

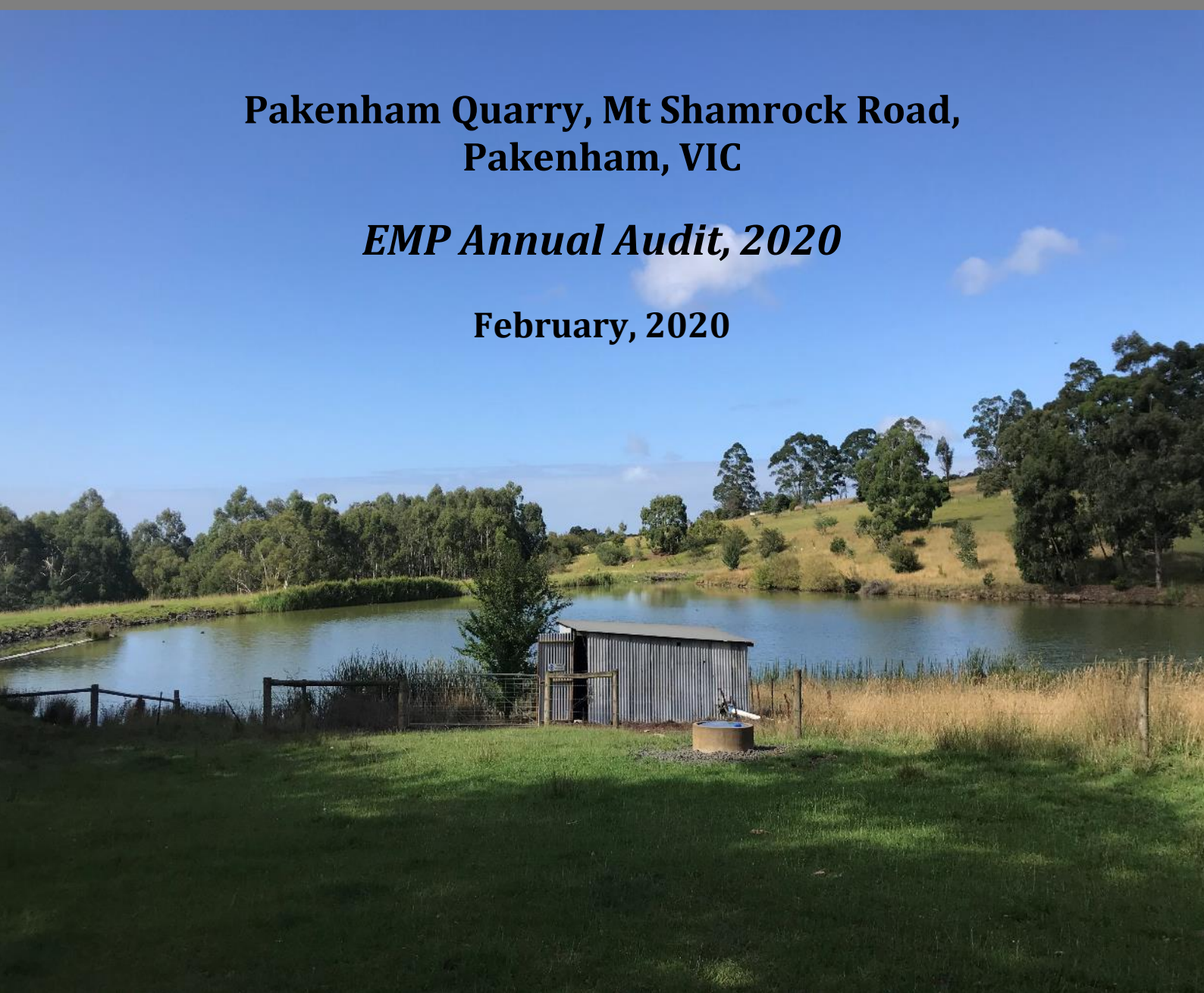


APPROVALS - SUSTAINABILITY - COMPLIANCE

**Pakenham Quarry, Mt Shamrock Road,
Pakenham, VIC**

EMP Annual Audit, 2020

February, 2020



for
Holcim Australia Pty Ltd

DISCLAIMER

AUDITING METHOD

This audit report is based on a representative sample of systems and information using the '*evidence based approach*' as provided for in AS/NZS ISO 19011:2014 *Guidelines for auditing management systems*. This approach was adopted to verify that environmental risks are being systematically managed in accordance with the audit criteria as specified in the audit scope section of this report.

Information presented within the Report relies on:

- the completeness and accuracy of information provided by those personnel available for interview (after reasonable professional interrogation of the accuracy of such information); and
- the condition of the site as observed during the day(s) of the site inspection; and
- the completeness and accuracy of records, monitoring data and previous reports that were within the system or made available to support Audit enquiries.

It is emphasised that this Audit is a 'snapshot in time' and environmental conditions, business operations and/or management practices may vary at times following the audit period.

The detail provided within the audit report largely reports by exception; discussing areas identified for improvement far more than when commendable practices were observed and/or verified. This approach is considered to provide a more concise report, with a focus on continuous improvement.

The Audit Report is intended for those named on the distribution list. The Audit report should only be reproduced and distributed in full.

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QUALITY CONTROL

DOCUMENT REVISION HISTORY

Revision No.	Summary of Amendments	Reviewed by	Issued by	Issue Date
Draft		S Jenkins	S Leverton	7 Feb 2020
00	Minor wording changes in recommendations		S Leverton	10 Apr 2020

Table of Contents

GENERAL INFORMATION.....	4
EXECUTIVE SUMMARY.....	5
1.0 BACKGROUND.....	10
2.0 OBJECTIVES.....	10
3.0 SCOPE & CRITERIA.....	10
4.0 AUDIT TEAM	11
5.0 CRITERIA.....	12
6.0 FINDINGS & CONCLUSIONS	13
6.1 FINDINGS	13
6.2 OBJECTIVES & TARGETS	13
6.3 NON-CONFORMANCES & OBSERVATIONS/OPPORTUNITIES FOR IMPROVEMENT	17
6.4 PREVIOUS AUDITS – STATUS OF RECOMMENDATIONS	18
6.5 CONCLUSIONS	18
7.0 REFERENCES	21
APPENDIX 1 - AUDIT PROTOCOL	22
APPENDIX 2 - PHOTOGRAPHS.....	102

General Information

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Signed:	
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Signed:	
Date Audit Completed:	5 th February, 2020
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Executive Summary

This report describes the outcome of an environmental audit conducted at Holcim's Mt Shamrock Road Quarry, Pakenham. The quarry has been in operation since 1974. In 2008 approval for the extension of quarry works was granted subject to the quarry being managed in accordance with an Environmental Management Plan (EMP). An EMP was prepared and approved in January, 2008. It has since been reviewed and revised, with the new version coming into effect in October 2015.

Auditee: Holcim Australia Pty Ltd – Mt Shamrock Road Quarry

Audit Scope: A detailed evaluation of compliance by Holcim with the requirements of the 'Mt Shamrock Quarry – Environmental Management Plan, version 3: August 2015'.

The audit comprised the conducting of interviews with a range of Holcim personnel, examination of documentation and records, a guided inspection of the quarry site and surrounding area, and the completion of a detailed protocol which listed all commitments contained within the EMP. Photographs were taken to illustrate items raised, and are attached to this report. Members of the Environmental Review Committee (ERC) were invited by email to contact the auditor to raise any issues of concern.

Recommendations for action have been prepared in tabular form, together with a listing of the specific EMP non-conformance(s) that were identified during the audit.

Audit Findings and Conclusions:

The audit has found that over the last 12 month period the quarrying operations substantially conformed to the requirements of the EMP and its associated documents.

It is therefore concluded that, from an examination of the evidence made available during the audit, discussions with site personnel and inspections in and around the quarry area, the quarry EMP and related management documents are being effectively and substantially implemented. A small number of minor items requiring attention were identified during the audit, and recommendations have been made for actions to address these.

The following commendable items were noted:

- No environmentally related complaints were recorded;
- Environmental quality monitoring data was mostly in compliance with limits specified in the EMP and EPA Licence, with minor exceptions relating to the latter;
- Objectives and targets specified in the EMP were met for all but one item;
- Recommendations from the previous audits have been implemented, or in one instance appropriately deferred until this year;

- Vegetation planting around the rim and rehabilitated faces of the quarry, and within the net gain offset areas, has been well managed and continues to progress reasonably well (particularly the net gain offset area) despite drought conditions and some areas of drought-affected die off;
- Holcim has engaged extensively and positively with stakeholders (as represented in the ERC); and
- Inspections by State and local government representatives have had positive outcomes.

For the year 2019 all the objectives and targets specified in the EMP were met, except for the greenhouse gas emissions reduction target. It is suggested that Holcim consider looking to other comparable sites in Australia and overseas to benchmark Pakenham's performance and reviewing the site's energy reduction measures against those adopted by better performing quarry sites. As recommended in last year's audit report, Holcim should also consider varying the target to a rolling average to account for year-to-year variations. This would be timely as the EMP will be reviewed in 2020.

The tables on the following two pages summarise the status of achievement of the objectives and targets as set out in the EMP for each section for 2019 and the previous eight years (for which audits were conducted).

In this audit, four (4) minor non-conformances were identified and are described in detail in the table below, together with recommendations for corrective action. Additionally, nineteen (19) actions for management improvement are recommended to address observations made during the audit. These are listed in section 6.3 of this report.

Non-conformances and Recommendations for Corrective Action

EMP Ref.	Rating	Non-conformance	Recommendation
2.2.3 Noise	mnc	Rental water truck has reverse beeper, not squawker.	Replace reversing device on water truck.
2.6.2 GHG Emissions	mnc	Holcim did not meet its energy reduction target of 3% year on year.	Investigate further measures to reduce energy usage per tonne of product delivered. These could include benchmarking the site against similar sites in Australia and overseas, and adopting strategies used elsewhere (as applicable).
2.12.3 Waste Man't	mnc	Waste streams at maintenance/service area not being properly segregated.	Develop further measures to ensure: <ul style="list-style-type: none"> • co-mingling of recyclable and regulated wastes in landfill skip ceases; • use of inappropriate or improperly labelled waste bins within workshop ceases, by removing bins from site; • cardboard waste is compacted in the cardboard recycling skip.

2.14.3 Storage/ Handling	mnc	Engine coolant drums outside bunded area in oil/grease container at maintenance area.	Make sure all chemicals are properly stored.
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EMP Section	For the year 2009		For the year 2010		For the year 2011		For the year 2014		For the year 2015		For the year 2016		For the year 2017	
	Objective	Target	Objective	Target	Objective	Target	Objective	Target	Objective	Target	Objective	Target	Objective	Target
Air Quality	Achieved	Partially met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Noise	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Blasting	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Not met	Achieved	Met	Achieved	Met	Met	Met
Surface Water, Drainage, and Groundwater	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Not met
Slope Stability	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Greenhouse Gas Emissions	(not established)	Partially met	Achieved	Partially met	Achieved	Partially met	Achieved	Not met; to be revised	Achieved	Partially met	Achieved	Not met	Met	Met
Traffic Management	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Net Gain	Progress towards achievement	Met, however progress too slow	Progress towards achievement	Met	Progress towards achievement	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Cultural Heritage	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Fire Management	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Water Conservation	Achieved	Met	Achieved	Met	Achieved	Met	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Management	Achieved	Not met	Achieved	Not met, in progress	Achieved	Not met, in progress	Achieved	Not met, in progress	Achieved	Not met, in progress	Achieved	Met	Met	Not met
Housekeeping/Preventative Maintenance	Achieved	(not established)	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Storage & Handling	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Donazzan's Dam Integrity	Achieved	Met	Not fully achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Rehabilitation & Vegetation	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met

EMP Section	For the year 2018		For the year 2019	
	Objective	Target	Objective	Target
Air Quality	Achieved	Met	Achieved	Met
Noise	Achieved	Met	Achieved	Met
Blasting	Achieved	Met	Achieved	Met
Surface Water, Drainage, and Groundwater	Achieved	Met	Achieved	Met
Slope Stability	Achieved	Met	Achieved	Met
Greenhouse Gas Emissions	Achieved	Not met	Achieved	Not met
Traffic Management	Achieved	Met	Achieved	Met
Net Gain	Achieved	Met	Achieved	Met
Cultural Heritage	Achieved	Met	Achieved	Met
Fire Management	Achieved	Met	Achieved	Met
Water Conservation	Achieved	Met	Achieved	Met
Waste Management	Achieved	Met	Achieved	Met
Housekeeping/Preventative Maintenance	Achieved	(not established)	Achieved	Met
Storage & Handling	Achieved	Met	Achieved	Met
Donazzan's Dam Integrity	Achieved	Met	Achieved	Met
Rehabilitation & Vegetation	Achieved	Met	Achieved	Met

1.0 BACKGROUND

The Holcim Mt Shamrock Road Quarry has been in operation since 1974. In 2001 an application was made for the quarrying activities to be extended. An Environmental Effect Statement (EES) was prepared and after public comment and a panel review, permission for the extension was granted subject to all quarry works being managed in accordance with an Environmental Management Plan (EMP). An EMP was prepared for Holcim (then CEMEX) by EnviroRisk Management Pty Ltd (“EnviroRisk”) and issued on 18th January, 2008. The EMP has since been reviewed and revised, with the new version coming into effect in October 2015.

The extension of the quarry commenced in February, 2008. The aerial photographs in Appendix 2 show the quarry prior to extension works, two years after Stage 1 of the extension has commenced (i.e. 2010), one year further on from then (May, 2011), at April 2014, December 2015, December 2016, October 2017 and February, 2019. The land forming the extension is in the south west corner of the quarry, as shown in photograph 1.

This report describes the outcome of the annual audit of the EMP, conducted as specified in section 8.1 of that document. In preparing for this audit, the Auditor confirmed with Holcim that the Environmental Review Committee (ERC) was provided with a copy of the proposed audit scope and program.

2.0 OBJECTIVES

The objectives of this audit are to evaluate the extent of implementation of the EMP by Holcim over the audit period (Feb 2019 to Feb 2020), determine whether the limits within the EMP are being complied with, and provide a public report on the findings to Holcim for presentation to the ERC.

3.0 SCOPE & CRITERIA

The scope of the Audit is to complete a detailed evaluation of compliance by Holcim with the requirements of the ‘Mt Shamrock Quarry – Environmental Management Plan, version 3: August 2015’. Specifically, the scope includes an examination of:

- the actions taken in implementing the EMP;
- the compliance with prescribed limits; and
- the environmental monitoring conducted against the environmental monitoring program.

In addition, the status of progress towards implementing the recommendations of previous audits was reviewed. The audit was conducted by way of site interviews, documentation examination and accompanied site inspections at the Mt Shamrock quarry and its surroundings over the period 3rd – 4th February, 2020.

4.0 AUDIT TEAM

The audit team comprised the following EnviroRisk personnel:

Stephen Jenkins - Project Director & Lead Auditor

Stephen is the Director of EnviroRisk Management and an Exemplar Global-accredited Lead Environmental Auditor (EMS, Compliance, Due Diligence and Facilities and Process). He is also a Certified Environmental Practitioner, and a Victorian EPA-appointed Environmental (Industry Facility) Auditor (appointed pursuant to the *Environment Protection Act, 1970*).

Stephen was formerly an operations scientist with the Victorian EPA, and worked as an environmental manager with Richard Oliver Risk Managers before establishing EnviroRisk Management in 1995. Stephen developed the AuditMASTER™ Environmental Management software package based on his many years of experience conducting reviews of Environmental Management Systems. He has conducted systems/risk audits of a large variety of sites including food processing, building and construction, automotive parts manufacturers, plastics and related industries.

Stephen's role in this project was as Audit Leader, providing expert input and direction, and quality-assuring deliverables through peer review.

Simon Leverton – Auditor (water & waste specialist)

Simon is a Senior Project Manager and Exemplar Global-accredited Lead Environmental Auditor (EMS, Compliance, Site Contamination Assessment and Facility). He has over 43 years' experience as a scientist, and over 33 years in the environment industry. He is also a Certified Environmental Practitioner. Simon has a broad range of industrial expertise in both the public and private sectors. He worked for the Victorian EPA for 6 years during which time he managed works approvals and licences for a wide range of industries in the water and wastewater sectors, and landfills. He was also extensively involved in motor vehicle policy evaluation and development, enforcement, and community consultation programs. In the early 1990's he was a senior officer with WA's Water Corporation (trade waste) and later became pollution control manager for that state's then Waterways Commission. As Principal Environmental Scientist with GHD in Perth, Simon was involved in developing environmental management plans for numerous clients. Simon has extensive environmental auditing experience over a range of industry sectors, including quarries, brickworks and other building materials industries.

Simon undertook the site component of the audit, conducting interviews and inspections, and prepared all documentation for internal and client review, and finalised this to completion.

5.0 CRITERIA

The audit criteria are the documented references (obligations, commitments, requirements of and undertakings by the auditee) against which audit evidence is compared to determine whether they have been or are being met. The 'primary' criteria for this audit are set out in parts 1, 2 and 3 of the EMP. Associated 'secondary' criteria are those contained in relevant and applicable legal and other requirements, and are considered to represent industry best practice. The audit may make reference to these as appropriate.

An audit protocol, in table format, has been prepared to guide the progress and process of the audit, and record the findings. This is attached at Appendix 1. The protocol lists in the second column each commitment that is contained within the EMP (i.e. the primary criteria), with a chapter reference included opposite in the first column. Where management measures specified in the EMP have a timing requirement against them, this has been included in the left hand column of the protocol against each measure as appropriate. Areas shaded grey were not audited as these criteria have expired and/or were dealt with in previous audit(s).

The audit team has examined Holcim's actions in carrying out each of these commitments, and recorded the evidence of these actions (either documentary, or by observation during site inspection) in the far right column. The middle column is where the audit team has recorded any pertinent comments or other findings.

For each commitment, the audit team has determined whether the actions, and their timing, fully satisfy the commitment. If so, **conformance (C)** is indicated in the fourth column. If not, a non-conformance is recorded as either:

- **minor (mnc)** if the environmental impact of the non-conformance is likely to be contained within the site, or have limited off site impact, or is a documentation issue, or
- **major (MNC)** for a potential or actual significant off site impact on the environment, and/or a legal compliance issue, including non-compliance with prescribed limits in the EMP.

Where an opportunity for management improvement is identified, an **observation (O)** is recorded. Some criteria are not auditable for various reasons, such as not being relevant at the stage of the works being examined by the audit. In this case, the criterion is designated **not auditable (NA)** and an explanation of the reason for this is entered in the comments section.

Photographs have been taken of various locations around the site as evidence of the measures and actions taken to implement EMP commitments, and in some cases highlight opportunities for improvement. These are referenced in the protocol table where appropriate, and are reproduced in Appendix 2.

The audit has also made a determination of achievement against each of the objectives set out in the EMP, based on the overall findings, and also whether the specified targets have been met (fully, partially or not at all). The results of this are entered against each objective and target in the protocol, and summarised in tabular form in Section 6.1 below.

6.0 FINDINGS & CONCLUSIONS

6.1 Findings

The audit has found that over the last 12 month period the quarrying operations substantially conformed to the requirements of the EMP and its associated documents. The following commendable items were noted:

- No environmentally related complaints were recorded;
- Environmental quality monitoring data was mostly in compliance with limits specified in the EMP and EPA Licence, with minor exceptions relating to the latter;
- Objectives and targets specified in the EMP were met for all but one item;
- Recommendations from the previous audits have been implemented, or in one instance appropriately deferred until this year;
- Vegetation planting around the rim and rehabilitated faces of the quarry, and within the net gain offset areas, has been well managed and continues to progress reasonably well (particularly the net gain offset area) despite drought conditions and some areas of drought-affected die off;
- Holcim has engaged extensively and positively with stakeholders (as represented in the ERC); and
- Inspections by State and local government representatives have had positive outcomes.

The following two sections provide detail on the achievement of the EMP objectives and targets, the non-conformances identified and recommendations for corrective action, and recommendations for addressing observations made by the auditor.

6.2 Objectives & Targets

Table 6.1 summarises the outcomes of the audit with respect to the objectives and targets set out in Part B and C of the EMP, together with those from the previous seven audits. For the year 2019 all the objectives and targets specified in the EMP were met, except for the greenhouse gas emissions target.

It is suggested that Holcim consider looking to other comparable sites in Australia and overseas to benchmark Pakenham's performance and reviewing the site's

energy reduction measures against those adopted by better performing quarry sites. As recommended in last year's audit report, Holcim should also consider varying the target to a rolling average to account for year-to-year variations. This would be timely as the EMP will be reviewed in 2020.

Table 6.1 – Conformance with Objectives and Targets

EMP Section	For the year 2009		For the year 2010		For the year 2011		For the year 2014		For the year 2015		For the year 2016		For the year 2017	
	Objective	Target	Objective	Target	Objective	Target	Objective	Target	Objective	Target	Objective	Target	Objective	Target
Air Quality	Achieved	Partially met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Noise	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Blasting	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Not met	Achieved	Met	Achieved	Met	Met	Met
Surface Water, Drainage, and Groundwater	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Not met
Slope Stability	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Greenhouse Gas Emissions	(not established)	Partially met	Achieved	Partially met	Achieved	Partially met	Achieved	Not met; to be revised	Achieved	Partially met	Achieved	Not met	Met	Met
Traffic Management	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Net Gain	Progress towards achievement	Met, however progress too slow	Progress towards achievement	Met	Progress towards achievement	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Cultural Heritage	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Fire Management	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Water Conservation	Achieved	Met	Achieved	Met	Achieved	Met	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Waste Management	Achieved	Not met	Achieved	Not met, in progress	Achieved	Not met, in progress	Achieved	Not met, in progress	Achieved	Not met, in progress	Achieved	Met	Met	Not met
Housekeeping/Preventative Maintenance	Achieved	(not established)	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Storage & Handling	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Donazzan's Dam Integrity	Achieved	Met	Not fully achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met
Rehabilitation & Vegetation	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Achieved	Met	Met	Met

Table 6.1 – Conformance with Objectives and Targets (continued)

EMP Section	For the year 2018		For the Year 2019	
	Objective	Target	Objective	Target
Air Quality	Achieved	Met	Achieved	Met
Noise	Achieved	Met	Achieved	Met
Blasting	Achieved	Met	Achieved	Met
Surface Water, Drainage, and Groundwater	Achieved	Met	Achieved	Met
Slope Stability	Achieved	Met	Achieved	Met
Greenhouse Gas Emissions	Achieved	Not met	Achieved	Not Met
Traffic Management	Achieved	Met	Achieved	Met
Net Gain	Achieved	Met	Achieved	Met
Cultural Heritage	Achieved	Met	Achieved	Met
Fire Management	Achieved	Met	Achieved	Met
Water Conservation	Achieved	Met	Achieved	Met
Waste Management	Achieved	Met	Achieved	Met
Housekeeping/Preventative Maintenance	Achieved	(not established)	Achieved	Met
Storage & Handling	Achieved	Met	Achieved	Met
Donazzan's Dam Integrity	Achieved	Met	Achieved	Met
Rehabilitation & Vegetation	Achieved	Met	Achieved	Met

6.3 Non-conformances & Observations/Opportunities for Improvement

Four (4) minor non-conformances were identified and are described in detail in Table 6.2 below, together with recommendations for corrective action.

Nineteen (19) recommended actions to address observations are made below to improve environmental management at the site:

1. Review the base EMP induction document for currency to assure it provides a sound basis for others delivering inductions.
2. Toolbox pre-start talks are logged in Tool box book – the wording in the EMP needs to be changed to reflect this.
3. Consider changing some or all of the paper monitoring checklists to a more user-friendly system, such as tablet-based lists and/or the use of photographs to indicate non-conformance.
4. Reviewing the dust monitoring trends year on year can be useful in determining whether further dust mitigation measures are warranted.
5. Given the importance of reactive dust monitoring in providing real time off-site dust impact evaluation, equipment faults and data outages should be reported and corrected quickly and effectively.
6. Investigate relocating the surface water sampling point to avoid the influence of natural run-off.
7. Amend water quality monitoring procedure to require testing to be done at the sampling location, rather than samples removed to the office/site lab for testing.
8. Testing of running water downstream of V-notch weir should also be conducted to confirm quality of run-off.
9. Provide inspection personnel with further information on what to look for when determining whether there is an algal bloom in the dam.
10. Ensure that the annual evaluation of groundwater monitoring, and the assessment of beneficial uses on surrounding properties, are completed by the nominated specialist consultants.
11. Implement the additional minor remedial measures recommended by the consultant report on the slope stability inspection.
12. Amend the targets included in s.2.6.2 of the EMP as these have been superseded.
13. Seek expert input to assist in determining the significance of rabbit damage in the Net Gain Offset area whether a rabbit-proof fence is warranted to mitigate the damage.
14. Organise for collection of empty waste oil drums as storage bin is overloaded.
15. In assessing what further waste reductions might be achievable, Holcim should engage with other similar company sites within Australia and elsewhere.
16. Items were noted in the equipment graveyard (vehicle, gas cylinders) that need checking for hazardous contents and appropriate disposal.
17. Holcim should involve Naturelinks in the LRMP review so that lessons learnt from rehabilitation successes and setbacks to date can be incorporated into the revised Plan, thereby improving the success rate going forward.
18. Recommendations in the Naturelinks reports related to rehabilitation and the dieback occurrence on the NE slopes should be implemented as part of the LRMP review.

19. Legible location maps should be included in weed spraying work scope forms so overspraying does not occur, and a more targeted approach can be developed.

6.4 Previous Audits – Status of Recommendations

Table 6.3 show the implementation status of the recommendations to correct non-conformances from the previous annual audit. Three recommendation have been satisfactorily addressed, the fourth will be addressed later in 2020.

All recommendations from earlier audits have been closed out.

6.5 Conclusions

It is concluded that, from an examination of the evidence made available during the audit, discussions with site personnel and inspections in and around the quarry area, the quarry EMP and related management documents are being effectively and substantially implemented. A small number of minor items requiring attention were identified during the audit, and recommendations have been made for actions to address these.

Environmental management at the quarry site (or any similar operation) is an evolving process. Conditions change, sometimes unpredictably such as with weather/climate, legislation changes, and technological advances occur in the industry. As the EMP is due for review in 2020, it is timely for Holcim to conduct the review having regard for these changing conditions, and with the benefit of lessons learnt. Suggested areas to consider are:

a) Records

The matter of records and their generation and management was discussed. It is recommended that Holcim consider moving to a less paper-intense method of conducting inspections and checks. This would have a number of benefits – improved records management (electronic over paper), assisting personnel to record issues of concern by exception rather than ticking boxes (which can lead to error), enabling easier management review of outcomes (data interrogation to detect trends, repeat “offending”) to better direct corrective action.

b) Climate

The drier conditions appear to have been one cause for vegetation die off on the north western slope. Commendably, this is being addressed, as well as implementing an irrigation system in rehabilitation areas to replace hand watering. The rehabilitation contractor has made a number of recommendations for improving vegetation viability – these should be considered as part of a comprehensive review of the LRMP (to be conducted in 2020) to ensure this sub-plan reflects changing conditions and is relevant to future landscape and rehabilitation works.

c) Technological Change

In reviewing its waste and greenhouse gas emission reduction targets and measures, Holcim should consider benchmarking its site performance against other comparably sites in Australia and overseas, and where applicable adopting approaches being taken by better performing sites. Other elements of the EMP could also be subject to this comparison process, again where applicable.

Table 6.2 - Non-conformances and Recommendations for Corrective Action

EMP Ref.	Rating	Non-conformance	Recommendation
2.2.3 Noise	mnc	Rental water truck has reverse beeper, not squawker.	Replace reversing device on water truck.
2.6.2 GHG Emissions	mnc	Holcim did not meet its energy reduction target of 3% year on year.	Investigate further measures to reduce energy usage per tonne of product delivered. These could include benchmarking the site against similar sites in Australia and overseas, and adopting strategies used elsewhere (as applicable).
2.12.3 Waste Man't	mnc	Waste streams at maintenance/service area not being properly segregated.	Develop further measures to ensure: <ul style="list-style-type: none"> • co-mingling of recyclable and regulated wastes in landfill skip ceases; • use of inappropriate or improperly labelled waste bins within workshop ceases, by removing bins from site; • cardboard waste is compacted in the cardboard recycling skip.
2.14.3 Storage/ Handling	mnc	Engine coolant drums outside bunded area in oil/grease container at maintenance area.	Make sure all chemicals are properly stored.

Table 6.3 - Progress and Status of Non-conformances & Recommendations from 2019 Audit

EMP Ref.	Rating	Non-conformance	Recommendation	Status as at 3 Feb 2020
s.2.1.3	mnc	The weather monitoring station required to be operating and displayed in the Quarry Manager's office was not in place.	Re-establish the weather monitoring station in the QM's office, in operating condition.	Weather station now accessed through phone app that is on QM plus other managers' phones.
s.2.3.3	mnc	No evidence was sighted confirming that slope stability checks are conducted after each blast.	Add slope stability check as an item in the blasting checklist form, and ensure that inspection forms are completed and included in each blast document folder.	Check sheet now modified to include these items.
s.2.14.3	mnc	Above ground bulk diesel storage tank situated in quarry pit and servicing quarry pump was not banded.	Correct the AST bund through installation of drain pipe with fitted valve, or similar.	Bund was reportedly fixed at time of audit, but has not been decommissioned. New double skinned tank has been located there now.
Part C, s.1.4.1	mnc	The Landscape and Rehabilitation Management Plan has not been reviewed as required.	Review the LRMP to ensure that it contains up to date and relevant land management practices, before the next stage of rehabilitation works commences, document the review and present to ERC for comment and agreement. The review should involve the contractor Naturelinks.	Not yet done – to be completed later in the year as part of the 5-yearly EMP review.

7.0 REFERENCES

1. EPA Victoria, Legislation, guidelines, etc (various).
2. Mt Shamrock Quarry Environmental Management Plan, version 3, August 2015 and associated documents.
3. AS/NZS ISO14001:2016 *Environmental management systems*.
4. AS/NZS ISO19011:2014 *Guidelines for auditing management systems*.

Appendix 1

Audit Protocol

Section/ Timing	EMP Requirement – Summary	Auditor's Findings & Comments	Conf *	Audit Evidence
<p>*Conformance is rated as follows:</p> <p>C – Conforms;</p> <p>MNC –Major non-conformance (potential or actual significant offsite impact on the environment, and/or legal compliance issue);</p> <p>mnc –Minor non-conformance (minor actual or potential environmental impact, may be contained within site or have limited off site impact; documentation issue);</p> <p>O – Observation; opportunity for improving the management system and/or operational controls exists.</p> <p>NA – Not Audited or Applicable (see “Comments” section for reason why)</p>				
PART A				
2	Quarry Operations – <ul style="list-style-type: none"> Production rate Processes Hours of operation 	<p>Approx. 1.076 t/y production rate. Hours are still current. No work has been conducted outside these hours.</p> <p>Holcim advises no blasting has occurred outside the specified hours.</p>	C	SAP system – financial report 2019.
3	Roles & Responsibilities – <ul style="list-style-type: none"> Organisational chart 	As specified in the org chart; no change advised.	C	P11 of EMP
4	Environmental Review Committee The ERC has been established, and will operate, under a procedure laid down by Council. Holcim will cover all the administrative costs of the ERC, including the fees of the Chairperson, and will provide secretariat services to the ERC. The ERC will monitor and review the	<p>No change from last audit. Meets quarterly.</p> <p>Reports of meetings on website are up to date. Minutes indicate meetings cover a wide range of issues, and involve considerable technical detail when applicable.</p> <p>Holcim advises that no major issues</p>	C	ERC Meeting quarterly reports 2019 (Q1, Q2, Q3); ERC meeting minutes (Feb, May, Aug, Nov 2019) All Possibilities Consulting webpage.

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	performance of the quarry against the Permit, the Work Authority and this EMP (as varied from time to time), provide advice and facilitate community understanding of quarry operations and their management.	arising.		
5	<p>Training & Awareness</p> <p>A copy of this EMP is to be kept and displayed in the foyer of the Quarry gatehouse. The EMP will also be accessible by all Holcim-approved users on Holcim's computer intranet.</p> <ul style="list-style-type: none"> All new and current employees will be briefed on the EMP as part of their site (re-)induction and training. All employees will receive re-induction training every year. All contractors working at the site will be briefed on the EMP as part of their site (re-induction). Employees with specific key roles/ 	<p>Copy of EMP kept in QM's office. Holcim advises no new employees started in 2019.</p> <p>EMP induction refresher for Holcim personnel conducted on 23/1/19 (16 persons) – done by QM by way of conversation, focussing on EMP details.</p> <p>Need to ensure that base presentation is checked for currency and provides a good basis for others delivering induction.</p> <p>J Everitt conducts noise, water quality and chemical spraying activities.</p> <p>Refresher training (ChemCert) for Mr & Mrs Everitt conducted.</p>	<p>C</p> <p>O</p>	<p>Tool Box Talk Forms (23/1/19), EMP Induction.</p> <p>Contractor induction – example (refresher). OH&S Induction booklet (copy sighted).</p> <p>James Davies, ChemCert Card – 26/3/19; Kim Everitt, John Everitt, ChemCert Card, 26/3/19.</p>

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	<p>responsibilities under the EMP will have their competency verified prior to being assigned to carry out those roles.</p> <p>Records of training will be maintained within the SHE system.</p> <p>Where no employees with suitable training are available to carry out specific key roles/ responsibilities under this EMP, those roles/ responsibilities will be carried out by suitably qualified persons or companies contracted by Holcim for that task.</p>			
5.1	<p>Personnel having responsibilities for carrying out monitoring activities as specified in the monitoring program will be trained and tested for their competence to carry out such activities, and certified as such, by a specialist in the relevant field.</p> <p>An Appointment of Environment Training Specialists Procedure (Appendix 1) has been</p>	No training by outside specialists has occurred.	C	EMP version2 doc.

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	developed for this process and approved by (then) Department of State Development, Business and Innovation (now Economic Development, Jobs, Transport and Resources, DEDJTR).			
6.0	Procedures have been developed for both internal (within Holcim) and external (between Holcim and external interested parties) communication and reporting. A separate procedure has been prepared to manage environmental complaints received from external parties such as members of the public and local residents.	External complaints are logged onto INX database.	C	
6.1	Internal Communications The SHE Guideline 2.2 Consultation sets out details of communications within Holcim on environmental issues, which for Pakenham Quarry is through the site's Safety Improvement Team (SIT). The procedure describes how meeting outcomes are	Monthly SIT meetings. Toolbox meetings – daily pre-start. SIT meetings track progress in EMP performance and implementation through audit completion, incident resolution, and compliance planner status. SIT meeting agenda now has a permanent	C	SIT minutes sighted – Oct 2019 Toolbox book (pre-start) sighted - sample.

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	<p>minuted and the minutes distributed to other employees. At SIT meetings environmental progress and performance under the EMP will be reviewed and discussed, and actions authorised. Environmental issues will be raised with other employees at toolbox meetings which will be conducted as required. All toolbox meetings are recorded using the Attachment 2.1A - Toolbox Talk Form.</p>	<p>agenda item for EMP Progress & Implementation.</p> <p>Toolbox meetings occur every morning – enviro issues raised as applicable.</p> <p>Toolbox pre-start talks are logged in Tool box book – need to change wording in EMP to reflect this.</p>	O	
6.2	<p>Incidents</p> <p>All environmental incidents are to be reported, recorded and investigated in accordance with SHE Guideline 5.1 - Incident Reporting, Recording & Investigation. The INX incident database (INX) is to be used for reporting and recording details of each incident and the measures taken to resolve it. The</p>	<p>Hazards register sighted.</p> <p>3 enviro incidents recorded. EPA notified of WQ exceedance (very minor, within error of meter).</p> <p>Complaint related to hearing blast – no formal complaint desired to be recorded. All items closed out. No response from EPA (other than acknowledging receipt).</p>	C	<p>Register printout (since Feb 2019).</p> <p>July 2019 – minor diesel spill.</p> <p>3 June, 2019 – TDS exceedances</p> <p>16 August, 2019 – complaint of blast</p>

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	system automatically forwards incident notifications through to management for completion. Every incident and the details surrounding it are available through INX and is used by management for progress status and review purposes, and to compare against performance targets.			
6.3	<p>External Communications</p> <p>SHE Guideline 4.7 - Community Engagement details how Holcim facilities are required to communicate and engage with the wider community regarding local issues. The site-specific Environmental Reporting Procedure (Appendix 2) specifies procedures for compliance reporting to the ERC and other stakeholders, and the frequency and nature of reporting of monitoring data, etc. Statutory reporting requirements such as those applying to the EPA Licence are also detailed in this procedure.</p>	<p>ERC reporting – quarterly reports.</p> <p>Statutory reporting EPA (Annual Performance Statement - APS)</p> <p>Resident notification</p> <p>Quarterly reporting occurs prior to ERC meetings. Reports posted on website and made available to community.</p> <p>EPA Annual Report (APS) – minor water monitoring non-compliances were included.</p>	C	<p>EMP – Appendix 2 – Env Reporting Procedure (28/11/13)</p> <p>Quarterly reports – on ERC website (Feb, May, Aug, Nov)</p> <p>Annual Report to EPA (APS, 1/7/18-30/6/19), Aug 19</p>

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	This procedure also details the steps to take in notifying residents living near the quarry when quarry activities are planned which have the potential for off-site impacts (Note: Appendix 2 does not have this information; Appendix 8 specifies comms to ERC/residents re blasting).			
6.4	<p>Complaints</p> <p>A register of all complaints received is maintained as specified in Holcim's SHE Guideline 5.1 – Incident Reporting, Recording & Investigation. Any complaint received, or referred by a government agency, is directly and accurately recorded and managed in INX which includes the provision for the following information (as specified).</p> <p>INX can be accessed electronically at any time by authorised Holcim users to view any complaints received and the actions taken.</p>	1 complaint (as commented on above). Included in Quarterly report to ERC.	C	As above

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	<p>A full and up-to-date copy of the Complaints Register can be generated by INX and will be made available to members of the ERC upon request.</p> <p>A copy of all complaints received since the previous meeting of the ERC is to be provided to members of the ERC prior to each meeting of the ERC.</p> <p>A sign has been erected and maintained at the approach to Pakenham Quarry that clearly shows to approaching persons the following information: (as per EMP).</p>			
7	<p>Records</p> <p>Records that are generated as part of the EMP are to be managed according to QMS Procedure PN1.1 Control of Documents. This procedure specifies the identification, storage, protection, retrieval, retention and disposal of records required as part of this</p>	<p>Records are generally well maintained, however the collation and storage of paper forms needs to be improved. Further, monitoring systems would be improved by reviewing and revising the forms for currency, overlap, and usefulness in guiding the user and making</p>	C	Records sighted during this audit.

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	EMP.	it easier to record observations accurately. Holcim should consider changing to a more user-friendly system, such as tablet-based lists and/or the use of photographs to indicate non-conformances. This will assist the process and take the burden out of form filling (which can sometimes lead to cursory inspections and the temptation to skim over wordy inspection checksheets).	O	
8.1	EMP Audit EMP to be audited annually.	Holcim advises ERC notified of audit beforehand and given opportunity for input, etc. No feedback from ERC re audit program. ERC members invited to approach auditor (anonymously if desired) to discuss matters of interest – no approaches were received.	C	3 rd quarter minutes of ERC meeting. Email from Auditor to ERC members, 31/1/20.
8.2	Procedure and Personnel Certification All monitoring procedures that form a part	Holcim advises no changes in specialists conducting monitoring.	C	

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	<p>of this EMP have been certified by an expert in the relevant field as being appropriate (see also 5.1 Appointment of Specialist Consultants).</p> <p>Personnel conducting monitoring measurements and inspections have been certified by a specialist in the relevant field as being competent (see also 5.1 Appointment of Specialist Consultants).</p>			
8.3	<p>EMP Review</p> <p>Every 5 years.</p>	Next review in 2020. This will commence after this audit.	NA	
8.4	<p>EMP Variation</p> <p>The EMP may be varied from time to time as changing circumstances require. All variations to the EMP must receive the written consent of the Minister for Planning. EMP variation will be conducted in accordance with the quarry's EMP Review Procedure.</p>	As above.	NA	
9	Compliance Planner	This is on the QM's laptop and is being	C	Compliance Planner, 2019

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	The Compliance Planner (Appendix 7) details the activities to be carried out (on a monthly basis over the course of the specified 12 month period) to ensure that all environmental compliance obligations are met. Each activity in the spreadsheet is signed off upon completion, and the matrix is reviewed and if necessary revised where compliance obligations change during the 12 month period.	used to ensure timely completion of monitoring and other EMP-related activities.		
PART B				
1	Operations & Impacts All significant environmental hazards and incidents are documented and recorded within the INX electronic database. The hazards associated with each operation and activity carried out at the quarry, together with the corresponding actual or potential	Holcim advises no change in site operations since last audit, therefore EMP is current for risks and hazards on site.	C	

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	environmental impact(s) for each of the hazards are also available for viewing by all authorised personnel. SHE standard control procedures are generic and apply to all Holcim aggregates site, whilst the site specific controls apply to Pakenham Quarry alone.			
2.1	Air Quality			
2.1.1	<p>Objective</p> <p>To prevent dust emissions from the Pakenham Quarry operation from causing a nuisance at residences or sensitive sites within the surrounding area.</p> <p>To ensure that dust levels do not adversely impact on the health and amenity of persons in the surrounding area.</p>	Objectives have been fully achieved.	C	No complaints. No evidence to the contrary re health and amenity.
2.1.2	<p>Targets</p> <p>100% Compliance with Permit requirements , namely the following levels to be achieved at any residence or other sensitive site:</p>	<p>Targets have been.</p> <p>Reactive Monitoring – no quarry-triggered exceedances.</p> <p>Deposition – no quarry-triggered</p>	C	Blue Atmosphere - monthly AQM reports (Feb-Dec 2019)

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	PM ₁₀ no greater than 64 µg/m ³ (1-hour average) Dust deposition no greater than 4g/m ² /month (no more than 2g/m ² /month greater than background) No (0) justified complaints from sensitive receptors.	exceedances. Bushfires caused some deposition and smoke-affected rainfall exceedances not related to quarry activities. No justified complaints received.	C	
2.1.3	Management Measures			
As required	Dust emissions from unpaved surfaces are to be controlled using the following measures: Wet suppression - all dust generating areas such as site roads will be watered, as required, to suppress dust during operation.	Water carts (2) operate during quarry operations (6 days/wk) when no stripping occurring.	C	Observation – one truck observed in action.
As required	Water used for dust control may be dosed where appropriate with dust control additives to enhance stabilisation and reduce water use.	Holcim advises no dosage of additives is used.	NA	Pers. comm. – M D
As	Relevant operations will be suspended if	Holcim advised operations were stopped	C	

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necessar y	adequate water cannot be applied for dust control.	several times due to excessive heat and wind. These were logged into the INX system – reports not sighted.		
	<p>Revegetation of exposed surfaces, including the following measures:</p> <ul style="list-style-type: none"> ○ Vegetation and topsoil removal will be limited to the smallest practicable area and revegetated as soon as possible following clearance; ○ Soil stockpiles will be allowed to self-seed when left for extended periods of time; ○ The extent of areas prone to erosion will be restricted wherever possible; ○ Exposed surfaces will be rehabilitated in a timely manner in accordance with the Landscape Rehabilitation and Management Plan (LRMP). ○ Where revegetation or minimal land exposure is limited by procedural 	<p>Rehabilitation is proceeding well, and in accordance with the LRMP (see details below).</p> <p>No topsoil stockpiles currently on site.</p>	C	Observation; photographs

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	requirements, chemical (dust) suppression methods may be used.			
As necessary	On days of unfavourable conditions, a review of on site practices will be undertaken to identify actions that can mitigate dust generation.	<p>1 Nov – work ceased.</p> <p>New spray installed on conveyer 6 in addition to one last year.</p> <p>Additional sprays at dump hopper (sensors), and conveyor 6.</p> <p>Dust trends review year on year not done – suggest this be done in 2020.</p>	<p>C</p> <p>O</p>	Observation
As necessary	Unpaved roadways will be watered on a needs basis during load and haul activities to minimise dust from vehicle movement.	Haul roads mostly observed to be well watered and not generated excessive dust.	C	Observation; photographs
All times	When moving stock, load sizes will be managed to avoid spillages.	Reportedly, spillages are very infrequent. Drivers advised during induction to cover load and clean off excess material from rails/frame.	C	Induction Form (drivers)
All times	Speed limits will be defined and communicated to all machinery operators. Where necessary speed limits will be	Speed limit specified in induction. Signs on site. Over speed alarms on haul trucks have	C	Direct observation

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	enforced by quarry management.	been reset to 30kph. No obvious speeding vehicles observed during the audit.		
As necessary	Paved/sealed roadways within the quarry will be maintained in a clean state to minimise dust from vehicle movement.	Holcim advises a street sweeper deployed weekly – sealed surfaces only (inside quarry and down Mt Shamrock Rd to corner).	C	
All times	All road registered vehicles that cart quarried materials shall be covered by suitable tarpaulins or enclosed blinds prior to leaving the quarry and entering public roadways.	Periodic checks are made of vehicles. No non-compliances reported.	C	Observation; Quarterly Report to ERC (tarping checks)
All times	All road registered vehicles, other than passenger cars (GVM <4t), will pass through the wheel wash facility prior to leaving the quarry and entering public roadways.	Wheel wash was in operation. Minor problems with this equipment reported and rectified through maintenance.	C	Observation
As necessary	Roadways immediately beyond the site entrance will be regularly inspected and swept to prevent the build-up of material.	Weekly road sweeper deployed.	C	As above.

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All times	Travel distance will be minimised through appropriate site layout and design.	Diesel usage per tonne product is recorded – this is related to haulage fuel use. Shows reduction over 2018 (not necessarily all through minimised travel distance, but a factor).	C	Greenhouse Gas Emissions Calculator
All times	Vehicle movements will be restricted to defined areas.	Traffic management plan on office wall – copy attached in Appendix 2 - Photographs.	C	Traffic Management Plan (TMP)
All times	Speed limits will be defined, and where necessary enforced, for vehicles on the site.	30kph (stockpile area) and 40kph on haul roads. 30kph in defined areas.	C	Signs in place; TMP
As required	Dust emissions from stockpiles will be mitigated where required to ensure targets are met by: <ul style="list-style-type: none"> Wet suppression using sprinklers; Covered storage of fine material; Limiting the height and slope of the stockpiles; Limiting drop heights from conveyors; and Use of wind breaks. 	Water truck used on stockpiles, sprinklers installed. Some conveyors can be raised/lowered to minimise drop heights.	C	Direct Observation.

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All times	Dust emissions from conveyors will be minimised by: <ul style="list-style-type: none"> ○ Minimising drop heights; and ○ Appropriate design of hopper load systems to ensure a good fit with trucks, and use of appropriate enclosures for hoppers. 	Measures are in place.	C	Observation during inspection.
All times	Dust emissions during material handling will be minimised by: <ul style="list-style-type: none"> ○ Minimising drop heights; ○ Regularly cleaning up any spillages; and ○ Appropriate design of hopper load systems to ensure a good fit with trucks, and use of appropriate enclosures for hoppers. 	No change from last audit. Some dust noted to be emitting from primary crushing plant. On-going preventative maintenance as per PM schedule.	C	Observations (photographs);
All inductions	All site personnel will be instructed to immediately report situations resulting in elevated dust emissions to the manager (or their supervisor).	No change to induction booklet.	C	MD, pers comm.
All times	Monthly monitoring of dust deposition.	No exceedances.	C	See above

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Within 1 month of EMP approval	A weather monitoring station with display will be installed in the Pit Manager's office.	QM and other managers have phone app which shows station read-out – sighted. Past data is logged and available for retrieval.	C	Observation
All times	Records of wind speed and direction will be stored on or off site for a period of 12 months. If the records are stored off site, the data must be readily available to the site for analysis by the site personnel or their representatives in the case of complaints and to assist in interpreting dust monitoring data.	Holcim advises consultant (BA) has files downloaded and available if needed. Not able to sight at this audit.	C	
All times	Dust emissions and potential dust generating activities and areas will be monitored visually during quarrying activities.	Monthly site checks to monitor for a range of issues including dust. No dust related issues noted during checks.	C	
Within 3 months	A suitable “background” sampling location will be established to determine regional	A7 Station (dust deposition).	C	

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of EMP approval	background dust deposition rates.			
As required	Analysis and reporting of dust samples for compliance will be undertaken by an experienced entity independent of the operator.	ALS does analysis of deposition samples, and Blue Atmosphere (BA) does reporting (deposition and reactive).	C	BA summary reports for 2019 sighted; examples of ALS reports sighted.
All times	Community complaints will be monitored during works to assess the operations against objectives and targets.	Holcim advises no air related complaints have been received.	C	
Monthly	All data is reviewed by an external consultant. In the event of any exceedances the site is notified immediately and relevant data is forwarded to the Quarry Manager.	Humidity sensor now incorporated into weather monitor.	C	Blue Atmosphere monthly reports – Feb-Dec 2019.
All times	One (1) hourly average PM ₁₀ data will be provided to the Pit Manager's office from the 'reactive monitoring stations'.	The arrangement with BA is that they contact QM when hourly PM ₁₀ exceeds the limit. No exceedances.	C	
All times	All complaints are to be recorded in the INX database.	See above in Section A. No dust complaints received.	C	INX records

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All times	All communications are to be undertaken as per the SHE Communication Procedure.		C	ERC minutes
As required	Monitoring data are to be provided to ERC as per the SHE Communications Procedure.	Quarterly reports provided to ERC.	C	Quarterly reports to ERC (from all possibilities website).
All times	Dust generating activities will be controlled by watering or other means to achieve compliance targets based on reactive monitoring data, visual observation or staff feedback.	As described above.	C	Observation Monitoring data as noted above
As required	If necessary, dust generating activities will cease until corrective actions result in achievement of targets, or wind conditions are such that targets are achieved.	No cessations reported.	NA	
All times	The site Incident Management procedure will be followed to rectify all reported dust incidents.	Exceedances are recorded as incidents. No dust incidents recorded.	C	
2.1.4	Monitoring Schedule	Monitoring is conducted as per the schedule in Appendix 11. In reviewing the data it is noted that some	C	Blue Atmosphere – Reports Feb-Dec, 2019

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		<p>reactive dust monitors were out of action over winter months, as was the weather monitoring data (wind roses). This has been explained as failing batteries, and these have reportedly been replaced.</p> <p>Given the importance of reactive dust monitoring in providing real time off-site dust impacts, equipment faults and data outages should be reported and corrected quickly and effectively.</p>	O	
2.2	Noise			
2.2.1	<p>Objective</p> <p>To prevent noise from the Pakenham Quarry causing nuisance/annoyance to persons at noise sensitive sites in the surrounding area.</p>	Objective achieved.	C	No complaints of excessive noise. Monitoring data, 2019. Observation
2.2.2	<p>Targets</p> <p>Compliance with the noise restrictions specified in the Permit, namely noise emanating from operations on the site,</p>	Met. No exceedances recorded.	C	Monitoring data, 2019.

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	<p>other than noise associated with blasting activities, must not exceed 45dB(A) L_{Aeq} measured at the nearest sensitive site outside Holcim site boundary.</p> <p>Noise emanating from works associated with the construction of noise attenuation mounds is exempt from this limit except that it must not exceed 68dB(A) L_{Aeq} at any time.</p>	No mounds constructed	NA	Direct observation
2.2.3	Management Measures			
As required	Extra acoustic measures will be implemented when excavation activities occur within 10m (vertical) of the quarry rim, eg. bunding along the perimeter of the works area.	Holcim advises not required – no exceedances measured.	NA	
	The base of the secondary crusher will be enclosed and access doors kept closed at all times.		C	Direct observation; photographs
Within 2	Broadband reversing beepers (squawkers)	Holcim advises this is the case on all long-	C	

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months of EMP approval	or similar will be installed and used on heavy earth moving equipment.	term plant on site. Currently a rented truck has beeper – Holcim advises this is to be changed to squawker.	mnc	
Complete	A sign will be erected and maintained, in a place that is clearly visible to truck drivers leaving the quarry, advising that trucks should avoid using engine brakes on Mt Shamrock Road. (see EMP s.2.7 of EMP).	Signs in place (black lettering on yellow background, 2 off).	C	Observation
As required	Regular preventative maintenance (PM) is performed on mobile equipment to reduce unnecessary vibrations and rattles.	Service report from Bace Diesel Services. Service includes check for unusual machine noise. Preventative Maintenance program operated to ensure plant and equipment is maintained as required.	C	Service Reports (sample sighted, 2019); Service Schedule, 2019 (sample of specific plant)
During works	Monitoring of community complaints will be undertaken during the extraction works to assess achievement of the objectives and targets, as required.	No complaints received.	C	INX Register
As per Schedule	Monitoring of noise at noise sensitive locations will be undertaken as per the	All sites comply.	C	Noise Monitoring field notes and monitoring records (2019).

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	Monitoring Schedule (EMP s.2.2.4).			
Monthly	Monthly Housekeeping inspections will be carried out to assess noise conditions and the effectiveness of preventative measures.	Monthly housekeeping checks are conducted. A boundary noise subjective check is made as part of these, and noticeable sources noted for further investigation.	C	See section 15 below on housekeeping checks
As required	All complaints are to be recorded in INX.	None recorded.	NA	INX Register
As required	All internal communication to be undertaken as per the SHE 2.1 Communication Procedure .	Noise monitoring data reported to ERC on 3-monthly basis as per procedure.	C	Quarterly reports to ERC – sample sighted
	Monitoring results will be kept in the office of the QM and be made available for inspection at reasonable notice during normal working hours.		C	Data as per above.
Monthly	Monitoring data will be provided to ERC in accordance with the Environmental Reporting Procedure.	See above	C	
As	In the event that noise from site operations	No readings above the specified level have	C	Noise Monitoring Results (2019)

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applicabl e	is above 45 dB(A) L_{Aeq} as measured according to SEPP N-1 at a sensitive site, strategies for noise abatement will be developed and implemented to achieve compliance.	been obtained that are attributable to quarry noise.		
2.2.4	Monitoring Schedule	Daily monitoring conducted as required during mound works (at N2 & N3); fortnightly for other locations.	C	Fortnightly and daily noise monitoring data sheets 2019
2.3	Blasting			
2.3.1	Objective To ensure that vibration from blasting operations is controlled to comply with DPI environmental guideline limits for new operations. To ensure that blasting operations generally are conducted in a manner that minimises the risk of adverse environmental impact.	Objectives have been achieved.	C	
2.3.2	Targets	Targets met. No exceedances.	C	Blasting monitoring data

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	100% compliance with DPI environmental guideline limits for new operations – PPV 5mm/sec for 95% of blasts in 12 Month period. Peak Airblast of 115dB for 95% of blasts in 12 Month period.			(sample) – 2 Sep, 2019 (#1934); 24 Jun (#1923), 2019; 8 Mar, 2019 (#1910).
2.3.3	Management Measures			
All blasting events	Blasting will be carried out in general accordance with the SHE Guideline 3.18 – Blasting & Explosives, and in strict accordance with the Quarry Blasting Procedure (Appendix 8).	As recommended last audit report, checklist in procedure (Appendix 8 of EMP) is to be revised to accord with documentation being completed during blasting.	C	Documentation for blasts (sample selected as specified above). Vibration monitor calibration certificates (18 sighted).
All times	Except with the written approval of the Responsible Authority, blasting will be restricted to between the hours of 11:00am and 12:00 noon and between 2:00pm and 3:00pm Monday to Friday. No blasting will occur on a Saturday, Sunday or public holidays. If blasting is approved outside these times, notice must be given to all	Times are complied with.	C	As above and below.

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	potentially impacted residents, to the satisfaction of the Responsible Authority.			
All blasting events	Air and ground vibration resulting from blasts will be measured at the nearest sensitive sites to the extraction area, or some other convenient location that will permit the vibration at the nearest sensitive site to be reliably estimated. The current monitoring locations (see Figure 1 in the Monitoring Schedule) namely the quarry office (V1), the north-east corner (V2), Toomuc Valley Road (V3) and Waterhouse property (V4) will continue to be used to assess blast noise and vibration.	One resident is notified prior to each blast.	C	Blasting records files (3) – sample of blast documents and records (blasting checklist, etc.).
	Vibration measurements will be monitored. In the event that the vibration measurements indicate that the 95% DPI regulatory guideline limits may be exceeded in future blasts, the blasting specification and shot-firing practice must be reviewed	No exceedances noted.	C	Summary of monitoring results sighted.

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	and modifications made, as appropriate, to ensure continuing compliance.			
2.3.4	Monitoring Schedule		C	Vibration Monitoring Reports for blasts (sample selected).
2.4	Surface Water, Drainage and Groundwater			
2.4.1	Objectives To minimise any potential impact on receiving waters. To progress water management such that any discharge to surface waters is during periods of very high rainfall only. To ensure that water discharged from the Quarry does not affect the beneficial uses of the receiving waters. To assess any long term trends in groundwater levels.	Objectives achieved.	C	
2.4.2	Targets 100% compliance with the requirements of the EPA Licence.	Annual medians are shown in in APS - comply. Two minor EC exceedances considered	C	EPA Licence 544; BNRs – June, July; APS 2019. Groundwater level summary

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	100% conformance with groundwater level monitoring requirements	due to groundwater seepage – quarry not actively discharging surface water. EPA notified. Quarry effectively complied.		data (quarterly reports to ERC)
2.4.3	Management Measures			
December 2008	Implement pump and containment systems such that quarry surface water runoff is captured and re-used from Donazzan's Dam to uses around the site. Before water is allowed to flow from Donazzan's Dam to the v-notch discharge point it will be tested to confirm its permissible TDS concentration. This WMS will enable the site to reduce discharge events & any possible TDS breaches.	Testing during active discharge has confirmed permissible quality (in accordance with EPA Licence). Minor exceedances noted at times when no active discharge (thought to be groundwater seepage). EPA notified.	C	Observation – pump house inspected.
During 2007/8	The following landscape works will be carried out: <ul style="list-style-type: none"> Planting around the outside edge of Donazzan's Dam with reeds native to the area. 	Settled at 2010 audit. Beaching completed, and upgraded during previous audit period.	NA	

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	○ Rock-line the spillway immediately downstream of Donazzan's Dam.			
	○ Regrade spillway embankments to encourage plant growth to a slope of 1V:5H or 1V:3H.			
During 2007/8	○ Plant native species within the spillway downstream from the outlet at Donazzan's Dam to the receiving waterway.			
During 2007/8	○ Plant native species within the spillway upstream from the inlet to Donazzan's Dam from the Quarry.			
completion by end 2008	Reinstate riparian vegetation along the waterway downstream of Donazzan's Dam and undertake planting in terrestrial areas surrounding the waterway.	Settled at 2015 audit.	NA	
All times	Discharge of water from the site will be managed and monitored (for both quality and discharge volume) in accordance with the EPA Licence.	As above. Noted that creek flow downstream of discharge point appeared greater than that flowing over weir. Water appears to	C	Field Record Forms – various sampled; monthly discharge volume data (measured at V-notch weir), Fisher & Fisher.

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		<p>be flowing beneath, or possibly around (although this was not observed), the weir through ground infiltration, and may be natural run-off from rain the preceding day.</p> <p>It is noted that Holcim has undertaken to EPA (APS Aug 2019) to investigate amending the location of the sampling point to avoid influence of natural run-off.</p>	O	Observation.
Every 12 months	Sediment in the settlement ponds is removed at least once every 12 months and stockpiled within other areas of the quarry.	Sediment was removed from one pond in April.	C	Invoice 1633 (MC earthmoving)
	<p>Algae will be controlled by:</p> <ul style="list-style-type: none"> maintaining flowing water across ponds and Donazzan's Dam, minimising nutrient input, eg. by maintaining a septic tank pump out frequency of at least once a year, maximising nutrient uptake, discharge or isolation from the water column, 	<p>No algal growth reported.</p> <p>The dam water was observed to be cloudy and had a green tinge – this could indicate algal growth and may warrant testing.</p> <p>Bird life on the dam appeared healthy, but would also be adding to the nutrient inputs. Personnel need further</p>	<p>NA</p> <p>O</p>	Inspection Check lists (sample sighted); observation - Photos

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	<ul style="list-style-type: none"> maximising dissolved oxygen levels by circulating water, ensuring water bodies receive sufficient water to provide regular and significant overflows, ensuring water bodies have no stagnant zones, and that all sections of the water bodies are subject to flowing water when rainfall enters the system,, managing the catchment areas directly upstream of Donazzan's Dam to reduce the amount of nutrients entering a water body, and reviewing ponds and dams to evaluate and act to avert potential stagnant areas. 	<p>information on what to look for wrt algal blooms (see https://www.water.vic.gov.au/waterways-and-catchments/rivers-estuaries-and-waterways/blue-green-algae).</p>		
As required	<p>In the event of algal bloom(s);</p> <ul style="list-style-type: none"> Water body flushing to break up and inhibit algal growth, and dissolved air flotation and surface skimming to remove algal mass, will be considered as short term remedial measures, a specialist will be engaged to assist with treatment and removal, records will be kept of all such occurrences 	<p>As above, the dam is not considered to currently being experiencing an algal bloom, however there is little information available to assist personnel inspecting the dam to make a call on whether the issue needs elevating.</p>	NA	

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	<ul style="list-style-type: none"> to help determine likely trends that could assist in future water body management, chemical treatments (eg. use of herbicides/algicides) will only be used as a last resort measure if required, and then only with prior approval from the relevant government agency (for water bodies situated on existing creeks). 			
All times	The plantings undertaken as part of the water quality management system will be maintained in accordance with the Landscape and Rehabilitation Management Plan (eg weed control, plant replacement).	Well maintained.	C	Observation, photographs
During initial clearing	Areas of vegetation disturbance and ground cover shall be minimised during opening up of new operational areas to prevent erosion.	Works localised to area of operation.	C	Observation
All times	Clearing and construction activity associated with the development of the site shall be carried out in accordance with "Construction Techniques for Sediment Pollution Control" EPA Publication No 275	Observed to be conducted satisfactorily.	C	Observation

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	(as amended).			
As required	Soil stockpiled for later rehabilitation works will be stored in mounds no greater than 2m high and contoured and grassed to minimise erosion. Mounds will be constructed and located to minimise any visual disturbance and to avoid contamination with other materials.	Stockpiles observed to be self-seeding.	C	Direct observation
As required	Overburden will be stored in worked out areas of the excavation for later use in rehabilitation, or sold or used to rehabilitate final faces when terminal faces are available. Overburden storages will be constructed to control drainage and maintain stability.	Overburden being located within quarry where rock has been removed.	C	Direct observation
As required	Diversion drains will be provided around the top of the quarry and workings to direct surface run-off away from operational areas.		C	Direct observation
As required	Channelling of water flow (rill formation) will be minimised and any channel flows stabilised.	No rill erosion noted.	C	Direct observation
As required	Where practical, erodible areas that remain bare and undisturbed for long periods (i.e. greater than 2 months) will be stabilised by	Where practicable this has been done – erodible areas have been minimised. Plantings have been established and	C	Direct observation, photographs

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	covering with mulch, anchored fabric or topsoil covered and seeded with Sterile Rye grass.	maintained in rehabilitation areas.		
As required	The dual triple interceptor system (trap – TIT) treating washwater from the plant and equipment wash down pad will be regularly maintained in effective working condition.	Pumped out in Jan & Nov, 2019 (Toxfree). Both workshop and pug mill TITs. Toxfree complete WTCs.	C	Toxfree invoices 316654, 372075; EPA WTC 12/11/19 (50754089) – oily water, ToxFree.
Quarterly	Groundwater level gauging will be conducted quarterly, and an annual evaluation undertaken, to determine how the groundwater levels respond to the following: <ul style="list-style-type: none"> Seasonal rainfall changes; Extension of the quarry; Revegetation to parts of the plateau surface; and Progressive rehabilitation of quarry. 	Quarter 4 round of monitoring is not yet completed. Summary of other 3 quarters sighted. Report for year, with evaluation, not yet compiled and available.	O	Summary spreadsheet – historical groundwater level data.
Annual	Properties surrounding the quarry will be regularly assessed to confirm that the assessed beneficial uses of groundwater (in	As above. Specialists report not yet available.	O	

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	accordance with SEPP Groundwaters of Victoria) on the properties is supported by actual practices.			
Fig 4&5	Water Management System			
2.4.4	Monitoring Schedule As per Appendix 11 (as amended by new EPA Licence conditions)	V-notch Record Form should be modified to include results of monitoring 10m downstream of V-notch. See also Records Management. Amend monitoring procedure to require testing to be done at the sampling location, rather than samples removed to the office/site lab for testing. Testing of running water downstream of V-notch weir should also be conducted to confirm quality of run-off.	C O O	Fisher and Fisher – monthly discharge flow reports (not all months present). Weekly Inspection Records. (V-notch, Donazzens Dam, Pit dams)
2.5	Slope Stability			
2.5.1	Objective To ensure slopes both outside and within the Quarry are as stable as possible to	Achieved		No slips/landslides reported.

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	minimise the risk of landslip.			
2.5.2	Target No avoidable landslips.	Met.	C	
2.5.3	Management Measures			
As specified in the s.173 Agreement	Planting of deep-rooted trees in landslip areas (i.e. as revealed within EES report Slope Stability, Figure 6, <i>2001 Aerial Photography Interpretation</i> and Figure 8 URS 2005) will progressively be undertaken in accordance with the Landscape Plans (ref.. Work Plan Annex B Non-Operational Area - Landscape Plan).	Established in 2015 audit	NA	
	Surface drainage will be established in the vicinity of the identified landslip prone areas to minimise infiltration of rainfall run-off.	Established in 2010 audit	NA	
	Areas where surface drainage is known from historical observation to exacerbate landslips, (i.e. Figure 6, <i>2001 Aerial Photography Interpretation</i> URS 2005) will be regraded to direct water away from	As above	NA	

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	will be conducted.			
	Monitoring of the condition of any vegetation or new drainage and replanting or repairs will be undertaken as necessary as part of Landscape and Rehabilitation Management Plan.		C	As below
As required	The progressive excavation will require ongoing rehabilitation activities to control erosion, and then make all the earthworks safe and compatible as possible with the surrounding landscape. Construction and revegetation will be undertaken in accordance with consultant's reports and requirements as per the site Work Plan.		C	As per LRMP below
As required	The rehabilitated slopes will require construction of internal and surface drainage, vegetation establishment, fill compaction, trial sections, and development of technical specifications under the guidance of a geotechnical specialist and	(see LRMP section below)	C	

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	reviewed with the Department of Primary Industries in accordance with the Work Plan Landscape and Rehabilitation Report specifications.			
As specified in Monitoring Schedule	Regular visual monitoring of all slopes including any rehabilitated slopes, overburden stockpiles, operating faces and crushed stockpiles will be conducted and if any change in the slope conditions (such as cracking, heaving or settlement of the quarry walls or floor, increased areas of seepage or any other unexpected movement) is observed, specialist geotechnical advice will be sought.	Inspections indicate slopes are stable.	C	Monthly Slope Stability Checklists (sample)
2.5.4	Monitoring Schedule	Inspections are being done monthly.	C	As indicated above
2.6	GHG Emissions			
2.6.1	Objective	Achieved.	C	

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	To minimise greenhouse gas (GHG) emissions resulting from quarry works and operations.			
2.6.2	<p>Targets</p> <p>Implement the recommendations of the Energy Action Plan, as updated from time to time.</p> <p>Achieve current annual targets, namely, overall reduction target of 3% in CO₂-e (t) for combined fuel, electricity and explosives usage.</p>	<p>Less fuel was used, an increase in explosive use occurred, and an increase in electricity (on a per tonne basis). Reduction of 2% achieved, short of the target.</p> <p>(Note: this section of EMP contains superseded targets and needs to be amended in upcoming review)</p>	<p>mnc</p> <p>O</p>	GHG calculation spreadsheets (2018, 2019).
2.6.3	Management Measures			
All times	Aim for continuous improvement of GHG intensity of production by identifying and controlling energy intensive processes as part of Holcim national Energy Efficiency Opportunities (EEO) program.	<p>Site advises that it continues working through recommendations of energy audit.</p> <p>Examples of works undertaken include thermographic and non-thermographic surveys of equipment to determine where excessive electricity consumption if</p>	C	Audit Actions Schedule; work orders printout; purchasing line item (compressor), 2016.

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		<p>occurring, and rectify. Holcim advises that in 2017 the site's air reticulation system was assessed for efficiency, resulting in the replacement of a compressor with a variable speed drive unit (which draws power on demand rather than continuously).</p> <p>Site should consider engaging with other Holcim sites in Australia and overseas (through Head Office specialists) to further review and refine its energy efficiency program.</p>		
As required	Regular monitoring and NGER reporting of energy use and GHG emissions.	Holcim advises that NGER reporting is done internally through Holcim Head Office in Sydney, and therefore considered outside the scope of this audit.	NA	
Within 12 months of EMP	Review and further evaluation of all transportation within the quarry against current industry fuel efficiency benchmarks;	Settled at 2011 audit.	C	

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approval				
Completed	Nominate an energy manager within the quarry to ensure that steps are taken to meet energy and GHG reduction targets; and	QM has overall responsibility.	C	
All times	Incorporate energy and GHG awareness into training of managers and supervisors.	Demonstrated in previous audits.	NA	Plant operator training certificates.
2.6.4	Monitoring Overall reduction target of 3% in CO ₂ -e (t) for combined fuel, electricity and explosives usage.	Not met for 2019.	C	GHG Calculator (spreadsheet), 2019
2.7	Traffic Management			
2.7.1	Objective To minimise the impact of quarry traffic on the local amenity.	Objective is being achieved to the extent practicable.	C	
2.7.2	Target Compliance with (or completion of) all actions specified in the s.2.7.3 of this EMP.	Complies – target met.	C	
2.7.3	Management Measures			

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By 29 th June, 2009	Construction of a left hand turn deceleration lane at the south west approach to the Mt Shamrock Road and Pakenham Road, subject to VicRoads consent.	Settled at 2010 audit	NA	
All times	The wheels of all trucks leaving the site must be clean before trucks travel onto any part of the public road network. All trucks leaving the site will be cleaned by passing through the wheel and truck wash facility at the main gate (see s.2.1.3 of EMP).	Wheel wash in operation.	C	Observation
	All vehicles carrying materials from the site must be loaded and transported in a manner which prevents spillage of materials onto a public road.	Drivers are inducted – states minimum requirements. Periodic inspection of tarpaulins being in place.	C	As above; Inspection Report (QM – monthly).
All times	Early morning truck movements are to be scheduled to avoid queuing outside the boundary of the site.	No trucks accepted before 7am – signage in place. Reported no problems with queuing before 7.	C	Induction records (sample sighted), induction booklet.

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	All vehicles associated with quarry activities, including trucks and machinery, must enter and exit the site via Mt Shamrock Road.		C	Observation
	A sign to be erected and maintained, and clearly visible to truck drivers leaving the quarry, advising that trucks avoid using engine brakes on Mt Shamrock Road.	Signs in place.	C	Observation (photos)
2.7.4	Monitoring Housekeeping checks (monthly)	Random checks of tarpaulin compliance as part of checklist.	C	Gatehouse operator – visual checks; ERC Quarterly report (visual checks data)
2.8	Net Gain Management Plan			
2.8.1	Objective To provide vegetation that offsets the loss of vegetation associated with the Quarry and provides a net gain of Habitat Hectares.	Long term objective – progress continues to be made towards achieving it.	C	
2.8.2	Target Establishment of vegetation in accordance with the Native Vegetation Management Framework and the Net Gain Offset	Area is maintained by Naturelinks. Weeding and some planting done.	C	

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	Management Plan (NGOMP, Biosis Research, September 2007 – Appendix 13) by January 2009 (as specified in the s.173 Agreement)			
2.8.3	Management Measures			
Within 3 month of EMP approval	A contactor with expertise in revegetating the local indigenous vegetation community will be appointed to manage the re-establishment of indigenous understorey vegetation in the offset areas. The contractor will be required to provide further detail on the methods to be used in a detailed works program prior to commencement of works.	Settled at 2011 audit. Naturelinks engaged to manage works program.	NA	
Within 2 months of OSM appointment	The offset site (as identified in Figure 2 of the NGOMP) will be fenced in order to clearly delineate the site's extent.	Fencing is being well maintained.	C	Observation - photos

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	An appropriate sign will be erected to inform residents/visitors of the site's ecological characteristics, purpose and value.	Not sighted at this audit	NA	
To commence immediately upon appointment of OSM	Plants of local provenance will be propagated, or seeds collected for dispersal as specified in the Appendix to the NGOMP.	On-going planting is occurring by Naturelinks.	C	Naturelinks progress reporting, 2019
6 months	The offset site will be prepared over a minimum six (6) month period through: (a) monthly sprays of existing (introduced) vegetation to deplete the weed soil seed bank; (b) cut and paint and/or drill and fill weedy shrubs such as Hawthorn, Briar Rose and	Established in previous audit.	NA	

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	Blackberry; (c) installation of a shallow layer of mulch (less than 5 cm deep) to prevent soil loss but not inhibit the germination of weeds.			
As appropriate to year 10	Appropriate species will be planted/recruited within the offset site. Planting / recruitment densities will comply with the minimum revegetation standards provided by DSE (DSE, 2006).	Confirmed at previous audit – Biosis' report indicated densities met and exceeded.	NA	
10 years from EMP approval	Plantings will be maintained over a 10 year period, taking all necessary measures to ensure: (a) survival and growth of the plants, and (b) good appearance or presentation of the plantings.	Area was looking healthy and well established. New trees had recently been planted (tree guards need to be kept in place).	C	Observation – Photos
As required	Plantings that do not survive will be replaced.	As above. Some individual trees have died, as would be expected.	C	Observation - photos
As required	Supplementary watering of plantings will be carried out as required and permitted by	Reportedly this is done.	C	

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	prevailing water restrictions.			
Monthly during June-December	Weed (including identified woody weed) control works will be conducted on a monthly basis during the primary weed season (June to December inclusive) and at other times as required.	Some emerging blackberry growth noted. This will need on-going effort to control.	C	Naturelinks' Work Plan (as above); JE and others, weeds removal works (includes quarry site) forms.
After years 1, 2, 5, 7 and 10	A management audit/monitoring exercise will be undertaken at 1, 2, 5, 7 and 10 years after planting to evaluate performance and thus compliance with the Permit.	Completed at last audit.	NA	Biosis, June 2018
	Audit/monitoring of the offset site will be conducted by a qualified ecologist.	Completed at last audit.	NA	
As appropriate	Any additional management actions identified by the audit will be implemented through the INX system as an audit and inspection event type.	Holcim advises no additional management actions arising from Biosis report, only recommendation to continue on-going maintenance measures.	NA	
Within 1 month	All audit reports will be forwarded to the ERC for its information.	Completed at last audit.	NA	

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of report receipt.				
2.8.4	Monitoring OMP Audit (Years 1,2,5,7,10) Visual inspection (6-monthly in Mar, Sep) of offset area to identify rabbit-caused damage - where significant damage identified, rabbit proof fence to be installed.	Biosis' Y10 Audit completed. One inspection done – rabbit infestation noted. Need to ensure that expert input sought to determine significance of damage going forward, and whether a rabbit-proof fence is warranted.	C O	Biosis, June 2018; Inspection checklist, July 2019.
2.9	Cultural Heritage			
2.9.1	Objective Preserve, by relocation, all items of cultural heritage identified in accordance with Wurundjeri 'Consent to Disturb' ("Consent") conditions.	All works now completed.		
2.9.2	Targets 100% compliance with Consent conditions.	Met.		
2.9.3	Management Measures			

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During works	A copy of the Consent (Appendix 14) must be on-site and available for inspection during works associated with this permit.	Settled at 2013 audit.	NA	
Prior to stripping	<p>Prior to any soil stripping taking place on the site:</p> <ul style="list-style-type: none"> ○ all Indigenous stakeholders will be notified; and ○ any hay will be baled to allow Indigenous stakeholders to survey the cleared land. ○ ensure that the conditions as specified in the Consent to Disturb dated 17th May, 2007, and 4th September, 2007, are complied with. 	Completed.	NA	
As applicable during works	Upon the discovery of suspected human remains all works must cease. The Wurundjeri Tribe Land Compensation and Cultural Heritage Council Inc. interim Chief Executive Officer, Aboriginal Affairs Victoria,		NA	

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	the Victoria Police and the State Coroner's Office must be notified immediately.			
	Controlled Archaeological Excavation - AAV 7921-680 – Shamrock AS1 Before any ground disturbance there will be controlled hand excavation of 100% of the archaeological deposits at site AAV7921-680 – Shamrock AS1, apart from the “plough zone” (top 15 cm of site) as per the 4 th September, 2007 Consent Amendment.	Settled at audit 2013.	NA	
	This excavation will be conducted by a qualified archaeologist and involve representative/s from the Wurundjeri Council.	As above	NA	
All times during excavation	The archaeological excavation and recording methods will meet the standards set by Aboriginal Affairs Victoria (AAV) guidelines.		NA	
Report within 4	Following the completion of the excavation there will be analysis of the artefacts	Completed	NA	

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weeks of completi on of excavati on.	excavated and a report produced outlining the results of this analysis.			
Complie d with during excavati on	<p>Sieving of Site Deposits - AAV 7921-679 – Shamrock IA3, AAV 7921-678 – Shamrock IA2, AAV 7921-681 – Shamrock AS2 and AAV 7921-697 – Shamrock IA4, AAV 7921-651</p> <p>The sites listed above will be subject to mechanical scrapes to a depth of between in 10-15cm to allow identification of any Aboriginal cultural material.</p>	Completed.	NA	
	The scrapes will continue until sterile deposits are reached.		NA	
All times during excavati on	In the event that stratigraphic deposits or some other important Aboriginal cultural feature is uncovered during these scrapes, all work will stop and the deposits will be		NA	

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	excavated by controlled excavation (any such deposits excavated by controlled excavation will be analysed and reported upon to the standards outlined in the AAV guidelines).			
	All soil mechanically excavated at each of these sites will be mechanically sieved to ensure retrieval of all artefacts down to sterile deposits, and in accordance with the agreement between the Wurundjeri Council and Rinker Australia Pty Limited made under Condition 24 of the Consent.		NA	
	This process involving artefact identification during sieving will be carried out by a qualified archaeologist and will involve representatives from the Wurundjeri Council.		NA	
Report within 4 weeks of	Any artefacts found in a non-stratigraphic context will be photographed and recorded by a qualified archaeologist. This material		NA	

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completion of excavation.	will be analysed and appropriately documented by an archaeologist.			
Prior to construction works within extraction limit	Monitoring Ground Disturbance within Extraction limit Prior to construction works commencing within the extraction limit there will be monitoring of the disturbance of soil deposits by an archaeologist and representatives from the Wurundjeri Council.	As detailed above.	NA	
Prior to construction works within extraction limit	Areas of ground surrounding the known sites and within the proposed extraction limit will be subject to mechanical scrapes to a depth of between 10-15cm to allow identification of any Aboriginal cultural material.	Settled at 2010 audit	NA	
	The scrapes will continue until sterile			

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	deposits are reached.			
	There will be at least one Wurundjeri representative assigned to each scraper.			
	In the event that stratigraphic deposits or some other important cultural feature is uncovered during these scrapes, all work will stop and the deposits excavated by controlled excavation.			
	Any such deposits excavated by controlled excavation will be analysed and reported upon to the standards outlined in the AAV Guideline for Conducting Aboriginal Heritage Assessments.			
	Any artefacts found in a non-stratigraphic context will be photographed and recorded by a qualified archaeologist. This material will be analysed and appropriately documented by an archaeologist.			
As appropriate	Once all artefacts found have been properly analysed they will be returned to the		NA	

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ate	Wurundjeri Council and will be relocated within the general vicinity at the discretion of the Wurundjeri Council.			
During all works subject to the Consent	Officers from Aboriginal Affairs Victoria will be invited to access the site for the purpose of monitoring adherence to all conditions of the Consent and the Permit as specified in this EMP.		NA	
2.10	Fire Management			
2.10.1	Objective To ensure that the risk of fire is minimised.	Objective has been achieved.	C	
2.10.2	Target No fires	Met – none reported.	C	
2.10.3	Management Measures			
Within 3 months of EMP approval	Establish off-site fire prevention measures to be followed during periods of high fire risk.	BMP developed as part of Emergency Procedures flipchart.	C	Bushfire Management Plan (BMP)
Annually	Undertake annual on-site fire prevention	A range of prevention works undertaken -	C	Evac checklists – 16/12/19 and

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	works, prior to the declaration of the “Fire Danger Period”, in consultation with the Responsible Authority and the local Country Fire Authority.	<ul style="list-style-type: none"> • Evacuation drills • Extinguisher checks • Site inspection and fuel removal • Smoke alarms/detectors • BMP checklist completed prior to fire season 		17/12/19; smoke alarm checks (2/6/19, 11/12/19); Bushfire Readiness Inspection Checklist, Dec 2019.
All times	Access for all emergency vehicles will be provided and maintained at all times through the site.	Access is provided.	C	Observation
All times	Fire prevention and response equipment will be provided and maintained in accordance with the Holcim Emergency Response Procedure and Quarry Emergency Procedures flip chart.	Alarms, smoke detectors and extinguishers checked as per SHE procedure and monitoring schedule (National Fire Solutions). Extinguishers checked annually.	C	NFS Attendance Record 1/11/19 (Fire Ext)
2.10.4	Monitoring (see EMP)	Evac drills (two done) – actions arising being implemented. Smoke alarms tested June and December. Fire suppression systems in mobile plant checked.	C	Drill records as above

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2.11	Water Conservation			
2.11.1	Objective To conserve potable water supplies.	Objective achieved.	C	
2.11.2	Target Implement measures to reduce the use of mains water supply.	Holcim advises that there is no mains water supply at the site.	NA	
2.11.3	Management Measures			
	Install rainwater tanks to collect water to be used for non-potable purposes. (Dec 07)	Holcim advises water for non-potable use is obtained from Donazzan's Dam, or from pit storage (Southern Hole).	C	
2.12	Waste Management			
2.12.1	Objective Minimise waste quantities, comply with legislative requirements and progress towards the recycling and re-use of all wastes.	Overall, the objective is being achieved.	C	
2.12.2	Target Maintain the generation of waste to landfill at 0.6t/month.		C	Waste Summary Spreadsheet, 2019

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2.12.3	Management Measures			
Timing	Action			
June 2008	Characterise all waste streams and develop measures to: <ul style="list-style-type: none"> ○ minimise site waste generation; ○ segregate waste groups; and ○ direct landfilled wastes to recycle/re-use wherever possible 	As noted in the previous audit, co-mingling of solid wastes was an issue of concern. This has not been rectified in the intervening period, and further measures need to be taken in relation to: <ul style="list-style-type: none"> • co-mingling of recyclable and regulated wastes in landfill skip; • use of inappropriate waste bins within workshop; • non-compacting of cardboard waste 	mnc	direct observation, photographs
June 2008	Develop quantifiable and achievable targets for the reduction of waste volumes for each of the identified waste groups, and the measures to be taken to achieve the targets.	The quarry has developed a target for waste to landfill. Holcim advises that it is considering providing some items no longer able to be used (e.g. conveyor belts) to outside groups for re-use.	C	
As required	Silt removed from the settling ponds and silt traps will be incorporated into product	Holcim advises that this is the case when done – identified in monthly site	C	Observation; monthly inspection checklists (sample

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	stockpiles or overburden materials for use in progressive reclamation.	inspections.		sighted); invoice sighted.
As required	All prescribed industrial waste (PIW) such as waste oil is to be stored, and transported from the site, in accordance with EPA prescribed waste transport guidelines (references 7 & 8)	JJ Richards collects waste oil, drums, rags etc. Accredited Agent appointment (19/6/17). Waste oil drums noted to be overloading storage skip.	C O	JJ Richards Dockets (sample sighted); photographs
Annual	The site's septic sewage system will be pumped out regularly.	Two septs maintained. Large one was emptied in Mar 2019.	C	Plendrive Waste Disposal – invoice dated 28/3/19
Annual	Conduct an annual waste survey to establish the types, quantities and re-cycling/ re-use percentages for all site wastes.	In assessing what further reductions might be achievable, Holcim should engage with other similar company sites within Australia and elsewhere.	C O	Spreadsheet of waste consigned off site through weighbridge
Annually	Use the outcomes of the annual survey to set quantifiable and achievable annual waste reduction targets for the site for each waste stream identified.	No new targets have been set.	C	
2.13	Housekeeping/Preventative Maintenance			

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2.13.1	Objective Establish effective housekeeping checks and preventative maintenance programs to control environmental hazards.	Achieved.	C	
2.13.2	Target Housekeeping audits identify no more than 5% non-conformance practices (except where applied to Consent conditions, where 0% non-conformance applies)	Monthly inspections cover all issues. Scoring shows target is met.	C	Monthly inspections by QM.
2.13.3	Management Measures			
Timing	Action			
Monthly	Housekeeping checks will include the following environmental issues: <ul style="list-style-type: none"> Chemical and fuel bunding; Bund content and drainage point valve in off position; Spill clean-up and spill kit equipment contents; Waste container labelling; Tarping practices; 	Small number of items identified for action, not all were non-conformances. Items noted in equipment graveyard that need checking for hazardous contents.	C O	Environmental Hazard Inspections – 2019; photographs

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	<ul style="list-style-type: none"> ○ Road and vehicle cleanliness; ○ Unusual noises; ○ Visual dust presence of significance; and ○ Segregation of Inert type wastes from solid and from industrial wastes. 			
Monthly / annually	<p>PM system checklists are available to capture:</p> <ul style="list-style-type: none"> ○ Fixed System Dust Suppression ○ Watering truck and sweeper vehicles ○ Water sprays and lines ○ Spill Kits <p>Dust extraction units will be serviced annually.</p>	<p>Three dust extractors – serviced 3 times in 2019. Contractor notes indicate multiple items needing attention at each service, including split ducts and poor seal between hopper and bin.</p> <p>Water sprays – PM conducted monthly. Issues appear to be rectified.</p> <p>Water Truck maintained to keep in good working order during 2019. Now tagged out for replacement. Hire vehicle is being used while new one sought.</p>	C	<p>Wamgroup – Silo venting and Dust extraction service records (Jan, June, Nov 2019);</p> <p>PM inspection reports (water sprays - sample);</p> <p>Water Truck maintenance history, 2019 (numerous service documents in folder; schedule of services for 2019 sighted).</p>
2.14	Storage & Handling			
2.14.1	Objective	Objective achieved.		

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	To minimise chemical and fuel run-off and land contamination due to spillage/ release/ stormwater flushing.			
2.14.2	Target No visible oils/fuels in stormwater discharging from discharge point. No significant soil contamination.	Targets met.	C	Observation
2.14.3	Management Measures			
All times	Signage will be maintained around bunded fuel tanks describing the filling procedure to be followed.		C	Observation
All times	All fuels and chemicals in containers over 100 litres will be bunded when stored or in use.	Engine coolant drums outside bunded area in oil/grease container at maintenance area.	mnc	Observation
As required	Captured rainwater within fuel/oil storage bunds will be released through triple interceptor prior to release to the stormwater system.	No captured rainwater evident in areas inspected.	NA	Observation
As required	Areas of significantly hydrocarbon-contaminated soil will be excavated and	None reported or observed.	NA	Observation

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	remediated in accordance with the Hydrocarbon Land-farming Procedure.			
2.14.4	Explosives Use & Storage Explosives are used for primary blasting in accordance with the requirements of the DPI. Bulk explosives are used on site and these are delivered from an external supplier. The quantity of bulk explosives required for one shot is pre-determined and only the required explosives are delivered to the site. Surplus explosive is removed from the site by the supplier.	Settled during 2011 audit. Explosives bunker has now been demolished and removed (Jan, 2017).	NA	
2.15	Donazzan's Dam Integrity			
2.15.1	Objective To maintain the structural integrity of Donazzan's Dam.		C	
2.15.2	Target No leakages, spills or other containment failures associated with the Dam.	None reported. Target met.	C	

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2.15.3	Management Measures			
5 yearly	Engage specialist geotechnical consultant to review dam structural integrity. Next review to be conducted in 2020.	Piezometers checked monthly – no standing water.	C	Monthly checks, 2019.
PART C				
1	Rehabilitation and Vegetation			
1.1	<p>Objectives</p> <p>The main objectives for the landscape and rehabilitation of the quarry operations area are to:</p> <ul style="list-style-type: none"> • create an ecological community with a predominance of indigenous species to provide a contribution to net gain objectives and habitat hectares. • minimise the visual impact of the proposed extension from surrounding viewpoints • stabilise soil. • create an environment that will provide 	Objectives have been achieved commensurate with the current stage of the extension and rehabilitation works. Commendably, a water irrigation system has been installed to assist tree growth during dry conditions.	C	Photographs

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	habitat for local and migratory fauna. <ul style="list-style-type: none"> • create a safe and functional landscape. • reinforce the local landscape character through the use of indigenous EVC units of the Pakenham area • address drainage issues. • ensure that existing vegetation is maintained where practicable, • ensure that landscape screening and rehabilitation is successfully established and subsequently maintained. minimise the visual impact of the quarry operation upon the existing landscape of the local area, • ensure that vehicles entering or leaving the site do not spread weed seeds to or from the site. 			
1.2	Targets Successful establishment and maintenance	Targets have been met – screening vegetation continues to grow well and is	C	Observation - Photographs; DJPR Targeted Audit Report,

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	<p>of landscape screening and rehabilitation in accordance with the Work Plan attachment <i>Landscape and Rehabilitation Report, ERM</i> (January 2005) and the <i>Landscape & Rehabilitation Management Plan, 2007</i>, (LRMP) to the satisfaction of the DPI and the Responsible Authority.</p> <p>Maintenance of existing vegetation where practicable.</p>	<p>effective. Significant dieback of some species is evident in the screening vegetation along the north western slope, however this is being addressed by removal and replanting.</p> <p>Weed control activities continue within quarry site and outside work authority areas. Quarry rehab plantings on southern side are now being irrigated with pit water via water tank and sprinklers.</p> <p>NGO area is observed to be well established and being managed well.</p>		13/12/19; Naturelinks Dieback Report (undated)
1.4	Management Measures			
1.4.1	<p>General</p> <p>The Landscape and Rehabilitation Management Plan (LRMP) has been prepared to deal with general rehabilitation and landscaping under the Work Plan and associated documentation, slope stability</p>	<p>LRMP separately audited as follows -</p> <p>LRMP 2.1 Rehab Manager is Matt Dodd, Quarry Manager, Holcim. Works are conducted by Holcim Personnel (JE) and Naturelinks (contractor).</p>	C	LRMP, June 2014, Rev 3 (appended to EMP)

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	<p>planting, and surface water plantings, as required by the Permit. This plan addresses issues relating to maintenance including plant establishment, erosion control, weed control, planting protection, fencing, safety and other relevant management issues.</p> <p>The LRMP covers all planting and rehabilitation within the quarry operational and non-operational areas.</p> <p>The LRMP deals in detail with the management of the following aspects of quarrying operations as they relate to landscape and rehabilitation:</p> <ul style="list-style-type: none"> Vehicle Management - Inspection of Vehicles, Clean down of Machinery, Vehicles and Equipment, Use of public roads and pathways, Provision of public safety 	<p>LRMP 2.2 Reporting (3 monthly) to QM. – Rehab contractor submits monthly reports to Rehab Manager covering work scope and inspection checks. Rehab Manager reports to ERC quarterly on progress. Rehab contractor has submitted a report covering 2 years progress 2017-19 in rehab of SE extraction area. A range of issues covered, with more weed eradication recommended.</p> <p>LRMP 2.3 Complaints. No complaints received to date.</p> <p>LRMP 2.4 Non-Conformances. None reported.</p> <p>LRMP 2.5 Soil Testing – not applicable, no contaminant testing of soils.</p>	<p>C</p> <p>NA</p> <p>NA</p> <p>NA</p> <p>C</p>	<p>3 monthly report to ERC (2 examples reviewed) Naturelinks Scope of Works (sample); Rehab Report, 2017-19 (Naturelinks).</p> <p>Vegetation Monitoring sheets (monthly), weed control records (weekly environmental worksheets)</p>

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	<ul style="list-style-type: none"> Topsoil Scraping and Stockpiling Weed and Vermin Control, and Herbicide Use Existing Vegetation Management, including: <ul style="list-style-type: none"> Seed Collection Topsoil spreading Hydro-seeding Setting out works Fencing and Signage Supervision Cleaning Up Erosion control Maintenance during plant establishment period of 52 weeks Soil Testing <p>Reference should be made to the LRMP for all such issues arising as part of the on-going maintenance of landscaped and</p>	<p>LRMP 2.6 – Review. Holcim advises that the LRMP will be reviewed in 2020 as part of the EMP review. Holcim should involve Naturelinks in this review so that lessons learnt from rehabilitation successes and setbacks to date can be incorporated into the revised Plan, thereby improving the success rate going forward.</p> <p>LRMP 4.1.1/4.1.2 Vehicle Inspection/Clean Down. Naturelinks inspects and clean vehicles before entry to site.</p> <p>LRMP 4.1.3 – Use of Public Roads. Roads observed to be free of debris.</p> <p>LRMP 4.1.4 – Safety. Viewing platform erected in quarry. Quarry observed to be</p>	<p>O</p> <p>C</p> <p>C</p> <p>C</p> <p>NA</p>	<p>Naturelinks, “Recommendations for Future Revegetation Works”, 2019</p> <p>Naturelinks documentation on vehicle hygiene (part of pre-start for site entry)</p> <p>Observation</p> <p>Observation</p>

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	rehabilitated areas.	<p>relatively dust-free and orderly. Traffic plan is in place, speed signs up.</p> <p>LRMP 4.2 Topsoil. Topsoil storage not specifically observed in this audit.</p> <p>LRMP 4.3 Weed/Vermin Control. Weed spraying is done by Naturelinks and Holcim. Locations are recorded (although this fell off during latter half of last year). Nominated weeds are targeted. Legible location maps should be included so overspraying does not occur, and more targeted approach can be developed.</p> <p>LRMP 4.3.1 Herbicide Use. A range of herbicides are used. Correct and current certifications not checked at this audit.</p> <p>LRMP 4.4 Existing Veg Man't. These items</p>	<p>C</p> <p>O</p> <p>C</p> <p>C</p> <p>O</p>	<p>Weekly work schedule (Holcim personnel); Naturelinks two yearly report, 2020; Naturelinks Scope of Works Forms (sample sighted);</p> <p>Naturelinks Scope of Works Forms (sample sighted)</p> <p>Observation; Naturelinks two yearly report, 2020; Phase A & B Planting Dieback Report</p>

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		<p>are done, as relevant – plant conditions monitored and reported on. Naturelinks has noted poor survival rates of plantings in quarry rehab areas, possible due to dry conditions. A number of recommendations were made going forward – these should be considered and implemented.</p> <p>It was noted that dieback of vegetation on western faces (caused by a combination of drought, natural life-span, pests, species mix, aspect) is being addressed. Recommendations of the “dieback report” should be implemented.</p> <p>LRMP 4.5 Seed Collection. Naturelinks’ recommendations should be considered – changes to the species mix is recommended, among other items.</p>	<p>O</p> <p>NA</p> <p>NA</p> <p>C</p> <p>C</p>	(Naturelinks, 2019)

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		LRMP 4.6 Topsoil Spreading. Not relevant at this stage (applies after works ceases)	C	
		LRMP 4.7 Hydro-seeding. Naturelinks' report recommends other methods for increasing seedling survival rates, which need to be considered in the LRMP review.	C	As referenced above.
		LRMP 4.8 Setting Out. Works are checked regularly whilst in progress by contractors.	C	Observation
		LRMP 4.9 Fencing & Signage. Holcim advises signage in place (not observed during this audit).	C	
		LRMP 4.10 Supervision. Holcim advises that its works personnel are in daily contact with quarry Manager, and observe contractor works. Naturelinks has a nominated contact person for site works.	NA	Observation Observation

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		<p>LRMP 4.11 Cleaning Up. Site observed to be clean.</p> <p>LRMP 4.12 Erosion Control. No signs of significant erosion observed.</p> <p>LRMP 4.13 Maintenance during first Year. Settled at previous audit.</p>		
1.4.2	Ongoing & Post-Operations Maintenance			
	<p>Ongoing maintenance, monitoring and rectification will be carried out by, and under the direction of, the site Rehabilitation (“Rehab”) Manager and will include (but not necessarily be limited to):</p> <ul style="list-style-type: none"> • Maintenance of the surface of site access tracks. • Maintenance of all fences and signs. • Pruning branches overhanging and imposing on access tracks. 	<p>LRMP 5.0 On-going Maintenance. No change from previous audit. Maintenance currently occurring by Holcim personnel and through Naturelinks (as described above) during operational phase of quarry.</p>	C	<p>Vegetation Monitoring Monthly reports (sample sighted); Naturelinks documentation (various, as cited above).</p>

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	<ul style="list-style-type: none"> Monitoring and control of weeds as necessary, ensuring weed controllers have attended a DSE ‘Farm Chemical User Course’ or equivalent and have appropriate approvals. Monitoring health of retained and planted vegetation and checking for pests and diseases. Monitoring stability of berms and berm walls. Replant terrestrial planted areas that have failed and provide significant gaps on the horizon line. Regrading necessitated by erosion and washouts. Rehabilitation of quarry water management system. Treatment of disease or other infestation in vegetation as necessary and as approved in consultation with 			

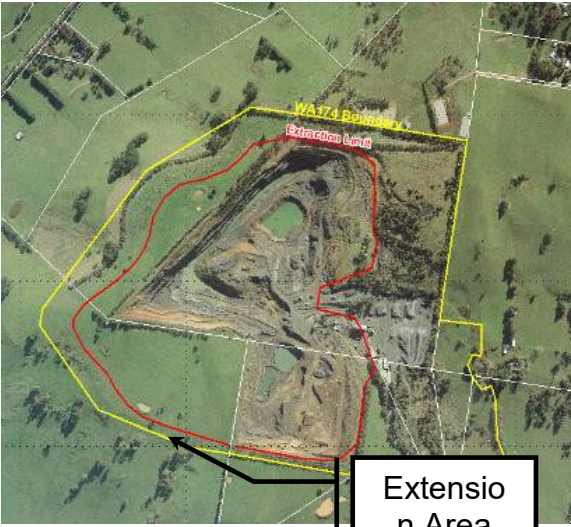
Section/ Timing	EMP Requirement – Summary	Auditor's Findings & Comments	Conf *	Audit Evidence
<p>*Conformance is rated as follows:</p> <p>C – Conforms;</p> <p>MNC –Major non-conformance (potential or actual significant offsite impact on the environment, and/or legal compliance issue);</p> <p>mnc –Minor non-conformance (minor actual or potential environmental impact, may be contained within site or have limited off site impact; documentation issue);</p> <p>O – Observation; opportunity for improving the management system and/or operational controls exists.</p> <p>NA – Not Audited or Applicable (see “Comments” section for reason why)</p>				
	<p>DSE.</p> <ul style="list-style-type: none"> Control of pest animal species. 			
	At the completion of all quarrying activities, the site is to be reviewed to ascertain plant losses. Replanting as part of the ongoing monitoring and maintenance is to continue for a period of 12 months after completion of extraction after which the planting will rely on natural regeneration.)	Not applicable at this time.	NA	
1.4.3	<p>Monitoring, Reporting & Review</p> <p>A site Rehab Manager is to be appointed with responsibility for the following:</p> <ul style="list-style-type: none"> Ensuring any contractors and staff are aware of the LRMP and its requirements; Carrying out any monitoring, testing and corrective actions; Reporting and reviews as specified in this LRMP; Land management practices 	See section 1.4.1 above.		

Section/ Timing	EMP Requirement – Summary	Auditor's Findings & Comments	Conf *	Audit Evidence
<p>*Conformance is rated as follows:</p> <p>C – Conforms;</p> <p>MNC –Major non-conformance (potential or actual significant offsite impact on the environment, and/or legal compliance issue);</p> <p>mnc –Minor non-conformance (minor actual or potential environmental impact, may be contained within site or have limited off site impact; documentation issue);</p> <p>O – Observation; opportunity for improving the management system and/or operational controls exists.</p> <p>NA – Not Audited or Applicable (see “Comments” section for reason why)</p>				
	undertaken; <ul style="list-style-type: none"> Rehabilitation works completed; Complaints received and properly recorded and actioned; Non-conformances and corrective actions; and Results of site inspections. 			
	The Rehab Manager is to submit land management reports to the Quarry Manager and the ERC during the quarrying phase every 6 months from the commencement of rehabilitation. These reports will summarise the implementation of the LRMP and consider environmental impacts and processes and will include comment on: <ul style="list-style-type: none"> Land management practices undertaken; Rehabilitation works completed; Complaints received; 	3 monthly report is submitted to ERC by QM, providing a brief summary of works completed.	C	EMP Progress Update reports to ERC – Quarters 1, 2, 3 & 4

Section/ Timing	EMP Requirement – Summary	Auditor's Findings & Comments	Conf *	Audit Evidence
<p>*Conformance is rated as follows:</p> <p>C – Conforms;</p> <p>MNC –Major non-conformance (potential or actual significant offsite impact on the environment, and/or legal compliance issue);</p> <p>mnc –Minor non-conformance (minor actual or potential environmental impact, may be contained within site or have limited off site impact; documentation issue);</p> <p>O – Observation; opportunity for improving the management system and/or operational controls exists.</p> <p>NA – Not Audited or Applicable (see “Comments” section for reason why)</p>				
	<ul style="list-style-type: none"> Non-conformances and corrective actions; Results of site inspections; Results of water quality testing; Health of existing indigenous vegetation; Recruitment of indigenous vegetation into rehabilitation and landscape areas; Weed invasion; Erosion; Water quality; and Proposed alterations to the LMRP in line with the current best practice. 			
1.5	Monitoring	Weed control acceptable – see above comments. ErSed. Controls – acceptable based on observations of those parts of quarry inspected.	C	3 monthly report to ERC; Weed control reports (Holcim & Naturelinks); Weekly Inspections (sample sighted); Observation

Appendix 2

Photographs



Photograph 1: Before extension



Photograph 2: January 2010



Photograph 3: May 2011



Photograph 4: April 2014



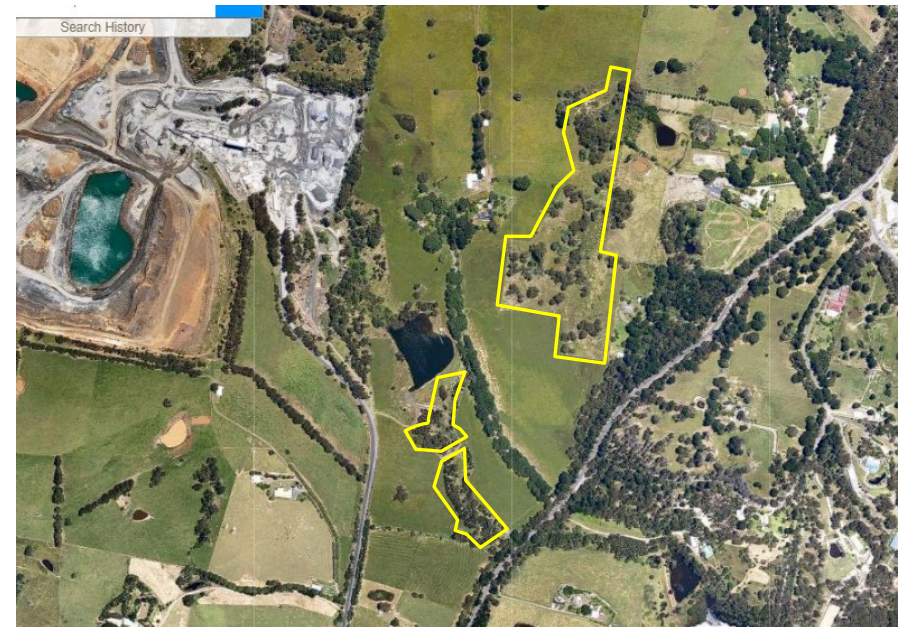
Photograph 5: December 2015



Photograph 6: December, 2016



Photograph 7: October, 2017 (above). Net Gain Offset areas are shown outlined in yellow. For comparison, the photo opposite is from Jan, 2014.





Photograph 8: February, 2019. Net Gain Offset areas outlined in yellow.



Photograph 9: October, 2019



Photograph 10: Traffic Management Plan, 2019



Photograph 11: Advisory signs on Mt Shamrock Road.



Photograph 12: Drum bin needs to be emptied.



Photograph 13: Garden waste drum being used to store spill response materials.



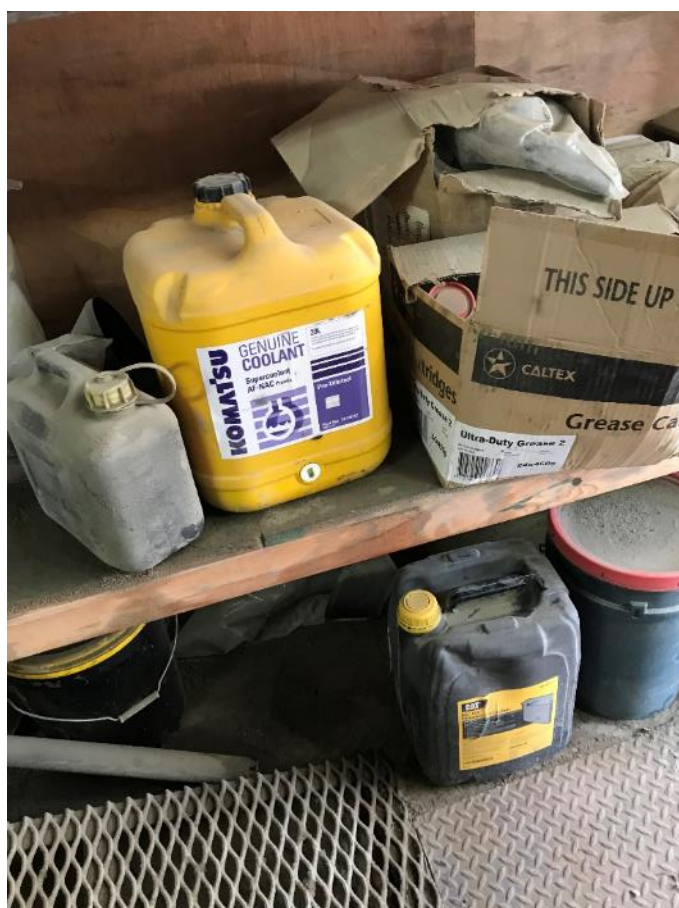
Photograph 14: Oily rags disposed of in general waste skip.



Photograph 15: Oil filter recycle bin contains general waste.



Photograph 16: Proper bins around the corner not being used.



Photograph 17: Coolant being stored on shelf in oils container, despite sign opposite.



Photograph 18: General waste skip includes cardboard and empty oil containers.



Photograph 19: Adjacent cardboard recycle skip contains boxes not flattened.



Photograph 20: Items in equipment graveyard need to be checked for residuals (oils, fuels, gas cylinders).



Photograph 21: Quarry from viewing platform – looking NW. Rim vegetation provides effective screening.



Photograph 22: Rehabilitation area on left is NE area; looking SE. Viewing platform in background.



Photograph 23: From viewing platform, looking north. Note rehabilitation area on NE batter behind crusher plant.



Photograph 24: SW toe of NGO area 2.



Photograph 25: Within NGO area 2.



Photograph 26: Die-off area within screening vegetation on NW slope – being cleared as part of rehabilitation/replanting of the area.



Photograph 27: Southern batter rehabilitation area – mechanical irrigation system installed to increase viability/survival of plantings.



Photograph 28: Lush gully growth upstream of the V-notch weir.



Photograph 29: Significant flow downstream of the weir even though little flow over the weir apparent. Probably groundwater from earlier rainfall event.



Photograph 30: Donazzan's Dam appears cloudy and green tinged. Some guidance is needed as to what constitutes an "algal bloom", requiring remedial action.