

Annual Review 2017-2018

for

Possum Brush Quarry



Prepared in conjunction with:



R.W. CORKERY & CO. PTY. LIMITED

August 2018



ABN: 45 050 224 250

Annual Review 2017-2018

for

Possum Brush Quarry

Prepared by:

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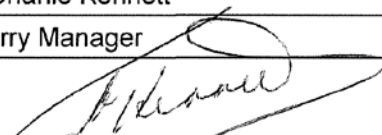
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Table 1
Title Block

Name of operation	Possum Brush Quarry
Name of operator	Pacific Blue Metal Pty Ltd
Development consent / project approval #	DA283/97 (Mod 4)
Name of holder of development consent / project approval	Pacific Blue Metal Pty Ltd
Mining Lease #	Not Applicable
Name of holder of mining lease	Not Applicable
Water licence #	Not Applicable
Name of holder of water licence	Not Applicable
MOP/RMP start date	Not Applicable
MOP/RMP end date	Not Applicable
Annual Review start date	1 July 2017
Annual Review end date	30 June 2018
<p>I, Charlie Kennett, certify that this audit report is a true and accurate record of the compliance status of the Possum Brush Quarry for the period 1 July 2017 to 30 June 2018 and that I am authorised to make this statement of behalf of Pacific Blue Metal Pty Ltd.</p> <p><i>Note.</i></p> <p>a) <i>The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p>b) <i>The Crimes Act 1900 contains other offences relating to false and misleading information: Section 192G (Intention to defraud by false or misleading statement – maximum penalty 5 years imprisonment); Section 307A, 307B and 307C (false or misleading application/information/documents – maximum penalty 2 years imprisonment or \$22,000, or both).</i></p>	
Name of authorised reporting officer	Mr Charlie Kennett
Title of authorised reporting officer	Quarry Manager
Signature of authorised reporting officer	
Date	31/08/2018

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LIST OF ACRONYMS

AHD	Australian Height Datum
DPE	Department of Planning and Environment
EPL	Environment Protection Licence
IBIS	Irreplaceable Bush Regeneration Indigenous Services
PBM	Pacific Blue Metal Pty Ltd



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1. STATEMENT OF COMPLIANCE

Pacific Blue Metal Pty Ltd (PBM) operates under Development Consents DA283/97 (Mod 4), DA1127/2005 and DA769/2009 and Environment Protection Licence (EPL) 3393. **Appendix 1** presents four tables paraphrasing the conditions contained within these documents, together with a record of compliance and a brief comment recording the basis for assessing compliance or non-compliance. PBM maintains all relevant documentation on site required to demonstrate compliance. It is noted that the assessment of compliance has been recorded as follows.

Table 2 presents a summary of the assessment of compliance for all conditional requirements included in development consents issued for the Quarry, Asphalt Plant, Recycling Plant and EPL 3393.

Table 2

Statement of Compliance

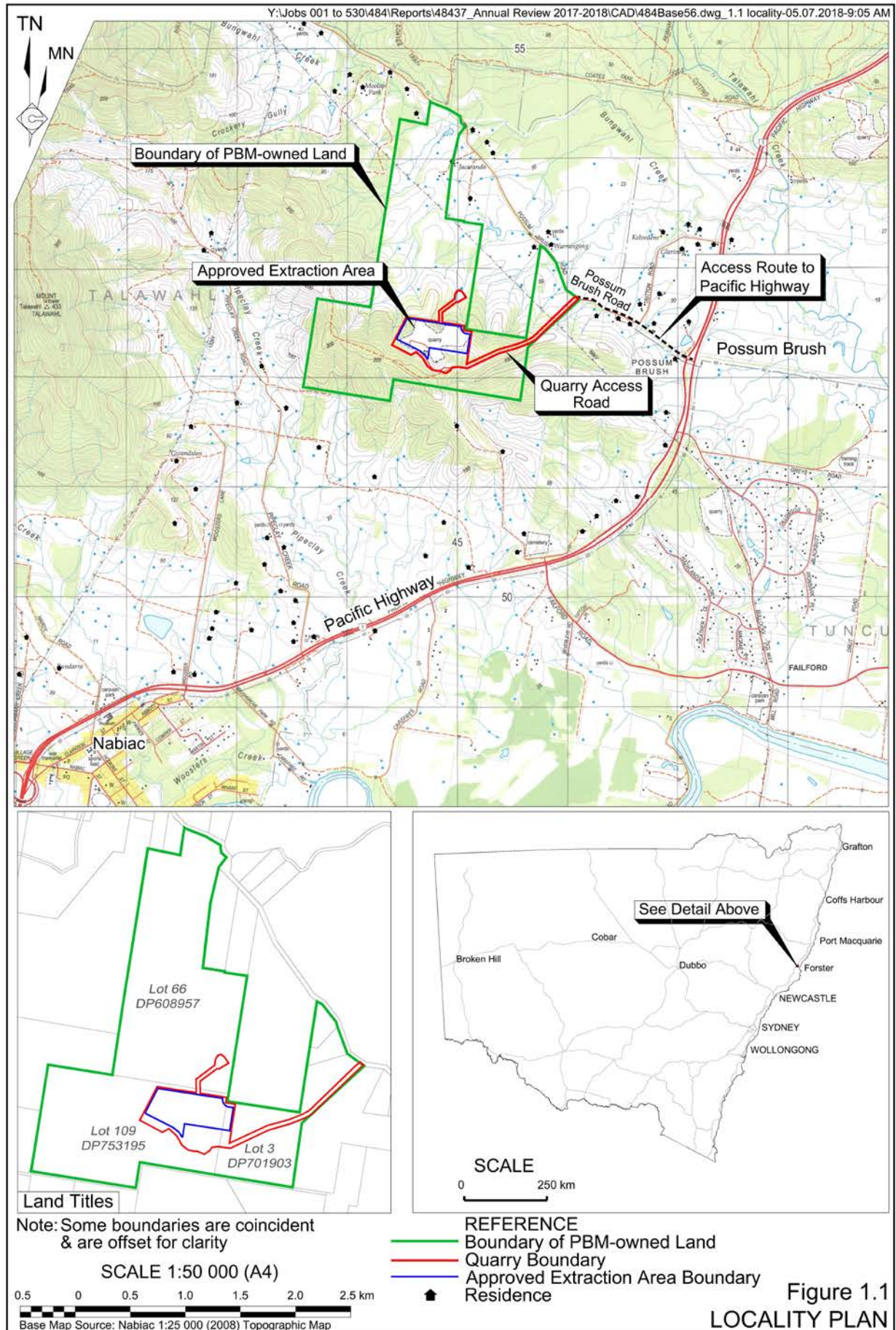
Were all conditions of the relevant approval(s) complied with?	Yes / No
Possum Brush Quarry (DA 283/97) (Mod 4)	No
Possum Brush Asphalt Plant (DA 1127/2005)	Yes
Possum Brush Recycling Plant (DA 769/2009)	Yes
EPL 3393	Yes

Table 3 Non-compliances

Relevant Approval	Condition Number	Condition Description (Summary)	Compliance Status	Comment	Where addressed in Annual Review
DA 283/87 Mod 4	Schedule 5 Condition 12	Access to information. Make certain information publically available via a website	Non-compliant	PBM did not have a website prior to this condition. A website was developed and live by 28 September 2017.	Section 11

Compliance Status Key

Risk Level	Colour Code	Description
High	Non-compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of the occurrence.
Medium	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> Potential for serious environmental consequences, but it is unlikely to occur; or Potential for moderate environmental consequences, but is likely to occur.
Low	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> Potential for moderate environmental consequences, but it is unlikely to occur; or Potential for low environmental consequences, but is likely to occur.
Administrative	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to a government department later than required under approval conditions).



2. INTRODUCTION

2.1 OVERVIEW OF OPERATIONS

Throughout the reporting period, the Possum Brush Quarry continued to supply a range of products, primarily for road construction, including the Pacific Highway upgrade and a variety of local road and construction projects. The bulk of the quarry products comprised road pavement materials which were generated within the state-of-the-art pugmill/wetmix plant given its superior quality control features.

Figures 2.1 and **2.2** indicate the areas in which activities were undertaken during the reporting period both outside and within the Quarry Area. **Plates 1** to **12** show various operations and/or features of the Quarry recorded on 10 August 2018. The locations of each photograph are displayed on **Figures 2.1** and **2.2**.

Throughout the reporting period, PBM continued to:

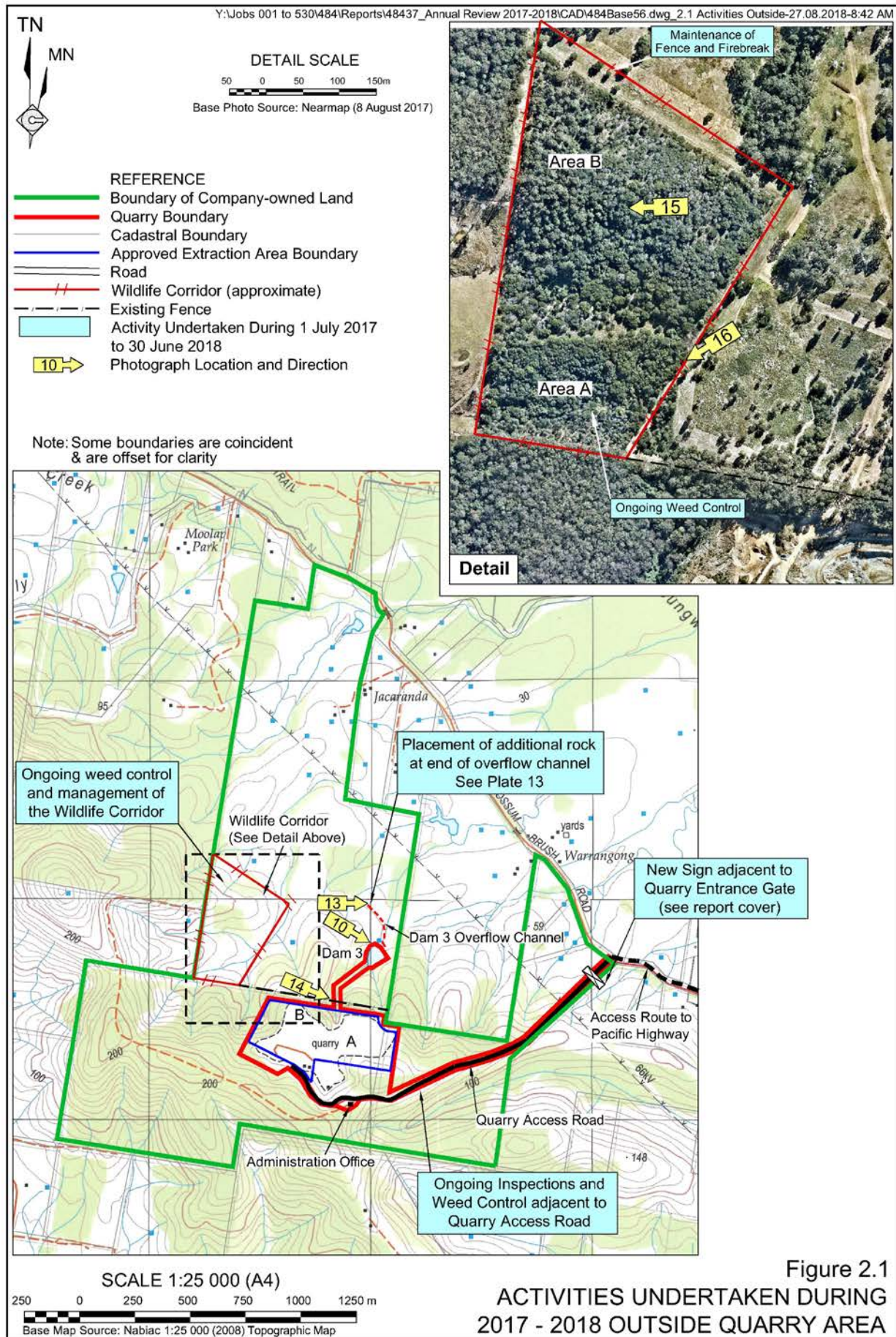
- produce asphalt at the on-site asphalt plant;
- increase the quantity of materials imported for recycling/blending with quarry products; and
- refurbish and rationalise the existing processing plant to improve plant efficiencies and provide safer and more practical access around the plant.

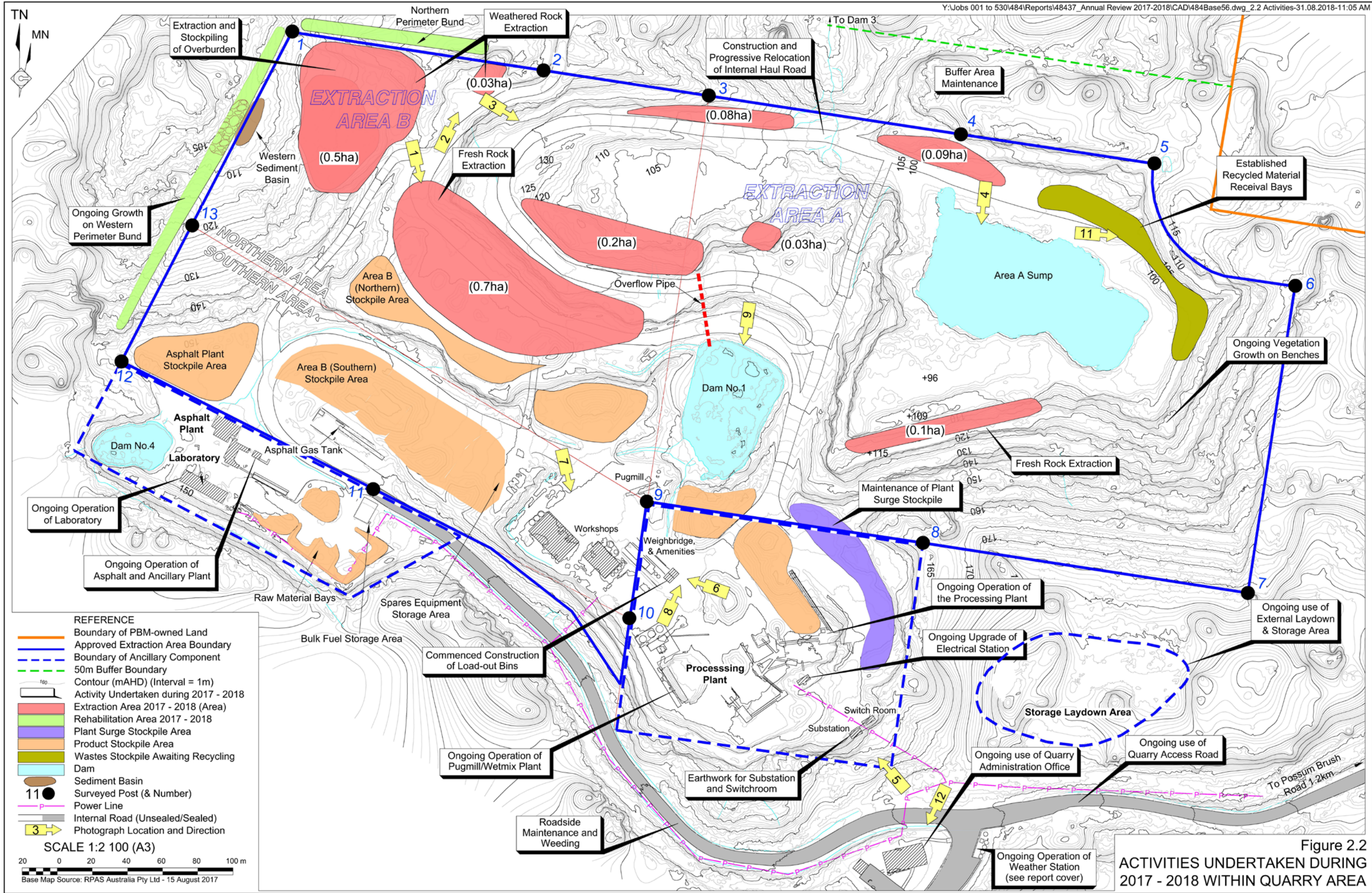
2.2 KEY PERSONNEL CONTACT DETAILS

The contact names, position and phone numbers of key personnel who are responsible for the environmental management of the Quarry are as follows.

Name	Position	24 Hour Contact
Mr Charlie Kennett	Quarry Manager	0428 684 115
Ms Stacey Tyack	QSE Manager	0428 684 547

The Environmental Complaints line for the Quarry is (02) 6554 3597.







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Plate 1: View to the southeast
across the Stage B extraction area
(Ref: E484P_021)

Plate 2: View to the northeast towards
the area extracted in Area B for the
long-term access north of the Quarry
(Ref: E484P_001)



Plate 3: View to the southeast
through Area B cut-through to the
Area A
(Ref: E484P_020)

Plate 4: View across Area A sump
towards the area extracted on the
southern side of Area A
(Ref: E484P_041)





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Plate 5: View to the northwest
 across the processing and
 stockpiling area
 (Ref: E484P_059)

Plate 6: Erected frame for new
 load-out bins near weighbridge
 (Ref: E484P_052)



Plate 7: View to the south towards
 the Quarry workshops
 (Ref: E484P_055)

Plate 8: On-site water cart
 (Ref: E484P_053)





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Plate 9: View to the south across
Dam 1
(Ref: E484P_027)

Plate 10: View to the southeast
towards Dam 3
(Ref: E484P_013)



Plate 11: Stockpiled waste concrete
awaiting processing
(Ref: E484P_038)

Plate 12: Quarry Administration
Office
(Ref: E484P_060)



3. APPROVALS AND LICENCES

The following approvals and licences are currently held by PBM to operate the Possum Brush Quarry.

- Possum Brush Quarry DA 283/97 (Mod 4) – Issued by the Department of Planning & Environment (DPE).
- Asphalt Plant DA 1127/2005 – Issued by Taree City Council.
- Recycling Plant DA769/2009 – Issued by Taree City Council.
- Environment Protection Licence (EPL) 3393 – Issued by EPA.

No modifications or variations were required or received during the reporting period.

4. OPERATIONS SUMMARY

4.1 MINING OPERATIONS

Figure 2.2 displays the eight areas within the approved extraction areas where materials were extracted during the reporting period.

1. A 0.5ha area on the western side of Area B where weathered rock was removed to a depth of approximately 115m AHD.
2. A 0.03ha area near the northern boundary of Area B where weathered rock was removed in the vicinity of the long-term access to the land to the north of the Quarry.
3. A 0.7ha area within the centre of Area B where fresh rock was extracted adjacent to the main haul road from Area B to Area A.
4. A 0.2ha area within Area B where fresh rock was extracted north of the main haul road from Area B to Area A.
5. A 0.08ha area straddling Areas A and B near the northern boundary adjacent to the haul road from Area B to Area A.
6. A 0.3ha area within Area A where fresh rock was extracted along the alignment of the long-term access road from Area B to Area A.
7. A 0.9ha area within Area A near the northern boundary where fresh rock was extracted adjacent to the internal access road.
8. A 0.1ha area within Area A where fresh rock was extracted from the 110m AHD bench.

All extraction throughout the reporting period was undertaken by either ripping with excavators and bulldozers or drill and blast followed by load and haul. **Plates 1 to 4** show the status of the various extraction areas within the Quarry.

Broken and fragmented rock suitable for processing was transported to the processing plant by off-road haul trucks. All oversize rock was either sold as armour rock or transported to protected areas within Area A or Area B for future size reduction using a hydraulic hammer. No secondary breakage took place during the reporting period.

Table 3 presents the production summary for the extraction operations.

Table 4
Production Summary: 2017 – 2018

Material	Approved limit (specify source)	Previous reporting period (actual)	This reporting period (actual)	Next reporting period (forecast)
Waste Rock / Overburden	Not Applicable	0	0	0
ROM Coal Ore	Not Applicable	0	0	0
Coarse reject	Not Applicable	0	0	0
Fine reject (Tailings)	Not Applicable	0	0	0
Saleable Product*	500 000 tonnes / yr	272 460 tonnes	164 360 tonnes	200 000 tonnes

* Saleable product includes all quarry, asphalt and recycling products extracted/processed and sold.



Since commencement of DA283/97 (Mod 4) on 1 April 2016, a total of 493 054 tonnes of saleable products have been extracted / processed and sold. This includes 56 234 tonnes from 1 April to 30 June 2016, 272 460 tonnes in 2016-2017 and 164 360 tonnes in 2017-2018.

All extraction activities occurred between 6:30am to 6:00pm on weekdays and 7:00am to 3:00pm on Saturdays, public holidays excluded, i.e. in accordance with *Condition 2(11)* DA 283/97 (Mod 4) and *Condition L6.2* (a-g) EPL 3393.

The bulk of the fragmented rock was processed on site through the processing plant (see **Plate 5**) with the bulk of the products being produced within the state-of-the-art pugmill/wetmix plant.

A copy of the 2017-2018 Return for Extractive Materials submitted to the DRG is presented as **Appendix 2**.

4.2 OTHER OPERATIONS

Asphalt Production

In accordance with *Condition 10* DA1127/205 and *Condition L6.2* (h-i) EPL 3393, the asphalt plant is approved to operate during the standard hours of operation for the Quarry and 24 hours per day from 6:30am Monday to 10:00pm Friday for up to 60 days per year to supply asphalt to community infrastructure projects requiring night-time deliveries of asphalt, a condition that was met throughout the reporting period.

During the reporting period, the asphalt plant operated within the nominated hours including eight night time operations.

All product despatch activities were undertaken within the nominated standard hours as outlined in DA 283/97 (Mod 4) and night time hours as outlined within DA 1127/2005 and EPL 3393.

Recycled Products

During the reporting period, PBM continued to receive concrete and other waste materials suitable for reprocessing and blending with other quarry products. **Figure 2.2** displays the location of the recycled material receival bays within Extraction Area A. The wastes received comprised:

- asphalt and asphalt profilings;
- clean concrete;
- concrete with minimal contamination; and
- unsorted concrete, brick and tile.

Plate 11 displays the waste concrete and brick stockpiled on site awaiting processing. During the reporting period, a total of 5 596.94 tonnes of waste materials were received for processing, the bulk of which was clean concrete.

In accordance with *Condition L3.2* EPL 3393, the authorised amount of waste brought into the Quarry did not exceed 10 000 tonnes per year. PBM provided monthly Waste and Resource Reports to EPA detailing the tonnage of recycled products received, processed and despatched.

All recycled product receipt activities were undertaken within the nominated hours outlined in *Condition 2a* of DA 769/2009 and *Condition L6.3* EPL 33936 and recycling despatch activities as per *Condition 2(11)* DA 283/97 (Mod 4).

PBM operates the recycling facility in accordance with DA 769/2009 under a Quality Assurance program ensuring all operational conditions are met. This includes accepting only licenced uncontaminated wastes, documenting all loads, rejecting unlicensed or contaminated wastes and notifying Council of such loads. During the 2017-2018 reporting period, implementation of the QA program ensured all operational conditions of DA 769/2009 were fully adhered to.

Off-site Road Maintenance

Monthly payments were made to Council throughout the reporting period for the maintenance of Possum Brush Road in accordance with *Condition 2(20)* of Development Consent 283/97. A total of \$18,079.60 was paid to Council for the products despatched during the reporting period.

In accordance with *Condition 2(19)*, extractive material is to be supplied to Council free of charge for the maintenance of Possum Brush Road between the quarry entrance and the Pacific Highway. During the 2017-2018 reporting period, Council did not request any material for road repairs along Possum Brush Road.

On-site Road Maintenance

No maintenance of the road pavement surface within the Quarry Site or along the access road was required given it has been surfaced with asphalt. PBM continued to undertake vegetation maintenance and weed control adjacent to the on-site roads.

Meteorological Monitoring

During the reporting period, the on-site a meteorological station near the Quarry Administration Office operated continuously (except for a six week period) to record the parameters nominated in *Condition M4.2* of EPL 3393, namely:

- rainfall;
- wind speed and direction @ 10m;
- temperature @ 2m and 10m; and
- sigma theta @ 10m.

The monitoring station was struck by lightning on 6 November 2017 after which it was returned to the supplier for repair. Recording resumed on 20 December 2017. PBM subsequently upgraded the lightning protection system to better protect the station. During the period from 6 November 2017, PBM recorded rainfall manually and drew data for other parameters from the Failford Quarry, the alternate meteorological station approved by the EPA (EPL 3393 Condition M4.1).



4.3 NEXT REPORTING PERIOD

The principal activities planned during 2018-2019 are listed below. The locations of these activities are shown on **Figures 4.1** and **4.2**.

Extraction Activities

PBM expects the demand for road pavement products will continue during 2018-2019, particularly given the high quality of products produced within the pugmill/wetmix plant. Fresh rock reserves will be removed from extraction faces in Areas A and B with sufficient weathered rock extracted for blending with the fresh rock for the required products.

Extraction will focus in the area straddling the boundary between Areas A and B with a continued emphasis placed upon creating an improved (and safer) internal haul road from the lower sections of Area A to the processing plant.

Processing Activities

PBM will continue to use the refurbished processing plant and pugmill/wetmix plant to produce its products. Further refurbishment will be undertaken during the 2018-2019 reporting period.

The progressive upgrade of the electrical substation will also continue to be undertaken throughout the 2018-2019 reporting period.

Asphalt Production

PBM intends to continue to operate the asphalt plant, at a higher output level to that produced during 2017-2018 reporting period, to supply asphalt products to a range of projects throughout the region.

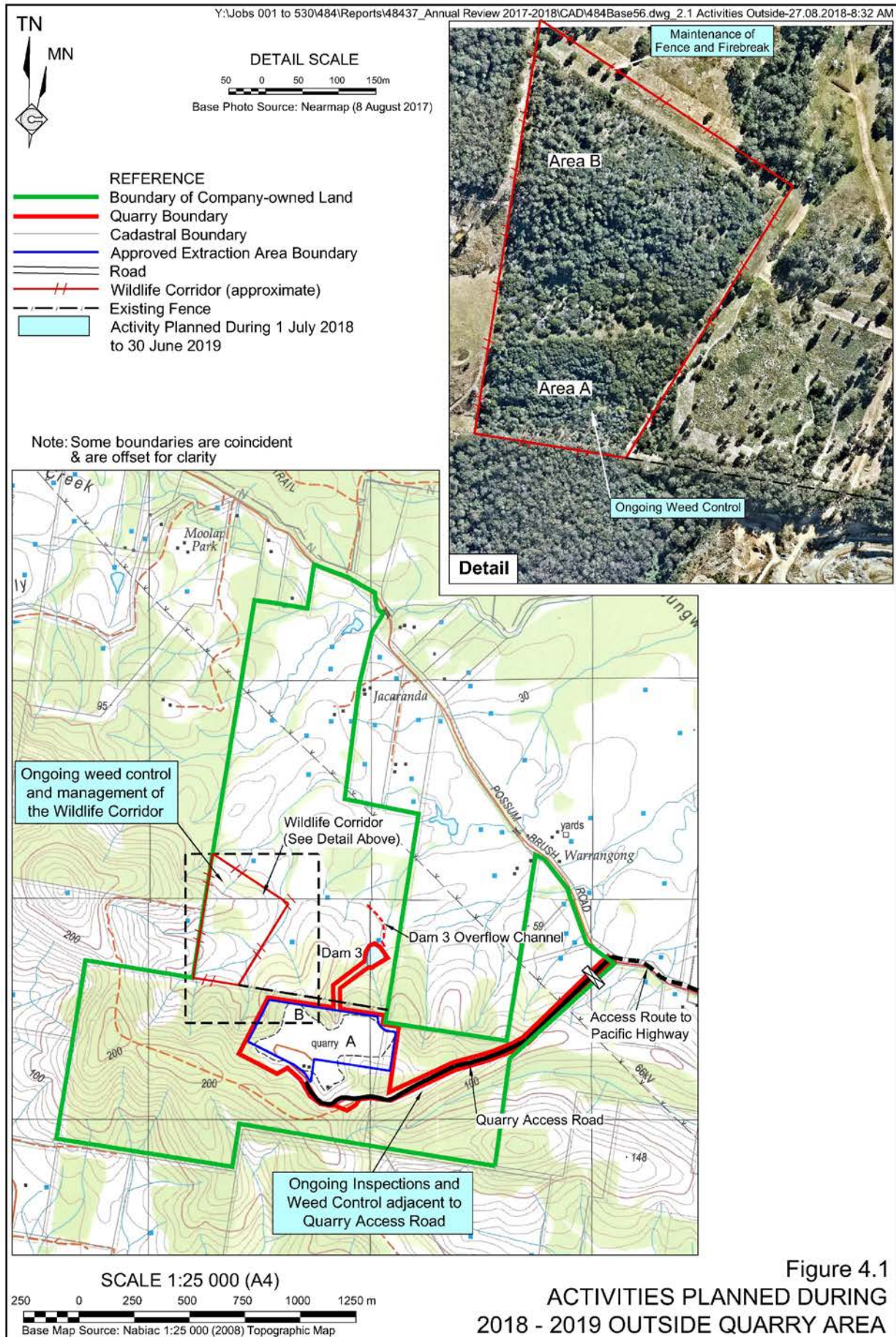
Product Despatch and Road Maintenance

No substantial changes are planned to occur in the transportation of quarry products from the Quarry during 2018-2019.

PBM will draw Council's attention to areas requiring maintenance along Possum Brush Road.

Rehabilitation

Continued weeding and maintenance of vegetation planted within both the 50m buffer and Wildlife Corridor will take place during 2018-2019. Natural regeneration of the completed batters in Area A will continue to enhance these developing vegetation communities. The western perimeter bund in Area B, which was seeding and stabilised in previous years, will continue to be maintained.



Environmental Monitoring

The monitoring activities currently undertaken within and surrounding the Quarry will remain in place throughout 2018-2019. The monitoring proposed during 2018-2019 will include:

- blast monitoring (each blast);
- weather-related monitoring including rainfall levels (daily);
- water quality (if Dam 3 overflows);
- noise monitoring on an annual basis following modification of Development Consent DA283/97 (Mod 4) and EPL 3393 conditions¹.

PBM intends to rationalise the monitoring undertaken for the Quarry during the current 12 months by reducing the frequency of noise monitoring and ceasing deposited dust monitoring. The basis for this rationalisation is set out below.

Noise

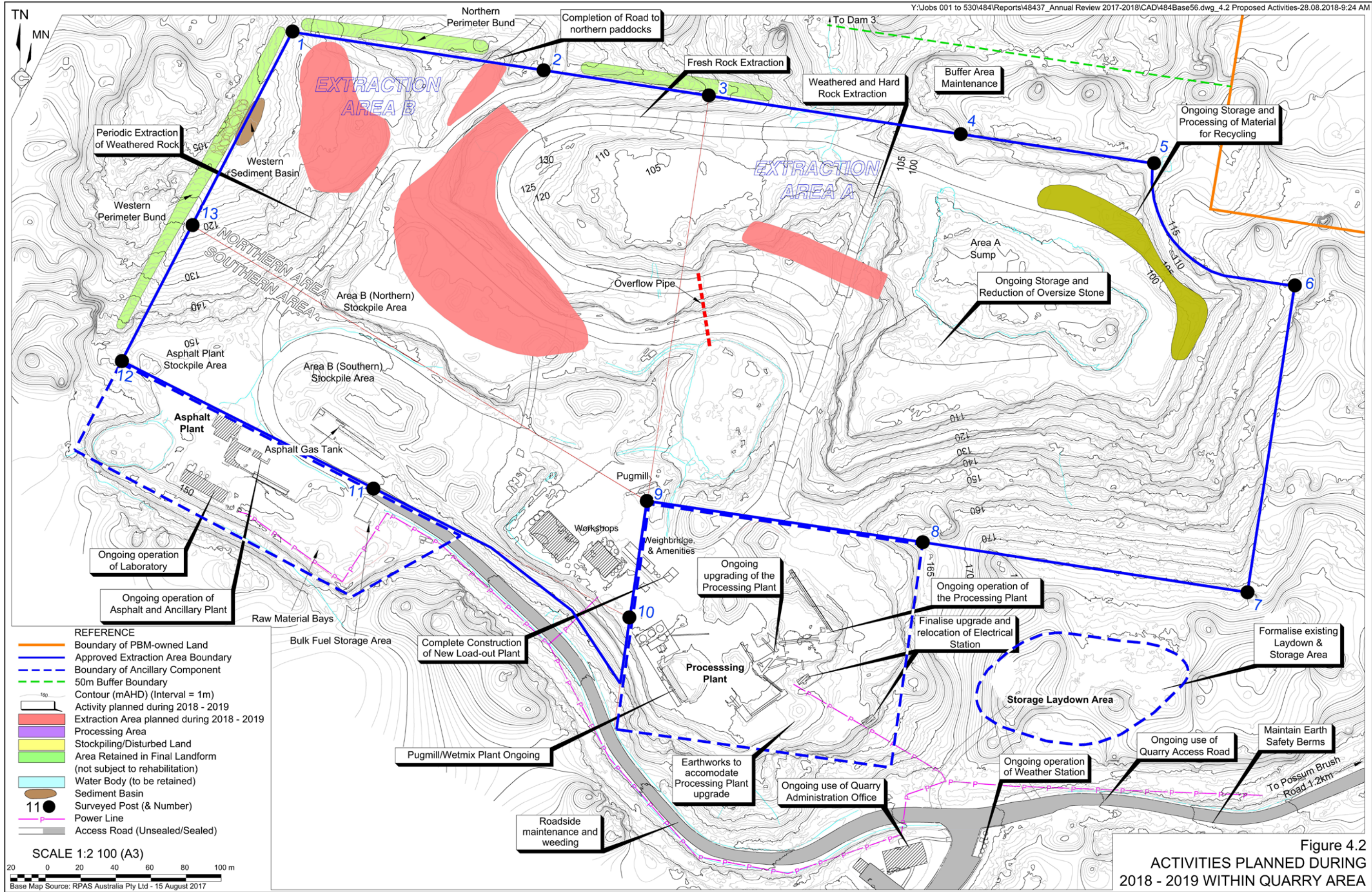
PBM proposes to revert to annual monitoring of noise, consistent with the requirement in EPL 3393. The requirement in Appendix 3, Condition 4 of DA283/97 (Mod 4) for quarterly monitoring has demonstrated that noise generated from the Quarry continues not to be an issue and accordingly, PBM intends to revert to annual monitoring following acceptance by the DPE following the submission of this document.

Air Quality

It is noted that the deposited dust monitoring undertaken during the past 12 months (when meteorological conditions were particularly dry) displayed that dust deposition in the surrounding environment is not an issue. Deposited dust monitoring had previously not been undertaken surrounding the Quarry until July 2017 as dust had never been a problem. The monitoring over the past 12 months has confirmed this and accordingly PBM intends to discontinue this monitoring following acceptance by the DPE following the submission of this document.

PBM proposes to continue to review all monitoring results as they are received to ensure the measured parameters are within the relevant limits or criteria. All monitoring results collected during 2018-2019 will be assembled in conjunction with all previous relevant results to provide the basis for an ongoing review of the environmental performance of the Quarry.

¹ PBM intends to seek a modification of DA 283/97 (Mod 4) for the frequency of noise monitoring to achieve a consistent frequency with EPL 3393, i.e. annually.



5. ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

Table 4 lists the actions arising from the 2016-2017 Annual Review provided by DPE on 14 November 2017.

Table 5
Actions from the Previous Annual Review

Action Required from Previous Annual Review	Requested by	Action Taken by the Operator	Where Discussed in Annual Review
The Independent Environmental Audit section of the document (Section 10) is to include a status update for all actions identified in the letter to the Department dated 11 November 2017.	DPE	Section 10 of this document.	Table 11

6. ENVIRONMENTAL PERFORMANCE

6.1 INTRODUCTION

Within the Quarry Site itself, the standard of environmental management has remained high with an excellent standard of housekeeping. Such standards, and the compliant monitoring results, reflect that the adopted environmental controls set out in the various Management Plans are effective.

Sections 6.2 to 6.5 provide a summary of the environmental outcomes associated with the operation of the Possum Brush Quarry.

A summary of monitoring data collected to demonstrate PBM's environmental performance with respect to the Possum Brush Quarry is posted on PBM's website.

6.2 NOISE

Table 5 and **6** presents the noise monitoring data results since 2012 together with the individual monitoring throughout 2017-2018. Noise monitoring covering the day, evening and night periods was undertaken on four occasions during the reporting period, namely on 17/18 July 2017, 25 September 2017², 28/29 March 2018 and 28/29 June 2017 at the three regular locations (see **Figure 6.1**). One additional period of monitoring was undertaken on 18 July 2017 to record noise levels during an evening associated with asphalt trucks leaving the Quarry. These measurements were recorded near 14991 Possum Brush Road located approximately 60m from the Pacific Highway.

- Site 1: 5 St Peters Close;
- Site 2: 175 Possum Brush Road; and
- Site 3: 55 Possum Brush Road.

At all sites, birds and distant traffic (on the Pacific Highway) were the main contributors to the noise levels recorded. The monitoring results demonstrated that noise emissions from the quarry did not exceed the relevant noise criteria at any monitoring location at any time during the surveys. Night time monitoring also revealed that the measured noise, did not exceed the sleep disturbance criterion during the monitoring period.

² The monitoring on 25 September 2017 within the first quarter of 2017-2018 was approved by DPE on 9 September 2017 as night asphalt production would not occur in the subsequent quarter.

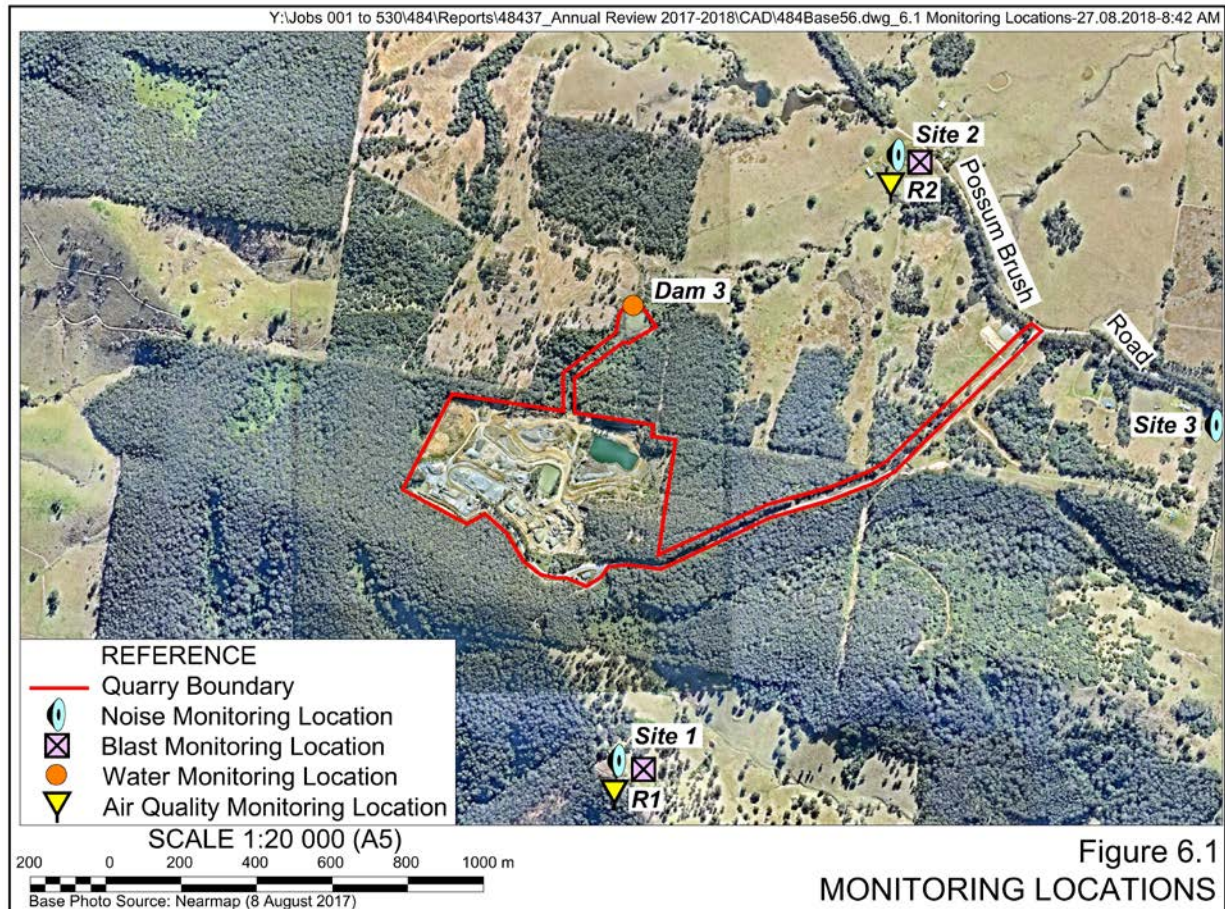


Table 6
Summary of Noise Monitoring Data: 2017 – 2018

Site / Date	Day		Evening		Night	
	dB(A) LA _{eq} (15 min)	PBM	dB(A) LA _{eq} (15 min)	PBM	dB(A) LA _{eq} (15 min)	PBM
Criteria ¹	Site 1: 39dB(A) LA _{eq} (15 min)		Site 2: 38dB(A) LA _{eq} (15 min)		Site 3: 37dB(A) LA _{eq} (15 min)	
Site 1: 5 St Peters Close						
17/18 Jul 17	49	<20	45	Inaudible	45	Inaudible
25 Sep 17	36	23	40	27	39	29
28/29 Mar 18	43	28	44	Inaudible	40	Inaudible
28/29 Jun 18	43	29	38	Inaudible	45	Inaudible
Site 2: 175 Possum Brush Road						
17/18 Jul 17	37	<20	51	<20	41	<20
25 Sep 17	38	<20	32	28	32	28
28/29 Mar 18	42	<20	46	inaudible	46	25
28/29 Jun 18	52	<20	46	31	63	<25
Site 3: 55 Possum Brush Road						
17/18 Jul 17	56	Inaudible	54	Inaudible	57	Inaudible
25 Sep 17	54	Inaudible	47	Inaudible	43	<20
28/29 Mar 18	43	<25 ²	41	Inaudible	43	<25
28/29 Jun 18	53	<25 ²	44	Inaudible	53	<25

¹ Criteria for PBM contribution

² Noise from quarry trucks on Quarry Access Road

Table 7
Noise Monitoring Data and PBM Contributions: 2012 – 2017

Site / Year	Day		Evening		Night	
	dB(A) LA _{eq} (15 min)	PBM	dB(A) LA _{eq} (15 min)	PBM	dB(A) LA _{eq} (15 min)	PBM
Criteria ¹	Site 1: 39dB(A) LA _{eq} (15 min)		Site 2: 38dB(A) LA _{eq} (15 min)		Site 3: 37dB(A) LA _{eq} (15 min)	
Site 1: 5 St Peters Close						
2012-2013	40	32 ²	-	-	38	33 ²
2013-2014	38	31 ²	-	-	-	-
2014-2015	44	22 ²	-	-	44	Barely audible ²
2015-2016	44	Inaudible	44	26	43	Barely audible ²
2016-2017	41	31 ²	45	Inaudible	49	28 ²
Site 2: 175 Possum Brush Road						
2012-2013	39	inaudible	-	-	43	Inaudible
2013-2014	36	24 ²	-	-	-	-
2014-2015	45	26 ²	-	-	49	Inaudible
2015-2016	40	25	38	Inaudible	46	Inaudible
2016-2017	44	21 ²	41	<20	39	23
Site 3: 55 Possum Brush Road						
2012-2013	54	Inaudible	-	-	51	Inaudible
2013-2014	46	Inaudible	-	-	-	-
2014-2015	51	31 ³	-	-	46	Inaudible
2015-2016	49	Inaudible	46	Inaudible	46	Inaudible
2016-2017	52	Inaudible ³	57	Inaudible	51	Inaudible ³
1 Criteria for PBM contribution						
2 Noise from quarry trucks on Quarry Access Road						
3 Only noise from quarry trucks on public road was audible						

6.3 BLASTING

A total of five (5) blasts were initiated during the reporting period. All blasts were monitored at Site R1 (5 St Peters Close) and Site R2 (175 Possum Brush Road) (see **Figure 6.1**) and were all within the airblast overpressure and ground vibration criteria nominated within EPL 3393.

As recorded in **Table 7**, airblast levels recorded at Site R1 ranged from 98.3dB(L) to 105.1B(L) with recorded ground vibration levels varying from 0.88mm/s to 4.29mm/s. Airblast levels recorded at Site R2 ranged from no trigger to 105.4dB(L) with recorded ground vibration levels varying from no trigger to 0.45mm/s.

Table 8
Ground Vibration and Airblast Overpressure Recorded: 2012 – 2017

	Ground Vibration (mm/s)		Airblast Overpressure (dB(L))	
	Site R1	Site R2	Site R1	Site R2
2012-2013	0.73	Not recorded	103.1	Not recorded
2013-2014	2.27	Not recorded	107.7	Not recorded
2014-2015	0.56 - 4.03	0.2 - 0.47	91.9 - 107.0	84.2 - 111.4
2015-2016	1.00 - 2.66	Did not trigger – 0.67	98.8 - 105.5	Did not trigger – 111.3
2016-2017	0.14 - 2.61	Did not trigger - 0.50	96.3 - 101.8	Did not trigger - 107.0
25/07/2017 2:36pm	0.88	0.45	105.1	108.3
22/09/2017 11:59am	4.29	Did not trigger	98.3	Did not trigger
10/11/2017 11:38am	3.51	0.37	102.6	105.4
23/01/2018 2.41pm	3.3	0.32	102.5	101.7
06/04/2018 12:49pm	1.63	Did not trigger	100.3	Did not trigger
Site R1: 5 St Peters Close			Site R2: 175 Possum Brush Road	

No complaints were received regarding blasting throughout the reporting period.

6.4 AIR QUALITY

The PBM Air Quality Management Plan was approved by the DPE on 21 July 2017 and deposited dust monitoring commenced in July 2017. Monitoring was undertaken at Site R1 (5 St Peters Close) and Site R2 (175 Possum Brush Road) (see **Figure 1.1**). Dust monitoring data recorded during the reporting period is presented in **Table 8**. The average monthly dust deposition level for Sites R1 and R2 are 0.5 and 1.0g/m²/month respectively.

Table 9
Deposited Dust Monitoring Results: 2017 – 2018

Residence ID	Deposited Dust Levels	
	Site R1	Site R2
Criterion	4g/m ² /month	4g/m ² /month
July 2017	0.4	0.4
August 2017	0.8	1.2
September 2017	1.1	1.3
October 2017	Dust Monitors destroyed in hail storm 26/10/2017	
November 2017	0.5	1.1
December 2017	0.6	1.8
January 2018	0.6	1.4
February 2018	0.3	1.2
March 2018	0.1	0.6
April 2018	0.4	0.8
May 2018	0.4	0.7
June 2018	0.2	0.3
Average	0.5	1.0

6.5 TRANSPORT

PBM records both the number of heavy vehicles transporting quarry products from the Quarry and the number of laden trucks entering the Quarry with raw materials for the asphalt plant or waste materials for recycling. Information is recorded on an hourly and daily basis in order to demonstrate compliance with *Conditions 2(9) and 2(10) DA 283/97*.

Condition 2(9) DA 283/97 stipulates a maximum of 500 000 tonnes of quarry products may be transported from the Quarry in any calendar year. In the 2017-2018 year, 164 360 tonnes of quarry products (including asphalt and recycled products) were transported from the Quarry.

Condition 2(10) DA 283/97 stipulates PBM must ensure that no more than 36 truck movements occur per hour and no more than 420 truck movements occur per day. A truck movement is defined as heavy vehicle one-way trip, either entering or leaving the Quarry, including trucks associated with the asphalt and recycling activities. During the reporting period, the maximum number of truck movements was 32 per hour (7.00am – 8.00am 11 July 2017) and 210 per day (29 May 2018). A summary of the maximum number of hourly and daily truck movements for each calendar month throughout the reporting period is presented in **Appendix 3**. The comprehensive records of all truck movements are held in the Quarry Administration Office.

6.6 WASTE

PBM's approach to waste management is based upon three main principles, namely to:

1. minimise the quantity of waste generated;
2. maximise the quantity of waste recycled; and
3. effectively manage and correctly remove all waste from the Quarry.

The wastes generated within the Quarry include:

- domestic type wastes and workshop wastes that are stored in approved containers and transported regularly to either a recycling facility or approved waste disposal facility;
- tyres for recycling are stored on site and regularly transported to a licenced recycling facility;
- sullage wastes and septic wastes from staff amenities which are discharged into an approved septic tank with pump-out facilities; and
- stormwater potentially contaminated with petroleum products which drains to a proprietary oil/water separator in the workshop from which clarified water is allowed to drain to the sedimentation pond system. Oil-contaminated fluids are collected by a licensed recycling contractor for disposal.

PBM maximises waste collected for recycling on site including steel, waste oil, paper and cardboard, glass and aluminium containers.

7. WATER MANAGEMENT

The PBM Water Monitoring point is located at the overflow of Dam 3 (see **Figure 2.1**). Monitoring is required at this point when an overflow event occurs as per EPL 3393 *Condition M2*. EPL 3393 *Condition L2.5* stipulates the Water concentration limits for pollutants at the overflow, these being:

- pH 6.5-8.5
- TSS <50 mg/L
- Oil and Grease None visible

Water quality monitoring was undertaken on one (1) occasion during the reporting period, namely on 22 March 2018. This was the first overflow from Dam 3 since 15 March 2017. There was no visible oil and grease observed at the time of sampling. Both pH and TSS levels were within the limits nominated in EPL 3393, the pH recorded was 7.3 and TSS concentration was 6.0mg/L. No oil and grease was visible during any monitoring undertaken since 2012.

Table 9 presents the water quality data for overflows from Dam 3 since 2012.

Table 10
Water Quality Data (Dam 3) 2012 - 2018

Dates tested	pH	Total Suspended Solids (mg/L)	Oil and Grease
Criteria	6.5 - 8.5	<50 mg/L	Not Visible
2012 - 2013 (February 2013, March 2013 and June 2013)	7.0 - 7.3	9 - 39	Not Visible
2013 - 2014	No overflow events		
2014 - 2015 (21/01/15, 28/01/15, 23/03/15, 03/05/15 and 23/05/15)	6.7 - 7.4	8 - 37	Not Visible
2015 - 2016 (05/01/16 and 06/06/16)	7.6	7 and 32	Not Visible
2016 - 2017 (03/08/16 and 15/03/17)	7.0 and 7.1	7 and 19	Not Visible
2017 - 2018 (22/03/18)	7.3	6	Not Visible

PBM does not hold or is required to hold any licence under the provisions of the *Water Act 1912* or the *Water Management Act 2000* (**Table 10**).

Table 11
Water Take

Water Licence #	Water Sharing Plan, Source and Management Zone (as applicable)	Entitlement	Passive Take / Inflows	Active Pumping	Total
n/a					

8. REHABILITATION

8.1 REHABILITATION PERFORMANCE DURING THE REPORTING PERIOD

Rehabilitation activities are undertaken within a range of areas within the Quarry through Irreplaceable Bush Regeneration Indigenous Services (IBIS). **Table 11** provides a summary of the disturbance and rehabilitation areas.

Table 12
Summary of Areas Disturbed and Rehabilitation

Quarry Area Type	Previous Reporting Period (Actual)	This Reporting Period (Actual)	Next Reporting Period (Forecast)
Total quarry footprint	45ha	45ha	45ha
Total active disturbance*	27ha	27ha	27ha
Land being prepared for rehabilitation	0	0	0
Land under active rehabilitation	18ha	18ha	18ha
Completed rehabilitation	1ha	1ha	1ha
* Includes access road, Dam 3, approved extraction area, processing area and all quarry-related infrastructure.			

Quarry Access Road

Roadside vegetation maintenance and weed spraying continued throughout the reporting period, as required.

Extraction Area A

Ongoing vegetation growth occurred on the southern and eastern extraction faces throughout the reporting period.

Extraction Area B

The vegetation on the western perimeter bund continued to flourish during the reporting period.

Wildlife Corridor

During the 2017-2018 reporting period, stock exclusion fencing of the wildlife corridor was maintained and secondary weeding continued to be undertaken by Mr Tim Wray of Irreplaceable Bush Regeneration Indigenous Services Pty Ltd (IBIS).

The ongoing management of the wildlife corridor is being undertaken in two areas, namely Wildlife Corridor Areas A and B. Wildlife Corridor Area A is the southern area the first area managed in 1999 whilst Wildlife Corridor Area B is the northern area which was subsequently managed from 2000 onwards. The main activities undertaken in Wildlife Corridor Areas A and B during 2017-2018 were as follows.

- Continued bio-security to minimize the threat of Myrtle Rust (*Uredo rangelii*) as well as infestations of other non-native flora.
- Maintained external fences and removed remaining segments of internal fences.

- Removed flora compromising the integrity of the external fence.
- Maintained clear fire breaks and minimised fuel loads around perimeter.

By 30 June 2018, Mr Wray reported that no large seeding weeds were present with only a number of smaller weeds evident from dormant seed sources. The natural succession of native flora species is evident in those areas where the lantana canopy has been removed.

The ongoing suppression of the lantana within the corridor is almost complete which has allowed the increased use of the corridor by native wildlife. **Plate 15** and **16** display the greater density of vegetation within the wildlife corridor, i.e. since the first weed control and planting of the tubestock commenced in 1999.

50m Buffer Zone

Primary and secondary weeding continued within the buffer zone during the reporting period. The densities of the two major weeds within the buffer zone, Lantana and White Passionfruit, were further reduced within the buffer zone during the reporting period. The external fences and adjacent firebreaks were also maintained during the reporting period.

Weeds

Visual inspections and monitoring of weeds within the 50m buffer zone and wildlife corridor was undertaken, as well as primary and secondary weeding activities completed by and reported upon by Mr Tim Wray of IBIS.

8.2 REHABILITATION ACTIONS FOR THE NEXT REPORTING PERIOD

Weeding and maintenance of vegetation planted within both the 50m buffer and wildlife corridor will continue throughout 2018-2019. The considerable progress in weed reduction and native plant re-establishment will result in maintenance programs occurring bi-annually during 2018 – 2019. Natural regeneration of the completed batters in Area A will continue to enhance these developing vegetation communities. The western perimeter bund in Area B, which was seeding and stabilised in previous years, will continue to be maintained.



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Plate 13: Additional oversize rock
(for scour protection) placed at the
end of the overflow channel from
Dam 3
(Ref: E484P_017)

Plate 14: View to the east across the
50m buffer on the northern side of
the Quarry
(Ref: E484P_018)



Plate 15: View to the west within the
wildlife corridor
(Ref: E484P_005)

Plate 16: View to the southwest into
the wildlife corridor
(Ref: E484P_011)



9. COMMUNITY

9.1 COMMUNITY RELATIONS

Eight (8) complaints were received during the 2017-2018 reporting period of which seven (7) were confirmed as quarry-related incidents. All quarry related complaints were recorded from the same resident regarding squealing brakes between 7 December 2017 and 18 December 2017. The resident had also lodged two (2) complaints regarding squealing brakes in the previous reporting period (July 2016- June 2017).

PBM has worked closely with the resident, as well as with Mid Coast Council (MCC) and EPA to address the issue and the following actions have been undertaken:

- PBM trucks which were identified by the resident as having squealing brakes were taken off the road for inspection and where necessary the brakes adjusted.
- A new Drivers Code of Conduct was established for all PBM drivers driving between the quarry entrance and the Possum Brush Road – Pacific Highway intersection to reduce the impact of road noise. All drivers were trained in and drive according to the new Drivers Code of Conduct.
- In July 2017, additional noise monitoring was undertaken at the resident's house. During the monitoring there were five quarry trucks recorded during the period 6:11 pm – 8:30 pm. This time was identified in order to assess worst case night time impacts. The total duration of the five trucks while they were audible on Possum Brush Road was 24 seconds and when averaged over a 1 hour assessment period the resulting level was 43 dB(A) Leq(1 hour) which is below the night time traffic noise criterion of 50 dB(A).
- The matter was raised and discussed at the Community Consultative Committee meeting held 29 November 2017.
- The EPA independently investigated the matter, contacting both MCC and RMS. The EPA sent the resident a letter outlining the findings of the investigation which highlighted PBM's compliance.

The remaining complaint received during the 2017/2018 reporting period was regarding trucks using Possum Brush Road. The complaint was investigated and using our GPS tracking system it was confirmed that the trucks in question were not PBM trucks.

In previous years, PBM has had very few complaints. PBM complaints in the last five years are summarised as follows:

- 2013/2014 - one (1) complaint regarding the noise from the Asphalt Plant.
- 2014/2015 – no complaints received.
- 2015/2016 - one (1) complaint regarding squealing brakes.

- 2016/2017 – five (5) complaints received, two (2) of which were not quarry related, two (2) were regarding squealing brakes and one (1) was regarding the start-up of the asphalt plant.

PBM encourages local residents to contact the Quarry Manager directly in the event of a complaint, to assist PBM to be more responsive to specific complaints and the local community.

The annual meeting of the Community Consultative Committee was held on 29 November 2017. Minutes of the meeting on 7 December 2016 have not yet been supplied to PBM. Upon receipt, PBM will post the minutes on the Possum Brush Quarry website.

10. INDEPENDENT ENVIRONMENTAL AUDIT

The most recent Independent Audit was conducted by Trevor Brown & Associates in October 2016. The next audit will be undertaken by October 2019.

Table 13
Independent Environmental Audit Status Update

DA 283/97 MOD 4 Condition Number	DPE request 3 July 2017	Status Update as at 30 June 2018	
Schedule 3 Condition 13	Provide a schedule for the installation, commissioning and operation of the meteorological station at the Possum Brush Quarry	19 January 2017	Meteorological station installed and operational.
Schedule 3 Condition 26	Provide a summary of communications (including dates) with RMS regarding advance warning truck signage and an installation and/or replacement schedule.	11 July 2017	Communication log and schedule sent to DPE
		16 February 2018	Signs installed
Schedule 5 Condition 4	Provide further information on how existing operations are covered by suitable strategies, plans or programs while waiting for DPE to approve the recently submitted new set of management plans.	11 July 2017	PBM advised DPE it is operating under the Environmental Management Plan July 2012 – June 2017.
		22 July 2017	PBM began operating under the new set of management plans, once approval was received from DPE.

11. INCIDENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD

PBM's singular non-compliance within the reporting period was an administrative non-compliance of Schedule 5 Condition 12; that is to have certain information publicly available on its website by 31 December 2016. PBM applied for and was granted an extension of this date to 31 March 2017.

Prior to the imposition of this condition, PBM did not operate a website. Nor did the PBM Business Plan include the provisions and/or resources for the development and maintenance of a company website. The development of the website was an unforeseen and unresourced requirement, of which PBM could not achieve compliance.

During the extension period, PBM did engage a website designer and by 31 March 2017, the compliance pages of PBM's website were completed. Although the website was not live at this stage, a link to view the website was sent as evidence to DPE.

Following PBM's submission of the Independent Environmental Audit, DPE issued a Show Cause letter on 19 July 2017, for the failure to develop a website. PBM responded to the Show Cause Letter on 1 August 2017.

The DPE did not accept PBM's reasoning behind the delay in developing a website and issued an Official Caution on 4 September 2017.

On 19 September 2017, PBM entered into a Voluntary Undertaking to remedy to the breach.

To meet DPE's demands PBM launched its website on 28 September 2017. Only the compliance pages are finalised. The website is updated on a quarterly basis.

12. ACTIVITIES TO BE UNDERTAKEN IN THE NEXT REPORTING PERIOD

This section focusses upon the measures that PBM plans to be undertaken during the 2018-2019 reporting period to improve the environmental or community performance of the Quarry's operation, i.e. in addition to the activities previously documented in Sections 4.3 and 8.2.

1. Maintenance of Possum Brush Road

PBM will continue to draw Council's attention to some small sections of Possum Brush Road that need to be maintained to re-instate the hitherto high quality of the road pavement. Since May 2008, Council has received \$249,094.35 for maintenance of the 1.3km section of Possum Brush Road of which little has been spent to date.