	Yes	Not applicable	This has not been required during the audit period.	Not activated.
Lodge with HWC and the Department a report or reports on flora and fauna surveys of the Extraction Area completed by an independent consultant, nominated by the Approval Holder and approved in advance by the HWC and the department, (Biodiversity Reports) which must: <ul style="list-style-type: none"> - describe the existing species and community types and distribution of flora and fauna in the Extraction Area for the purpose of providing a guide for rehabilitation of the Extraction Area; and - indicated floral and faunal communities in the Extraction Areas that are threatened species, populations or ecological communities under the 	Yes	Not applicable	This has not been required during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
<i>Threatened Species Conservation Act 1995 (NSW)</i>				
(2) (a) Review of Release Criteria – Prior to the commencement of Extractive Operations the Approval Holder must retain an independent consultant, nominated by the approval Holder and approved in advance by HWC and the Department, to review the release Criteria set out in the Rehabilitation Plans	Yes	Not applicable	This has not been required during the audit period.	Not activated.
(b) The review under subparagraph (a) must assess whether the Release Criteria are reasonable performance indicators in respect of the objectives of the Rehabilitation Plans.	Yes	Not applicable	This has not been required during the audit period.	Not activated.
(c) The Approval Holder must ensure that a comprehensive report of the review under subparagraph (a) is prepared by the independent consultant	Yes	Not applicable	This has not been required during the audit period.	Not activated.
(d) The direct general may require that a review of the Release Criteria be undertaken as part of any Environmental Audit performed under Clause 8	Not applicable- as DPI Water has stated that this is not required.	Not applicable	This has not been required during the audit period.	Not activated.
3 Extent of Extractive Operations				
(1) Extraction buffer – The conduct of the Extractive Operation including the removal of vegetation and displacement of top soil must not at any point: (i) Remove any material from beneath 0.7 meters above the level depicted by the Applicable Maximum Predicted Groundwater Level Plan (Extraction Buffer) for that point; or (ii) extend beyond the Operational Area	Yes	Interviews conducted with onsite personnel, the site visit and review of operations conducted by the auditors, and a review of surveyor records.	Interviews conducted with onsite personnel, the site visit conducted by the auditors and a review of surveyor records and site operations confirm that the site complies with these level requirements.	Compliant.
3(2) Review of the extraction buffer – Prior to the commencement of the Extractive Operation in an Extraction Zone other than Extraction Zone 1, as shown on plan marked “B” annexed to the document, the Extraction Buffer and Total Buffer Depth may be reviewed by HWC and the Department in consultation with the Approval Holder, and may be reasonably amended by the Director General on the basis of: (a) any information produced by the Approval holder in accordance with the Groundwater Management Plan; (b) any further groundwater studies (c) the extent to which the Rehabilitation Plans has achieved or is achieving the rehabilitation objective ; and (d) any additional relevant information that has come to the attention of HWC or the Department during the course of Extractive Operation, including any Environmental Audit Report.	Not applicable.	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
4 Method of Extractive Operations				
(1) Laser level monitoring – During Extractive Operations, the Approval Holder must monitor, to the reasonable satisfaction of the Director General, the height of land from which sand is being extracted, including by taking regular measurements using a laser level in accordance with industry standards procedure by a person whether a surveyor, geologist, or other person, trained in surveying techniques	Yes	AEMRs 2008-2015.	Laser level monitoring is being undertaken as required under the consent conditions. In-house surface level monitoring after each production period is also occurring. Independent level monitoring is being undertaken by Tattersall Lander Surveyors, with the information sent to the Sibelco Mining Services Division. Sibelco surveying personnel were independently assessed in June 2009, by Tattersall Lander Surveyors Pty Ltd. This is confirmed in Section 3.3.2.1 of Draft Northern Dune AEMR Report 2015, Section 3.3.2 of Northern Dune AEMR Report 2014, Section 3.3.2.1 of Northern Dune AEMR Report 2013, 3.3.2.1 of Northern Dune AEMR Report 2012, Section 3.3.2.1 of Annual Environmental Management Report – Sibelco Dune AEMR 2011, Section 3.3.2.1 of Northern Dune AEMR Main Report 2010, Section 3.3.2.1 of Northern Dune AEMR Report 2009, and Section 3.3.2.1 of Northern Dune AEMR Report 2008.	Compliant
(2) Machinery - The approval holder must remove all machinery used in the extractive operation from the Tomago Sandbeds Catchments Area at the end of each days operation.	Yes	Interviews with site personnel and an inspection of the Site's operational areas during the Site visit.	Interviews with site personnel and the site inspection conducted by the auditors confirmed that these requirements are being met.	Compliant
(3) No Storage of Contaminants – The Approval Holder must not store fuel, oil, grease and any similar potential groundwater contaminant on the Tomago Sandbeds Catchment area.	Yes	Interviews with site personnel and the site inspection conducted by the auditors.	Interviews with site personnel and the site inspection conducted by the auditors confirmed that these requirements are being met.	Compliant
5 General				
(1) Manner of performing Extractive Operations – The approval Holder must:	Not applicable	Not applicable	This was noted, however the audit did not require a finding to be made against this point.	Not activated.
(a) Operate and manage Extractive Operations; and (b) Operate and manage all plant and works utilised as part of the extractive operation, including any equipment used for purposes of monitoring and rehabilitation, in a manner that ensures that the extractive Operations or works done as part of or in association with Extractive Operations do not have an unreasonably adverse impact on the supply or quality of groundwater located within the Operational Area and any adjoining land that forms part of the Tomago Sandbeds Catchment Area, having regard to:	Yes	Electronic Pronto maintenance system, and bulldozer pre-start checklist.	The auditors saw evidence of the Site using its equipment maintenance system Pronto, which sends due notifications to ensure equipment is maintained so as not to cause adverse impacts to groundwater. The auditors also sighted the use of the Site's bulldozer pre-start checklist, which is used to ensure plant is in a suitable condition for Site operations, so as not to cause adverse impacts to groundwater.	Compliant.
(c) the terms and conditions of this approval; and	Yes	Project Approval.,	The overall observation made by the auditors is that the Site appears to generally be in compliance with the conditions of this project approval.	Compliant
(d) the supply purposes and groundwater dependant ecosystems	Yes	2014 AEMR.	2014 AEMR references the fact that a hydrogeologist had been engaged to assess impacts to GDEs. However, no findings have been reported in the AEMR. It is recommended that this be finalised. The 2008 IEA (URS, 2008) states that " <i>The groundwater monitoring (quality and level) undertaken at the site to date has not identified any significant impacts upon groundwater quality or level due to the mining operations. By inference, it is assumed that there have not been any impacts upon groundwater dependent ecosystems. However, no conclusion as such has been made by the consultant hydrogeologist or vegetation rehabilitation specialists.</i> <i>It is recommended that this matter be formally assessed by the consultant hydrogeologist and vegetation rehabilitation specialists and reported in the AEMR</i> ".	Administrative Non-compliance REC-2015-04 - It is recommended that groundwater dependant ecosystems be formally assessed by the in-house hydrogeologist and that the outcomes of this assessment are reported in the AEMR.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
(2) Compliance with EMP – In carrying out the Extractive Operation the Approval Holder must comply with the Environmental Management Plan approved in accordance with Clause 7, including rehabilitation requirements.	Yes	EMP.	Sibelco personnel were not clear which version of their EMP applied to the site (as there are two separate EMPs applicable to different portions of land owned/leased by Sibelco). The Tanilba Northern Dune Environmental Management Plan (January 2011) relates to the majority of the Site (Zones 1-4). A new EMP was developed to meet the requirements of the new Project Approval PA 09_0091. However this new EMP (Environmental Management Plan Tanilba Northern Dune (December 2014, Revision 2) has not yet been formally implemented, as extraction has not yet commenced in that area. It seems that the new EMP only applies to the new extraction area approved under PA 09_0091, whereas the Tanilba Northern Dune Environmental Management Plan (January 2011) would continue to relate to the rest of the Site. However, this was not clear, and staff were not able to confirm this either way.	Compliant REC-2015-08 -Staff should familiarise themselves with the differences between the two EMPs currently prepared for the Site, and consider merging these two documents in consultation with the regulators to ease confusion.
(3)(a) Notification of incident or event – The Approval Holder must notify the Director General of any incident or event occurring in connection with the Extraction Operation that adversely affects or is likely to adversely affect groundwater resource for use as potable supply, the groundwater ecosystem or the biophysical environment of the Tomago Sandbeds Catchment Area.	Yes	Reporting to the NSW Office of Water, and follow up correspondence.	A small hydrocarbon spill occurred in 2010. The auditors sighted the relevant reporting of this incident to the NSW Office of Water, as well as follow up correspondence with NSW Office of Water, evidencing that they were satisfied with the response provided by Sibelco.	Compliant
(b) The notice referred to in subparagraph (3)(a) must be written, and include the following information: (i) the nature, extent and location of the incident or event (ii) the likely effect of the incident or event; and (iii) any measures taken or proposed to be taken to manage the effects of the incident or event in accordance with the hydrocarbon spill procedure	Not applicable	Reporting to the NSW Office of Water, and follow up correspondence.	A small hydrocarbon spill occurred in 2010. The auditors sighted the relevant reporting of this incident to the NSW Office of Water, as well as follow up correspondence with NSW Office of Water, evidencing that they were satisfied with the response provided by Sibelco.	Compliant
(c) Stop work direction – If the Director General is reasonably satisfied that the approval holder has not complied with the Hydrocarbon Spill Procedure in relation to any event or incident, the director general may direct the Approval Holder to stop Extractive Operations	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(d) Rectification Notice – If the Director General makes a direction pursuant to subparagraph (3)(c), the Director General must issue a Rectification Notice to the Approval Holder within 7 days of making the direction.	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(e) Revocation of stop work direction – If a direction is in force under subparagraph (3)(c), and the Director General is reasonably satisfied that the Approval Holder is carrying out any Rectification Works set out in the Rectification Notice pursuant to subparagraph (3)(d), the Director General must revoke the direction as soon as practicable to permit the Approval Holder to recommence Extractive Operations.	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
<p>5(4)(a) Environmental Management Report – The Approval Holder must submit a report to the Director General on each anniversary of the Date of Issue for the term of this approval (Environmental Management report), addressing:</p> <p>(i) the performance of and compliance with the provisions of the Groundwater Management Plan by the Approval Holder;</p> <p>(ii) the performance of and compliance with the provisions of the rehabilitations plans by the approval holder;</p> <p>(iii) the performance of and compliance with the provisions of any other requirements of this approval by the approval holder</p> <p>(iv) any instances in which the Approval Holder has not satisfied the requirements of the Environmental Management Plan or this Approval indicating any reason for that non-compliance and any action that is proposed to be introduced, or has already been implemented, to prevent or remedy the non-compliance</p> <p>(v) identification of trends in monitoring data from the Groundwater management Plan and Rehabilitation Plan over the life of the extractive Operations, and</p> <p>(vi) environmental management targets and strategies for the subsequent year</p> <p>(b) Annual Inspection – The approval holder must arrange an annual inspection of the Extraction Area to be attended by HWC and the Department.</p>	Yes	AEMRs 2008-2015.	<p>AEMRs for 2008-2015 were reviewed. The following comments are noted:</p> <p>(a) (i) Section 3.1 of the AEMR 2015 fulfils these requirements.</p> <p>(ii) Section 3.2 of the AEMR 2015 fulfils these requirements.</p> <p>(iii) Section 3.3 of the AEMR 2015 fulfils these requirements.</p> <p>(iv) Section 3.4 of the AEMR 2015 fulfils these requirements.</p> <p>(v) Section 3.4 of the AEMR 2015 contains a discussion of trends for groundwater and rehabilitation monitoring data.</p> <p>(vi) Section 3.6 of the AEMR 2015 fulfils these requirements.</p> <p>(b) AEMR meeting minutes and interviews with Site personnel indicate that these regulator inspections do occur. However, there was no documented evidence from the regulators to indicate they had visited the Site.</p> <p>Table 8 of the AEMR 2015 provides this tracking against environmental management strategies.</p>	<p>Compliant</p> <p>REC-2015-01 - It is recommended that AEMRs reference regulator visits, particularly as agencies do not formally acknowledge (i.e. by letter) that they have attended Site.</p>
<p>(c) Other relevant agencies and authorities (NPWS, EPA, Port Stephens Council) should be notified by the Approval Holder of the date and time of the inspection and be given the opportunity to attend.</p>	Yes	AEMRs 2008-2015.	<p>AEMR meeting minutes and interviews with site personnel indicate that these regulator inspections do occur. However, this evidence should be clarified.</p>	<p>Compliant.</p> <p>REC-2015-01 - It is recommended that AEMRs reference regulator visits, particularly as agencies do not formally acknowledge (i.e. by letter) that they have attended Site.</p>
<p>(d) The Environmental Management report should be received by HWC and the Department at least 1 month prior to the annual inspection</p>	Yes	Interviews with staff onsite and a review of AEMRs 2008-2015.	<p>Interviews with onsite staff confirmed that AEMRs are provided to these regulators as required. However, correspondence could not be provided to back this up.</p>	<p>Compliant</p> <p>REC-2015-09 AEMRs should record the date of when draft AEMRs are provided to the required regulators.</p>
6 Rectification				
<p>(1) Issue of notice – If, in the reasonable opinion of Director General, the Approval holder has conducted or is conducting the extractive Operation in the Operational Area in a manner that was not or is not in</p>	Not applicable- DPI Water stated that they did not want this	Not applicable-	<p>Site management reported that this has not occurred during the audit period.</p>	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
<p>accordance with the requirements of;</p> <p>(a) the Groundwater Management Plan</p> <p>(b) the Rehabilitation Plans</p> <p>(c) the hydrocarbon spill response procedure</p> <p>(d) any of the terms of this approval</p> <p>The director general may issue a notice to the Approval Holder (Rectification Notice) in respect of any deficiency caused or likely to be caused (deficiency):</p> <ul style="list-style-type: none"> - in the environmental condition of the operational area - in the performance of any obligation under the plans, procedures or approval identified at (a) to (d) above 	condition audited.			
<p>(2) Content of Notice - Any rectification notice issued by the Director General to the Approval Holder pursuant to this Approval must:</p> <p>(a) be in writing</p> <p>(b) specify any deficiency to which the rectification notice relates</p> <p>(c) specify any works or additional obligations reasonably required to amend or repair a deficiency or to ensure that any area of the operational area will not be damaged or detrimentally affected (rectification works) and</p> <p>(d) specify a reasonable time within which to commence and or complete rectification work or any component of the rectification works (rectification period).</p>	Yes	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
<p>(a) Determination of the rectification period – The director general must consult the approval Holder in determining the rectification period in relation the operational timeframes of the approval holder within which commencement of the or completion of the rectification work is reasonably achievable</p> <p>(b) The director General must determine the rectification period, having regard to the time in which the commencement and or completion of the rectification works is reasonable achievable by the Approval Holder.</p>	Yes	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
<p>Compliance with Notice – The approval holder must comply with all the terms of a rectification notice.</p>	Yes	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
<p>Default under Notice - If the approval holder does not comply with a rectification notice of the director general may:</p> <ul style="list-style-type: none"> - Require, by notice in writing the approval holder stop the extractive operations until such time as the rectification works are complete; and - Authorise any other person to enter the land and 	Yes	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
carry out the rectification works and fund operations by drawing down of the security lodged under Clause 13.				
7 Environmental Management Plan				
(1) Preparation of the EMP – Prior to the commencement of extractive operations the approval holder must prepare and maintain a plan for the environmental management and rehabilitation of the extraction area (Environmental Management Plan) to the reasonable satisfaction of the director general	Yes	Tanilba Northern Dune Environmental Management Plan (January 2011) and the current Environmental Management Plan: Tanilba Northern Dune (December 2014, Revision 2).	The previous Tanilba Northern Dune Environmental Management Plan (January 2011) and newly prepared Environmental Management Plan Tanilba Northern Dune (December 2014, Revision 2) fulfil these requirements. A letter from the then Department of Planning and Environment dated 20 January 2015 was sighted by the auditors, confirming the Department's approval of the updated Soil and Water Management Plan, Erosion and Sediment Control Plan, and Ground Water Monitoring Program. However no letter could be produced evidencing the Department's approval of the Tanilba Northern Dune Environmental Management Plan (January 2011) or the current Environmental Management Plan: Tanilba Northern Dune (December 2014, Revision 2).	Compliant REC-2015-10 Locate previous approvals from the Department, or otherwise confirm the Director General's satisfaction with the current EMP, as this could not be produced during the 2008 IEA.
(2) Core component of EMP - The environmental management plan must include, but is not limited to the follow core components: - Groundwater Management Plan; - Vegetation Rehabilitation Plan; - Landform Rehabilitation Plan; - Hydrocarbon Spill Procedure; and - Operations Management Procedure.	Yes	Environmental Management Plan.	The current EMP has not been updated since the previous audit.	Compliant
(3) (a) Core amendment of EMP – The approval holder must not amend the Environmental Management Plan in any respect that affects the core components unless with the consent of the director general in accordance with this paragraph.	Yes	Environmental Management Plan.	Site management reported that this has not occurred during the audit period. Only minor changes have been made to the Tanilba Northern Dune Environmental Management Plan (January 2011) during the audit period. The Environmental Management Plan Tanilba Northern Dune (December 2014, Revision 2) was prepared to meet the requirements of the new project approval PA 09_0091, which comes into effect in 2016 for a small portion of the Site.	Not activated.
(b) The approval holder may apply in writing to the director general to amend the Environmental Management Plan in respect of any of the core Components	Not applicable – not yet sought	Interviews with onsite personnel, and a review of the Environmental Management Plan.	Site management reported that this has not occurred during the audit period.	Not activated.
(c) An application under subparagraph (3)(b) must include the following information: (i) any provision of the existing plans to be omitted from the amended plan and (ii) any provision not in the existing plan to be included in the amended plan (iii) reason for any proposed amendment to the existing plan	Not applicable	Interviews with onsite personnel, and a review of the Environmental Management Plan.	Site management reported that this has not occurred during the audit period.	Not activated.
(d) The Director General must determine an application made under subparagraph (3)(b) by granting or refusing that application within 28 days of the date of receipt of the application.	Not applicable	Interviews with onsite personnel, and a review of the Environmental Management Plan.	This was noted, however the audit did not require a finding to be made against this condition.	Not activated.
(e) The Director General must give notice in writing to the Approval Holder of the determination of an application under subparagraph (3)(b) within 14 days of the determination.	Not applicable	Interviews with onsite personnel, and a review of the Environmental Management Plan.	This was noted, however the audit did not require a finding to be made against this point.	Not activated.
(f) If the Director General determines to refuse an application pursuant to subparagraph (3)(d), the notice given must be in accordance with subparagraph (3)(e)	Not applicable	Interviews with onsite personnel, and a review of the Environmental	Site management reported that this has not occurred during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
must include written reasons for that refusal.		Management Plan.		
<p>(4) (a) Non-Core amendment of EMP - The approval holder may amend the Environmental Management Plan in any respect that does not affect the Core Components without referring such amendment to the Director General.</p> <p>(b) Any amendment under subparagraph (a) must not derogate from the requirements of core components.</p>	<p>Yes</p> <p>Yes</p>	<p>Interviews with onsite personnel, and a review of the Environmental Management Plan.</p>	<p>Site management reported that this has not occurred during the audit period.</p>	<p>Not activated.</p>
8 Environmental Audits				
<p>(1) Requirements for Environmental Audits – Any Environmental Audits undertaken for the purpose of this Approval must:</p> <ul style="list-style-type: none"> - Be carried out in accordance with ISO 14010 – Guidelines and General Principles for Environmental Auditing and ISO 14011 Procedures for Environmental Auditing; - Assess compliance with the requirements of this Approval; - Assess compliance with the Ground Water Management Plan; - Assess compliance with and progress of work under Rehabilitation Plans; - Assess whether the environmental objectives of the Ground Water Management Plan and the Rehabilitation Area are being met; - Assess the Operational Area in terms of the Release Criteria set out in the Environmental Management Plan; - Be conducted by an independent consultant, nominated by the Approval Holder and approved in advance by the HWC and the Department; and - Be carried out at the cost of the Approval Holder. 	<p>Yes – will be satisfied by the actual audit</p>	<p>Not applicable.</p>	<p>The current audit satisfies these requirements.</p>	<p>Compliant</p>

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
<p>(2) Environmental Audit Report – The results of an Environmental Report must be presented in a comprehensive report (Environmental Audit report)</p> <p>An Environmental Audit Report may include recommendations as to works that could be performed or additional obligations that could be imposed in order to rectify any of the matter assessed under paragraph (1)</p> <p>Supplementary Environmental Audit – If the approval holder performs further works or satisfies additional obligations based on recommendations made in an Environmental Audit Report, the approval holder may cause a further audit to be carried out in relation to those further works or obligations (Supplementary Environmental Audit)</p> <p>The results of a Supplementary Environmental Audit must be presented in a comprehensive report (Supplementary Environmental Audit Report)</p>	Yes – an audit deliverable	The previous and current audit reports.	The current audit satisfies these requirements.	Compliant
<p>(3) Application for removal of land from Operation Area – Prior to an application under clause 1 (3)(a) for the removal of an extraction zone from the operation area the approval holder must cause an Environmental Audit to be carried out to assess the compliance in that Extraction Zone with the requirements of the approval and in particular the Release Criteria.</p> <p>(b) Eligibility for release – If an audit under paragraph (a) determines that the extraction zone the subject of the application complies with the Release Criteria, the Environmental Audit Report may be designate the extraction zone as being eligible for release (Release Eligible)</p>	Not applicable – not sought by Unimin	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
<p>(4) Four year Audit – The approval holder must cause an Environmental Audit to be carried out four years after the commencement of the Extractive Operations.</p>	Yes	Final Report: Environmental Audit of Development Consent Conditions Tanilba Northern Dune Mine for Unimin Australia Limited.	This requirement was triggered prior to the current audit period.	Compliant.
<p>(5) Maximum period for Audits – The approval holder must cause an Environmental Audit to be carried out at least once each six years for the duration of this approval, such that the maximum period between any two consecutive Environmental Audits is six years.</p>	Yes	Final Report: Environmental Audit of Development Consent Conditions Tanilba Northern Dune Mine for Unimin Australia Limited.	The current audit has been undertaken later than this required timeframe. Given the lateness of the audit this condition was found to be an administrative con-compliance.	Administrative Non-compliance
9 Groundwater				
<p>(1) Groundwater Management Plan – Prior to the commencement of Extractive Operations the approval holder must develop a program, to the satisfaction of the HWC and the department, to operate concurrently with the extractive Operations in order to prevent or</p>	Yes	The Groundwater Management Plan.	The Groundwater Management Plan satisfies these requirements.	Compliant

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
minimise to the extent possible an unreasonably adverse impact on the quality or stored quality of the groundwater in the Tomago Sandbeds Catchments Area (Groundwater Management Plan).				
<p>(2) Requirements of GMP – The Groundwater Management Plan must include but is not limited to:</p> <ul style="list-style-type: none"> - The release criteria applicable to the objectives of the Groundwater Management Plan; - Locations of monitoring bores and piezometers distributed such that monitoring program covers the Operational Area; - Pre-extraction and post-extraction monitoring across the Extraction Area of watertable levels and water quality; - Analytes to be monitored; - Procedures for sampling and testing; - Frequency of readings indicating contamination of the groundwater; and - Procedures for investigation of detected contamination. 	Yes	GWMP.	The GWMP continues to contain those sections confirmed in the previous audit.	Compliant
<p>(3) Review of groundwater level plan – The Benchmark Maximum Predicted Groundwater Level Plan, and any subsequent Applicable Maximum Predicted Groundwater level Plan, may be reviewed by HWC, the Department, and the Approval Holder, taking into account:</p> <p>(i) The monitoring results obtained under the Groundwater Management Plan; and</p> <p>(ii) Groundwater level monitoring by HWC in the performance of its functions.</p> <p>(b) The Applicable Maximum Predicted Groundwater Level Plan may be amended from time to time by the agreement of the HWC, Department and the Approval Holder based on review conducted in accordance with subparagraph (3)(a).</p> <p>(C) If no agreement can be reached pursuant of subparagraph (3)(b) the director general may amend the Applicable Maximum Predicted Groundwater level Plan if reasonably satisfied that such amendment is supported by the date available.</p> <p>(d) On an amendment to the Applicable Maximum Predicted Groundwater Level Plan pursuant to subparagraph (3)(b) or (3)(c), the Approval Holder must lodge with HWC and the Department plan and associated data depicting that amended maximum predicted groundwater level for the Extraction Area (Maximum Predicted Groundwater Level Plan Amendment No. (x), where “x” is the number of the amendment.</p>	Not applicable – no review yet undertaken	GWMP.	This has not been required during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
(4) Continued Monitoring – The Approval Holder must monitor the groundwater level and groundwater quality in accordance with the Groundwater Management Plan for four years after the extraction of sand has ceased in any particular Extraction Zone or such earlier time at which the Director General is reasonably satisfied that the condition of the Extraction Zone satisfies the release criteria.	Yes	Review of groundwater monitoring data excel spreadsheet and AEMRs.	No groundwater monitoring bores required by this Project Approval have ceased being used.	Compliant.
10 Hydrocarbon Spill Procedure and Remediation of Land				
(1) Hydrocarbon Spill Procedure – Prior to the commencement of Extractive Operations, the Approval Holder must develop a procedure, to the satisfaction of HWC and the Department, to be followed by the Approval Holder in responding to the event of a hydrocarbon spill in the Extraction Area, with the objective of the prevention or minimisation to the extent possible of any unreasonably adverse impact on the quality or stored quantity of the ground water in the Tomago Sandbeds Catchment Area. (Hydrocarbon Spill Procedure)	Yes	Hydrocarbon Spill Procedure.	The Hydrocarbon Spill Procedure in EMP 2011 continues to contain those sections confirmed in the previous audit.	Compliant.
(2) Remediation of Land – The Hydrocarbon Spill Procedure must include, but is not limited to a provision for the development of a plan of remediation to be followed in the case of an Investigation Event or an incident or event that could have adverse impact on the groundwater in the Tomago Sandbeds Catchment Area.	Yes	Hydrocarbon Spill Procedure.	The Hydrocarbon Spill Procedure continues to contain those sections confirmed in the previous audit.	Compliant.
(3) Variation of Procedure – The Director General may require the Approval Holder to vary any part of the Hydrocarbon Spill Procedure as a result of any incident or event in relation to which the Hydrocarbon Spill Procedure was implemented.	Not applicable	Not applicable.	Site management reported that this has not occurred during the audit period.	Not activated.
11 Rehabilitation – Landform				
(1) Requirement of Rehabilitation – The Approval Holder must rehabilitate the landform of the Operation Area progressively from the commencement of the Extractive Operations.	Yes	Interviews with onsite personnel, as well as a visit by the auditors to rehabilitation areas throughout the Site.	The auditors viewed these progressive rehabilitation works during the site visit. Overall, rehabilitation works seem to be progressing well.	Compliant
2) Landform Rehabilitation Plan – Prior to the commencement of the Extractive Operations the approval holder must develop a plan, to the satisfaction of the HWC and the Department, to achieve the objective of rehabilitation of the landform of the Operation Area as depicted in the Post-Extractive Landform Plan (Landform Rehabilitation Plan).	Yes	Landform Rehabilitation Plan.	The Landform Rehabilitation Plan continues to contain those sections confirmed in the previous audit.	Compliant

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
<p>(3) Parameters of Plan – The landform Rehabilitation Plan must provide for the progressive rehabilitation of the Operation Area with reference to:</p> <p>(a) The extraction Buffer</p> <p>(b) The Applicable Maximum Predicted Groundwater level Plan</p> <p>(c) Timing and method of replacement of topsoil removed for the purposes of the Extractive Operations; and</p> <p>(d) The objective of compliance with the Final Landform Plan.</p>	Yes	Landform Rehabilitation Plan, a review of regulator correspondence, and interviews with onsite personnel.	Given no evidence of sign off from the regulators was able to be produced by the Site for the Landform Rehabilitation Plan, this condition was identified as administrative non-compliance.	Administrative Non-compliance
<p>(4) Content of Plan – The Landform Rehabilitation Plan for the Operation Area must include but is not limited to, provisions addressing:</p> <p>(a) The Release Criteria applicable to the objectives of the Landform Rehabilitation Plan;</p> <p>(b) Methods for achieving the requirements of the Final Landform Plan; and</p> <p>(c) Costings for the rehabilitation of each Extractive Zone in the Operational Area.</p>	Yes	Landform Rehabilitation Plan.	The Landform Rehabilitation Plan continues to contain those sections confirmed in the previous audit.	Compliant.
<p>(5) Total Buffer Depth – For the purpose of rehabilitation in Extraction Zone 1, top soil must be replaced in the Operational Area after the extraction of sand has occurred in order to provide a total buffer, incorporating the extraction buffer, of a minimum of one metre above the Applicable Maximum Predicted Groundwater Level Plan. (Total Buffer Depth)</p>	Yes	Not applicable	Zone 1 was not mined during this audit period.	Not activated.
<p>(6) Review of Total Buffer Depth – The Total Buffer Depth or any sand or soil component of the Total Buffer Depth may be reviewed by the Director General, in consultation with HWC and the Approval Holder, on relation to Extractive Operations in Extraction Zones 2, 3 or 4 based on the results of the Groundwater Management Plan, further groundwater studies and additional relevant information which may come to the attention of the approval holder, HWC or the Director General during term of the Approval.</p>	Yes	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
<p>(7) Amendment of Total Buffer Depth – If no agreement can be reached through consultation under subparagraph (6), the Director General may amend the Total Buffer Depth, or any sand or soil component of the Total Buffer Depth, if satisfied that such amendment is need to prevent adverse impacts on the quality and stored quantity of groundwater is the Tomago Sandbeds Catchment Area.</p>	Yes	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
12 Rehabilitation – Vegetation				

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
(1) Requirement to rehabilitate – The Approval Holder must rehabilitate the Operational Area progressively from the commencement of the Extractive Operation by revegetation.	Yes	Site visit of rehabilitation areas, and review of aerial mapping.	Evidence of this progressive rehabilitation was observed by the auditors during the site visit. Overall, rehabilitation works at the Site appeared to be progressing well.	Compliant.
(2) (a) Vegetation Rehabilitation Plan – Prior to the commencement of Extractive Operation the approval holder must develop a plan, to the satisfaction of the HWC and the Department, to achieve rehabilitation of the vegetation in the operation area as required by paragraph (1) Vegetation Rehabilitation Plan. (b) The Vegetation Rehabilitation Plan must have the objectives of re-establishing, based on the Biodiversity Reports: (i) Original vegetation community types; (ii) Structural components of the vegetation, comparable with the pre-extraction vegetation at similar elevation; and (iii) Species composition and density comparable with the pre-extraction vegetation at similar elevation having regard to the landform following the extractive operations.	Yes	Vegetation Rehabilitation Plan and regulator correspondence.	No evidence of approval from the regulators was able to be provided for the Vegetation Rehabilitation Plan.	Administrative Non-compliance REC-2015-05 - It is recommended that this approval be located, as it was not able to be produced during the 2008 IEA.
(c) Content of Plan – The Vegetation Rehabilitation Plan must include, but is not limited to, provisions addressing: (i) The Release Criteria applicable to the objective of the Vegetation Rehabilitation Plan; (ii) Procedures for clearing vegetation, topsoil management and sand extraction in order to minimise the environmental impact of those activities (Eg. percentage or description of the Operation Area to be under rehabilitation during Extractive Operations); (iii) Procedures for seed collection and propagation of adult vegetation; (iv) Procedures for revegetation; (v) Costings for rehabilitation of each Extraction Zone in the Operational Area; (vi) Stages of rehabilitation including progress to be followed throughout the extractive operations; (vii) Methods of monitoring and assessment of the progress of rehabilitation; (viii) Periodical and ongoing inspection and review of the rehabilitation by the HWC and the Department, including the annual inspection under Clause 5(4)(B); (ix) Procedures for reporting on the progress of rehabilitation;	Yes	Vegetation Rehabilitation Plan.	The Vegetation Rehabilitation Plan continues to contain those sections confirmed in the previous audit.	Compliant

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
(x) The framework for the flora component of the Environmental Audit under Clause 8; and (xi) Review of the Vegetation Rehabilitation Plan based on the results of monitoring and assessment activities.				
(3) Appointment of Rehabilitation Supervisor – The Approval Holder must appoint a Rehabilitation Supervisor with relevant qualifications approved by HWC and the Department in order to supervise to the rehabilitation work under the Vegetation Rehabilitation Plan.	Yes	Interviews with onsite personnel.	Sibelco's environmental subcontractor (JP Environmental Pty Ltd) remains the rehabilitation supervisor for these purposes. However this has still not formally been approved by HWC and the Department.	Administrative Non-compliance REC-2015-02- It is recommended that the appointment of JP Environmental Pty Ltd as Rehabilitation Supervisor be confirmed with the regulators.
13 Bank Guarantee				
(1)(a) Initial bank Guarantee The Approval Holder must provide to the Director General a bank guarantee in the amount of \$100,000 prior to the commencement of Extractive Operations in the Operational Area (Initial Bank Guarantee), to be maintained in that amount for the Term of this Approval, unless released at an earlier date by the Director General.	Yes	Not applicable	This has occurred prior to the audit period. Closed out during previous IEA (URS, 2008).	Not activated.
(b) Minimum Amount of Security – Notwithstanding any other provisions of the approval the sum total of security provided by the approval holder to the Director General under all bank guarantees in force at any time must be a minimum amount of \$100,000.	Yes	Not applicable	This has occurred prior to the audit period. Closed out during previous IEA (URS, 2008).	Not activated.
(2) (a) Re-determination of amount of security – On granting an application for variation of the Operational Area, the Director General must determine the quantum of security required from the Approval Holder in relation to the performance of the rehabilitation obligations by the Approval holder on the Operation Area as varied, such that the amount of security required, in the reasonable opinion of the Director General, equals the cost carrying out those rehabilitation obligations on the Operational Area as varied. (B) In making re-determination under subparagraph (a), the Director General must have regard to the costing of each Extractive Zone forming part of the Operational Area as varied, provided by the Approval Holder in accordance with Clause 1(2)(c)(ii). Supplementary Bank Guarantee – If the Director General determines a quantum of security pursuant to subparagraph (2) (a) that is greater than the amount of security in force under this Approval	Yes	Evidence of supplementary bank guarantees for zones 3 and 4 was sighted by the auditors during the site visit.	The auditors sighted the Zone 4 request for approval which was provided to the Department of Natural Resources. A notice from the Office of Water dated 22 May 2014 was also sighted by the auditors, approving the receipt of a supplementary bank guarantee to mine Zone 4. The auditors also sighted similar correspondence regarding the commencement of operations in Zone 3 in 2008.	Compliant.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
(3) Form of security - Any bank guarantee given in accordance with any provision of this Approval must be in a form approved by the Director-General and with a financial institution approved by the Director-General. The form of security annexed to this Approval and marked "C" is a form of security approved by the Director-General for the purposes of a bank guarantee under this Approval.	Yes	Evidence of supplementary bank guarantees for zones 3 and 4 was sighted by the auditors during the site visit (including supplementary bank guarantee notification to Office of Water dated 22 May 2014).	The auditors sighted the Zone 4 request for approval which was provided to the Department of Natural Resources. A notice from the Office of Water dated 22 May 2014 was also sighted by the auditors, approving the receipt of a supplementary bank guarantee to mine Zone 4. The auditors also sighted similar correspondence regarding the commencement of operations in Zone 3 in 2008.	Compliant. REC-2015-03 -It is recommended that the initial bank guarantees for the Site be located, as these could not be produced during the 2008 IEA.
(4) (a) Demand on security - The Director-General may make a demand on the Initial Bank Guarantee and/or any Supplementary Bank Guarantee for the purpose of applying the monies to the carrying out of any Rectification Works by the Department in accordance with Clause 6(5)(b) or Clause 14(6)(c).	Not applicable – not yet required	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(5) (a) Application for Re-determination of security - The Approval Holder may apply in writing to the Director-General to determine a fresh the amount of security required for the performance of the rehabilitation obligations in relation to the Operational Area pursuant to subparagraph (2)(a). (b) An application under subparagraph (5)(a) must include the following information: (i) Costings for the rehabilitation of each Extraction Zone comprising the Operational Area; (ii) Nomination of an amount of security that the Approval Holder considers is sufficient to perform all rehabilitation obligations in relation to the Operational Area with regard to the terms of this Approval; and (iii) The date on which the Approval Holder seeks the variation to the bank guarantees to come into effect (c) The Director-General must, acting reasonably, determine an application made under subparagraph (5)(a) by granting or refusing that application within 28 days of the date of the application. (d) The Director-General must give notice in writing to the Approval Holder of the determination of an application under subparagraph (5)(a) within 14 days of the determination. .	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
Part 4 Obligations and Rights				
14 Approval Holder's Rights and Obligations				
(1) Compliance with Approval - The Approval Holder must comply with any requirement expressed or implied under the terms and conditions of the Approval which includes this Schedule and any Annexures to this Schedule	Yes	Project Approval.	The overall observation made by the auditors is that the Site appears to generally be in compliance with the conditions of this project approval.	Compliant

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
(2) Notification of breach - The Approval Holder must notify the HWC and the Department of any act by the Approval Holder that in the reasonable opinion of the Approval Holder may be in breach of the terms and conditions of the approval.	Yes	Final Report: Environmental Audit of Development Consent Conditions Tanilba Northern Dune Mine for Unimin Australia Limited	The lateness of the current audit has not yet been advised to DPI Water. This will be advised once audit report is issued to HWC and other agencies. This will be notified to DPI Water once the audit report is finalised.	Compliant
(3) Reimbursement of Department - The Approval Holder is liable to reimburse the Department of its reasonable administrative expenses incurred for any inspection made by the Department on notification of a breach or potential breach by the approval Holder of the terms and/or conditions of the Approval.	Not applicable – no inspection reimbursement has been required to date.	Not applicable.	Site management reported that this has not occurred during the audit period.	Not activated.
(4) (a) Compliance with laws - The Approval Holder, by reason of this Approval, is not relieved of the obligation to obtain or comply with other authorities or permissions that may apply to the Extractive Operations. (b) The Approval Holder must obtain and observe all statutory provisions and lawful orders made by any other government authority of competent jurisdiction in relation to the Extractive Operations that are in force from time to time.	Yes	EPL 11633, Project Approval, and groundwater extraction licences.	The Site continues to operate under its Environmental Protection Licence (11633), Project Approval, and groundwater extraction licences. The Site generally appears to be complying with the provisions of its licences and approval, as well as with relevant statutory requirements.	Compliant
(5) Investigation of performance under Approval - The Director-General may require an investigation of the performance of any of the Approval Holder's obligations under this Approval during the conduct of the Extractive operations and following the cessation of the Extractive Operations.	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
(6) (a) Obligations at conclusion of Extractive Operations - The Approval Holder must give the Director-General 12 months notice in writing of the intended date of ceasing Extractive Operations permanently. On receipt of that notice the Director-General may require an Environmental Audit to be carried out in relation to the Operational Area in accordance with Clause 8, in particular for the assessment compliance with and the progress of work under the Rehabilitation Plans. Where the Director-General issues a Rectification Notice under Clause 6 after an Environmental Audit under subparagraph (6)(b) of this clause, if the Approval Holder defaults in performing the Rectification Works specified in that Rectification Notice: (i) To the reasonable satisfaction of the Director-General, and/or (ii) Within the Rectification Period specified, the Director-General may, without notice to the Approval Holder, make demand on the total amount of security in force under Clause 13 at that time.	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
15 Operation of HWC				
(1) Entry onto Extraction Area - Employees and agents of HWC may enter the Extraction Area for the purpose of ensuring: a) The protection or proper maintenance of the groundwater; and (b) Prevention of pollution or contamination of groundwater within the Extraction Area.	Not applicable	Interviews with onsite personnel.	Sibelco staff advised that HWC personnel have access through the current extraction area in order to access HWC owned water monitoring bores.	Compliant
(2) Notice of entry - Before entering the Extraction Area under paragraph (1), an employee and/or agent of HWC must use all reasonable endeavours to notify the Approval Holder of its intention to enter the Extraction Area.	Not applicable	Interviews with onsite personnel.	Sibelco staff advised that HWC personnel have access through the current extraction area in order to access HWC owned water monitoring bores.	Compliant
(3) Where the Approval Holder is unable to be notified in compliance with paragraph (2) before HWC enters the Extraction Area in order to perform its statutory functions. HWC must notify the Approval Holder as soon as practicable after that entry onto the Extraction Area.	Not applicable	Interviews with onsite personnel.	Sibelco staff advised that HWC personnel have access through the current extraction area in order to access HWC owned water monitoring bores.	Compliant
(4) Interference with HWC functions - Nothing in this Approval allows the Approval Holder to interfere with or prevent the HWC from performing its statutory functions in relation to the Tomago Sandbeds Catchment Area.	Not applicable	Not applicable	Sibelco management reported that HWC had not been prevented from performing its statutory functions in relation to the Tomago Sandbeds Catchment Area during the audit period.	Compliant
(5) HWC access and infrastructure - In carrying out Extractive Operations the Approval Holder must not, unless with written consent of HWC: (a) Damage or interfere with any improvements, monitoring bores, water supply infrastructure or portable operating assets of the HWC situated in the Extraction Area; (b) Limit or impede the HWC's access to any improvements, monitoring bores. Water supply infrastructure or portable operating assets of the HWC situated in the Extraction Area; and (c) Limit or impede the manner or timing of the HWC in the performance of its statutory functions including installation and operation of any new improvements, monitoring bores, water supply infrastructure or portable operating assets of HWC within the Tomago Sandbeds Catchment Area.	Not applicable	Site visit and interviews conducted with Site personnel.	Auditors observed evidence of the HWC Oyster Cove water supply pipe which was avoided during mining operations so as not to damage HWC infrastructure.	Compliant
(6) Position of monitoring bores to be marked - Prior to the commencement of Extractive Operations, the Approval Holder must mark the position of all monitoring bores located within the Extraction Area in consultation with the HWC.	Yes	Site inspection conducted by the auditors.	Bores were seen to be marked onsite and with GIS mapping.	Compliant

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
(7) HWC to have key for access - The HWC must be given a key or other convenient means of access for any gate or fencing constructed and maintained for the purposes of the Extractive Operations on the Extraction Area that may be needed in order for the HWC to perform its functions in relation to the Tomago Sandbeds Catchment Area.	Yes	Interviews with onsite personnel.	Sibelco staff advised that HWC personnel have access through the current extraction area in order to access HWC owned water monitoring bores.	Compliant
(8) Interference with Extractive Operations - Prior to entering the Extraction Area in accordance with this clause to carry out activities that will interfere with the Extractive Operations, HWC must use all reasonable endeavours to give notice to and consult with the Approval Holder.	Not applicable	Not applicable	Site management reported that this has not occurred during the audit period.	Not activated.
16 Operation of the Department				
(1) Entry onto Extraction Area – Employees and agents of the Department may enter the Extraction Area, in order to perform any of the Department's functions under legislation or this Approval.	Not applicable	Not applicable	This condition was not activated during the audit period.	Not activated.
(2) Notice of entry - Before entering the Extraction Area under paragraph (1), employees and agents of the Department must use all reasonable endeavours to notify the Approval Holder of the intention to enter the Extraction Area.	Not applicable	Not applicable	This condition was not activated during the audit period.	Not activated.
(3) Where the Approval Holder is unable to be notified in compliance with paragraph (2) before the Department enters the Extraction Area in order to perform its statutory functions, the Department must notify the Approval Holder as soon as practicable after that entry onto the Extraction Area.	Not applicable	Not applicable	This condition was not activated during the audit period.	Not activated.
(4) Powers exercisable on entry - On entering the Operational Area, employees and agents of the Department have all the powers lawfully exercisable in the performance of the Department's functions, and may: (a) conduct inspections of the equipment utilised for the purposes of monitoring under the Groundwater Management Plan and take samples and recordings as may be considered necessary; (b) require the Approval Holder to produce records or documents relating to the monitoring under the Groundwater Management Plan; and(c) require the Approval Holder to provide such assistance and facilities as may be requested for the purposes of paragraph (1).	Not applicable	Not applicable	This condition was not activated during the audit period.	Not activated.
(5) Power to vary or revoke - If the Director-General is of the opinion that any provision or condition of the Approval does not prevent or is not consistent with the need to prevent adverse impacts in terms of quality or stored quantity of the groundwater in the Tomago Sandbeds Catchment Area from being polluted or contaminated, the Director-General may vary or revoke	Not applicable	Not applicable	This condition was not activated during the audit period.	Not activated.

Condition	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
the provision or condition in whole or in part.				
(6) Interference with Extractive Operations - Prior to entering the Extraction Area in accordance with this clause to carry out activities that will interfere with the Extractive Operations, the Department must use all reasonable endeavours to give notice to and consult with the Approval Holder.	Not applicable	Not applicable	This condition was not activated during the audit period.	Not activated.

Appendix B

Compliance with 2008 IEA Recommendations

Appendix B Compliance with 2008 IEA Recommendations

Table 10 Compliance with 2008 Audit Recommendations

Recommendation	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
General Recommendations				
The site does not keep a monthly record of surface water ponding during their monthly monitoring of groundwater levels as stated in the GMP. The auditor recommended to Unimin that a record of ponding be kept and DWE and HWC be notified of ponding as stated by the GMP. Unimin's groundwater monitoring log was updated to address this requirement and now provides for keeping a record of surface water ponding (eg records sighted for 25 January 2008).	Yes	Review of groundwater monitoring data excel spreadsheet.	The monitoring log since 2008 was observed, and it complied with this recommendation.	Compliant.
It is recommended that Unimin keep records of the dates of each step in the groundwater monitoring and evaluation process and keep within the time limits specified within the GMP.	Yes	Review of groundwater monitoring data excel spreadsheet.	The monitoring log since 2008 was observed, and it complied with this recommendation.	Compliant.
Field measurements have not been kept in a waterproof, hard-bound field notebook with numbered pages as stated in the GMP. The site representative writes data on a print-out of the previous results, then discards the record once entered into the spreadsheet. The auditor recommended to Unimin that a notebook be used and kept in accordance with the GMP. This has since been implemented.	Yes	Review of groundwater monitoring data excel spreadsheet.	The monitoring log since 2008 was observed, and it complied with this recommendation.	Compliant.
It is recommended that the rehabilitation inspection checklist used by the Rehabilitation Supervisor be compared with EMP requirements to ensure all required items are being checked.	Yes	Sibelco Salt Ash Rehabilitation Checklist JP Environmental (in Appendix J of draft Northern Dune AEMR Report 2015) and Environmental Management Plan Tanilba Northern Dune, December 2014, Revision 2	The checklist provided in Appendix J of the draft Northern Dune AEMR Report 2015 aligns with the 2011 version of the Site's EMP.	Compliant.
It is recommended that surveying practices of Ian Clark and Stephen Marchant be inspected by Tattersall Surveyors and signed off as adequate.	Yes	The (Limited) Survey Training in the use of Laser Levels at Unimin Australia Ltd Hunter Regional Extraction Sites (Tattersall Surveyors).	The auditors cited the (Limited) Survey Training in the use of Laser Levels at Unimin Australia Ltd Hunter Regional Extraction Sites which was provided by tattersall Surveyors, and provided to specified onsite personnel, including those identified in the previous audit.	Compliant.

Recommendation	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
<p>The site has not undertaken a review of its performance against the release criteria. It is recommended that the annual reports address the performance indicators and release criteria which are relevant to the year of revegetation for each Block of rehabilitated land. The annual vegetation rehabilitation monitoring report contains a detailed assessment of the status of revegetation in each Block. The report does not contain a map showing the location of each Block to assist the reader. It is recommended that such a map be included.</p>	Yes	<p>Post 3-year Monitoring of the Vegetation Rehabilitation at Tanilba Northern Dune: 4-5 Year Surveys of Blocks D and E, Zone 2, Kleinfelder, 2013; Post 3-Year Monitoring of the Vegetation Rehabilitation at Tanilba Northern Dune: 4-5 Year Surveys of Blocks D, E and F, Zone 2, Kleinfelder, 2013; Sibelco Rehabilitation Inspection period August 2015 – September 2015 for Sibelco Australian: Tanilba Northern June (JP Environmental, October 2015); and Sibelco Rehabilitation Inspection period June 2015 – July 2015 for Sibelco Australian: Tanilba Northern June (JP Environmental, August 2015).</p>	<p>Repeat Finding</p> <p>AECOM consider that the finding and recommendation from the 2008 IEA (URS, 2008) is valid. While the Post-3 Year Monitoring reports provide some assessment against release criteria, the annual vegetation rehabilitation monitoring reports and the AEMRs do not.</p>	<p>Open</p> <p>REC-2015-06 - It is recommended that the annual vegetation rehabilitation monitoring reports assess the Site against its release criteria. The Site should also consider providing a summary of this assessment against release criteria within the AEMRs.</p>
Action Plan				
<p>Condition 5(1)(d). The groundwater monitoring (quality and level) undertaken at the site to date has not identified any significant impacts upon groundwater quality or level due to the mining operations. By inference, it is assumed that there have not been any impacts upon groundwater dependent ecosystems. However, no conclusion as such has been made by the consultant hydrogeologist or vegetation rehabilitation specialists.</p> <p>It is recommended that this matter be formally assessed by the in-house hydrogeologist and vegetation rehabilitation specialists and reported in the AEMR.</p>	Yes	AEMRs 2008-2015.	So far, a hydrogeologist has not yet confirmed the potential for impacts on groundwater dependent ecosystems.	<p>Administrative non-compliance.</p> <p>Refer to REC-2015-04</p>
<p>Condition 5(4)(a). Regarding item (ii) It is not clear that all requirements of the document titled 'Rehabilitation of Tanilba Dunes After Silica Sand Extraction' (Appendix H of the EMP) are being addressed in the annual assessment of compliance in the AEMR. A spot check of a couple of issues (a post extraction vegetation map and re-use of organic screenings) suggests that not all obligations in the Rehabilitation Plan are being met.</p> <p>It is recommended that the table of proposed</p>	Yes	EMP Checklists from prior AEMRs.	Appendix M of the Northern Dune AEMR 2012 (EMP Checklist), Appendix O of the Northern Dune AEMR 2013, Appendix N of Northern Dune AEMR 2014, and Appendix P of Northern Dune AEMR 2015 fulfil these requirements.	Compliant.

Recommendation	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
environmental management strategies in the AEMR be included in the same format in the subsequent year's AEMR, with an additional column noting whether the action has been completed, to provide consistency and transparency in reporting.				
Condition 12(3). No confirmed approval by DWE of appointment of Rehabilitation Supervisor was available. It is recommended that DWE provide written approval of statutory appointments to Unimim.	Yes	Interviews with onsite personnel.	Sibelco's environmental subcontractor (JP Environmental Pty Ltd) remains the rehabilitation supervisor for these purposes. However this has still not formally been approved by HWC and the Department.	Administrative Non-compliance Refer to REC-2015-02
Condition 14(4)(b). Unimim has not undertaken a formal audit of compliance with all relevant environmental legislative conditions to be able to demonstrate compliance. It is recommended that Unimim undertake a formal assessment of compliance with all relevant environmental legislative requirements.	Yes	Interviews with onsite personnel and a review of the Site's 'Key Changes' memos advising of such updates.	Legal updates are provided by Sibelco Corporate. No legislative audit has been undertaken, but this is not necessarily required. Receiving legal updates from corporate on a regular basis should be sufficient to cover off on this requirement. It is also not site personnel's responsibility to obtain licences and approvals, these are handled by corporate.	Compliant.
Groundwater Management Plan - Section 3.2.3 Groundwater Quality Monitoring. Based on the information available, the repeat sampling appeared to be undertaken within 14 days of Unimim being advised of an exceedance of the trigger levels, however, the specific timing of notification could not be confirmed. It is recommended that Unimim keep a record of the date of notification by their consultants of an exceedance of the trigger levels.	Yes	Email correspondence with groundwater monitoring subcontractor.	The auditors sighted email correspondence with Sibelco's groundwater monitoring subcontractor indicating that a high monitoring result discussed on 3 October 2012 was subsequently resampled on 10 October 2014. However no comprehensive records of these resampling events is maintained by the Site.	Compliant. Refer to REC-2015-13
Groundwater Management Plan - Section 3.2.3 Groundwater Quality Monitoring. Unimim advised that there have not been any changes to provisional limits in Table 3 of the Groundwater Management Plan. It is noted that the references to Table 2 in Section 3.2.3 should be to Table 3. It is recommended that this be amended to avoid confusion.	Yes	Tanilba Northern Dune Groundwater Management Plan (Sibelco Australia, January 2011).	It does not appear that the Groundwater Management Plan has been updated. It is likely that the reference should still be updated to Table 3, as Table 3 contains trigger values for certain chemical parameters and that this reference should also include Table 4, which sets out trigger levels for heavy metals.	Administrative Non-compliance REC-2015-07-References to Tables 2, 3 and 4 should be revised in the Tanilba Northern Dune Groundwater Management Plan (Sibelco Australia, January 2011).
Groundwater Management Plan - Section 3.6 - Groundwater Assessment Plan It is recommended that Unimim keep records of the dates of each step in the groundwater monitoring and evaluation process and keep within the time limits specified within the GMP.	Yes	Review of groundwater monitoring data excel spreadsheet.	The monitoring log since 2008 was observed, and it complied with this recommendation.	Compliant.
EMP 7.2 Management. No formal letter was available confirming the approval by the DWE of John Pola's appointment as the Rehabilitation Supervisor. It is recommended that Unimim obtain written confirmation of approval from DWE.	Yes	Interviews with onsite personnel.	Sibelco's environmental subcontractor (JP Environmental Pty Ltd) remains the rehabilitation supervisor for these purposes. However this has still not formally been approved by HWC and the Department.	Administrative non-compliance. Refer to REC-2015-02
EMP 7.6 Review. Rehabilitation monitoring is performed bi-annually and reports are written for each monitoring event by Ecobiological Pty Ltd. Sampling quadrats each 4 m ² were spaced evenly within the extraction area at approximately 14 m apart. This is not consistent with EMP 7.6.2 which	Yes	Environmental Management Plan Tanilba Northern Dune, December 2014, Revision 2 and Post 3-year Monitoring of the	Quadrats referenced between the Ecobiological reports and the current EMP now appear to match: i.e. permanent 20m x 20m quadrat, as well as further quadrats of 2m x 2m.	Compliant.



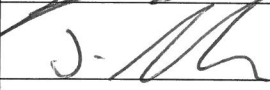


Recommendation	Applicable	Evidence Source	Comment	Compliance Status / Recommendation
requires 1 m ² quadrats at 10 m intervals in the early years of rehabilitation and once plants become established, at 5 m x 5 m quadrats. It is recommended that Unimin resolve the differences with Ecobiological and if necessary seek to modify the EMP in agreement with DWE and HWC.		Vegetation Rehabilitation at Tanilba Northern Dune: 4-5 Year Surveys of Blocks D, E and F, Zone 2 (Kleinfelder, 2013).		
Progress of work under Rehabilitation Plans. It is not clear that all requirements of EMP 08 and Appendix H of the EMP are included in the rehabilitation inspection checklist used by the Rehabilitation Supervisor. It is recommended that the rehabilitation inspection checklist used by the Rehabilitation Supervisor be compared with EMP requirements to ensure all required items are being checked.	Yes	Sibelco Salt Ash Rehabilitation Checklist JP Environmental (in Appendix J of draft Northern Dune AEMR Report 2015) and Environmental Management Plan Tanilba Northern Dune, December 2014, Revision 2	The checklist provided in Appendix J of the draft Northern Dune AEMR Report 2015 aligns with the 2011 version of the Site's EMP.	Compliant.
Surveying as required by the EMP 4.4.4. Some aspects of daily survey monitoring of the extraction depth are undertaken by non-registered surveyors. Whilst the Extraction Zones are subsequently fully surveyed by registered surveyors in accordance with the EMP, it is recommended that surveying practices of Ian Clark and Stephen Marchant be inspected by Tattersall Surveyors and signed off as adequate for the daily surveying.	Yes	The (Limited) Survey Training in the use of Laser Levels at Unimin Australia Ltd Hunter Regional Extraction Sites (Tattersall Surveyors).	The auditors cited the (Limited) Survey Training in the use of Laser Levels at Unimin Australia Ltd Hunter Regional Extraction Sites which was provided by tattersall Surveyors, and provided to specified onsite personnel, including those identified in the previous audit.	Compliant.
Release Criteria in Section 7.7 of EMP 7 – Vegetation Rehabilitation. Performance indicators and release criteria are listed in Table 7.7 of EMP 7. The site has not undertaken a review of its performance against the release criteria. It is recommended that the annual reports address the performance indicators and release criteria which are relevant to the year of revegetation for each Block of rehabilitated land.	Yes	Post 3-year Monitoring of the Vegetation Rehabilitation at Tanilba Northern Dune.	Appendix H of the Northern Dune AEMR Report 2014 (Post 3-year Monitoring of the Vegetation Rehabilitation at Tanilba Northern Dune), Appendix I of the Northern Dune AEMR Report 2013 fulfils these requirements.	Compliant.
Release Criteria in Section 7.7 of EMP 7 – Vegetation Rehabilitation. The annual vegetation rehabilitation monitoring report contains a detailed assessment of the status of revegetation in each Block. The report does not contain a map showing the location of each Block to assist the reader. It is recommended that such a map be included.	Yes	Aerial vegetation mapping.	This mapping was sighted by the auditors during the site visit.	Compliant

Appendix C

Attendance Records - Opening and Closing Meetings


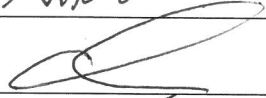


Meeting Description	Opening Meeting Tanilba Northern Dune Independent Environmental Audit		
Location:	Sibelco, 8 Oakvale Drive, Salt Ash NSW 2318	Time:	08:30 - 9:30
		Date:	4.12.15
Agenda:			Discussed
1	Welcome and introductions		✓
2	Audit background and scope		✓
3	Audit schedule		✓
4	Format of interviews and scheduling		✓
5	Discussions of information requirements		✓
6	Site inspection - Safety and PPE / photos		✓
7	Description of operations by Sibelco		✓
8	Questions and discussions		✓
9	Next step and close		✓

Attendees

Name	Company	Position	Signature
Nick BACARD	AECOM	LEAD AUDITOR	
Jessica Miller	AECOM	Auditor	
Jeff Clarkson	Sibelco	Manager	
Elizabeth Alexander	Sibelco	SE Coordinator	
Ian CLARK	"	ARPA MANAGER	

Meeting Description	Closing Meeting Tanilba Northern Dune Independent Environmental Audit				
Location:	Sibelco, 8 Oakvale Drive, Salt Ash NSW 2318	Time:	15:45	Date:	4.12.15
Agenda:					Discussed
1	Acknowledgements				✓
2	Summary of audit methodology				✓
3	Major findings - discussion				✓
4	Flow of information for any outstanding issues – Sibelco to AECOM (main point of contacts)				✓
5	Report Schedule				✓
6	Report content and delivery				✓
7	Any difficulties encountered during the audit				✓
8	Questions and feedback				✓

Attendees

Name	Company	Position	Signature
Nick Braunton	AECOM	LEAD AUDITOR	
IAN CLARKE	SIBELCO	ARPA MANAGER	
J. Clarke	Sibelco	Site Manager	
E. Alexander	Sibelco	SE Coordinator	
Jessica Miller	AECOM	Auditor	