



ABN: 45 050 224 250

Annual Review 2018-2019

for

Possum Brush Quarry



Prepared in conjunction with:



R.W. CORKERY & CO. PTY. LIMITED

September 2019



ABN: 45 050 224 250

Annual Review 2018-2019

for

Possum Brush Quarry

Prepared by:

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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 2018
Annual Review end date	30 June 2019
<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 2018 to 30 June 2019 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 Quarry Manager 
Title of authorised reporting officer	
Signature of authorised reporting officer	
Date:	27 September 2019

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LIST OF ACRONYMS

AHD	Australian Height Datum
DPE	Department of Planning and Environment
EPL	Environment Protection Licence
IBIS	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. The compliance assessments for DA 283/07 (Mod 4) and EPL 3393 have been drawn from an Independent Environmental Audit (IEA) dated 24 September 2019 undertaken by James Hart of AQUAS Pty Ltd. This document can be inspected on the PBM website.

The compliance assessment for DA 1127/2005 (Asphalt Plant) and DA 769/2009 (Recycling Plant) was undertaken by Rob Corkery of R.W. Corkery and Co. Pty Limited during a site visit on 19 September 2019. **Appendix 1** presents two tables paraphrasing the conditions contained within these consent 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 with each of the approvals and licences.

Table 2 presents a summary of the assessment of compliance for all conditional requirements included in development consents issued for the Quarry, asphalt plant and 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	No

The IEA identified five non-compliances , for DA 283/97 (Mod 4). The non-compliances related to:

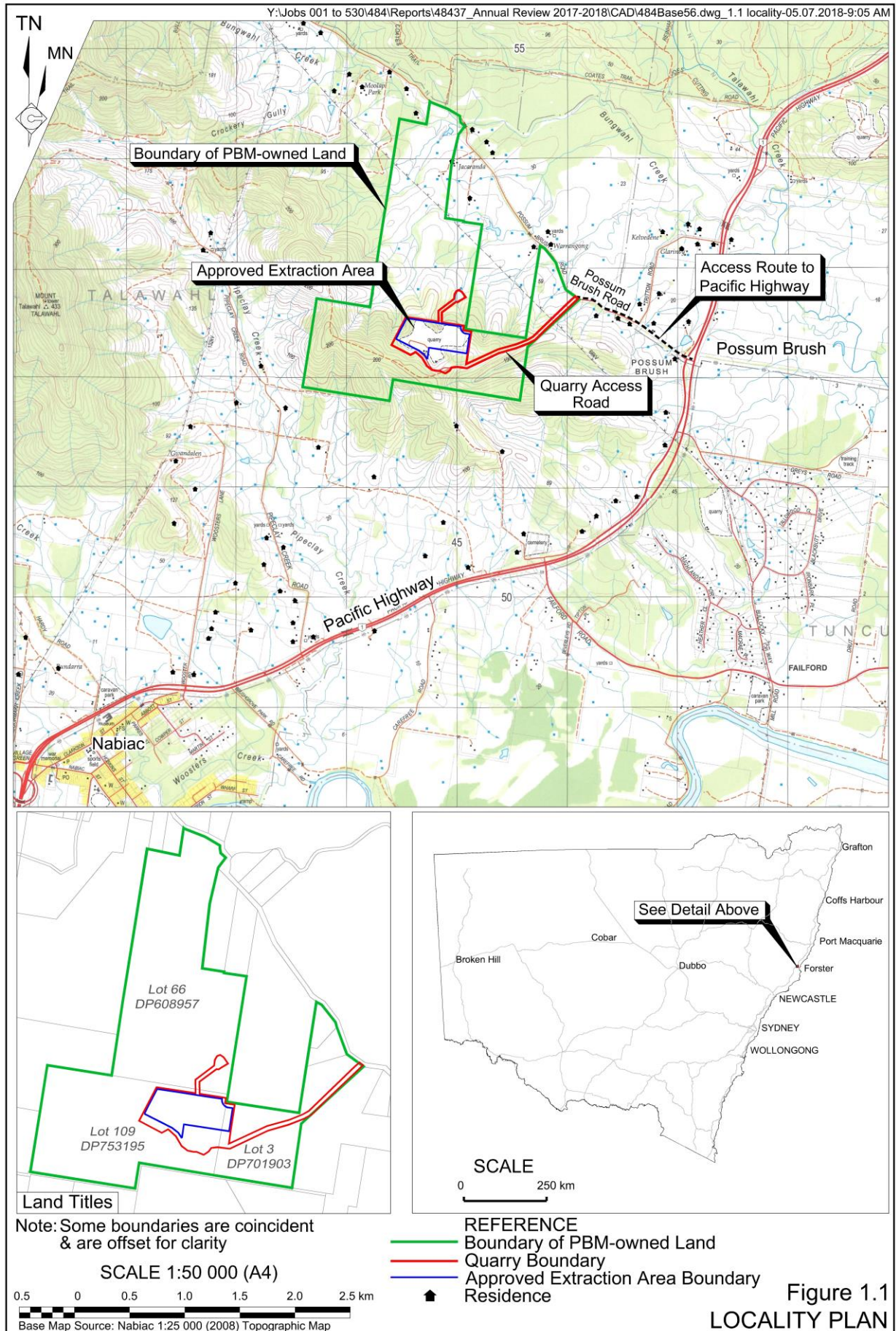
- minor omissions from noise-related documentation;
- the absence of a blast notification board on the PBM website;
- the lack of clarity regarding rehabilitation requirements in the Landscape and Rehabilitation Management Plan;
- incorrect documentation uploaded to the PBM website; and
- the 2016 IEA was not submitted within the required 6 weeks of 30 September.

The IEA identified two non-compliances, for EPL 3393. The non-compliances related to:

- an exceedance of the quantity of wastes to be held on site; and
- the noise monitoring location at one residence was not correct.

PBM is actioning each of the non-compliances.

The audit of both development consents for the asphalt plant and recycling plant established full compliance with all conditional requirements.



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 19 September 2019. 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;
- accept 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.

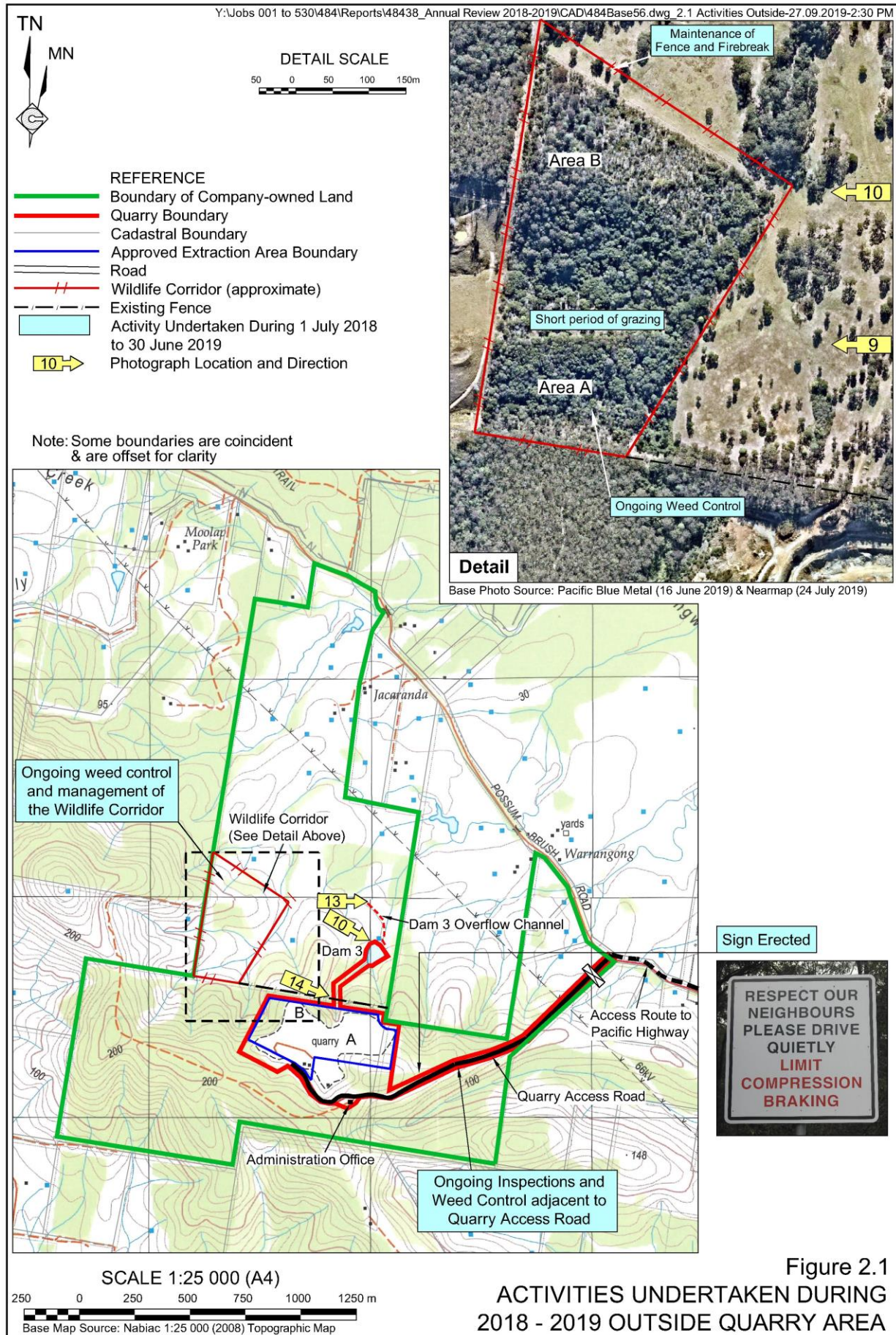
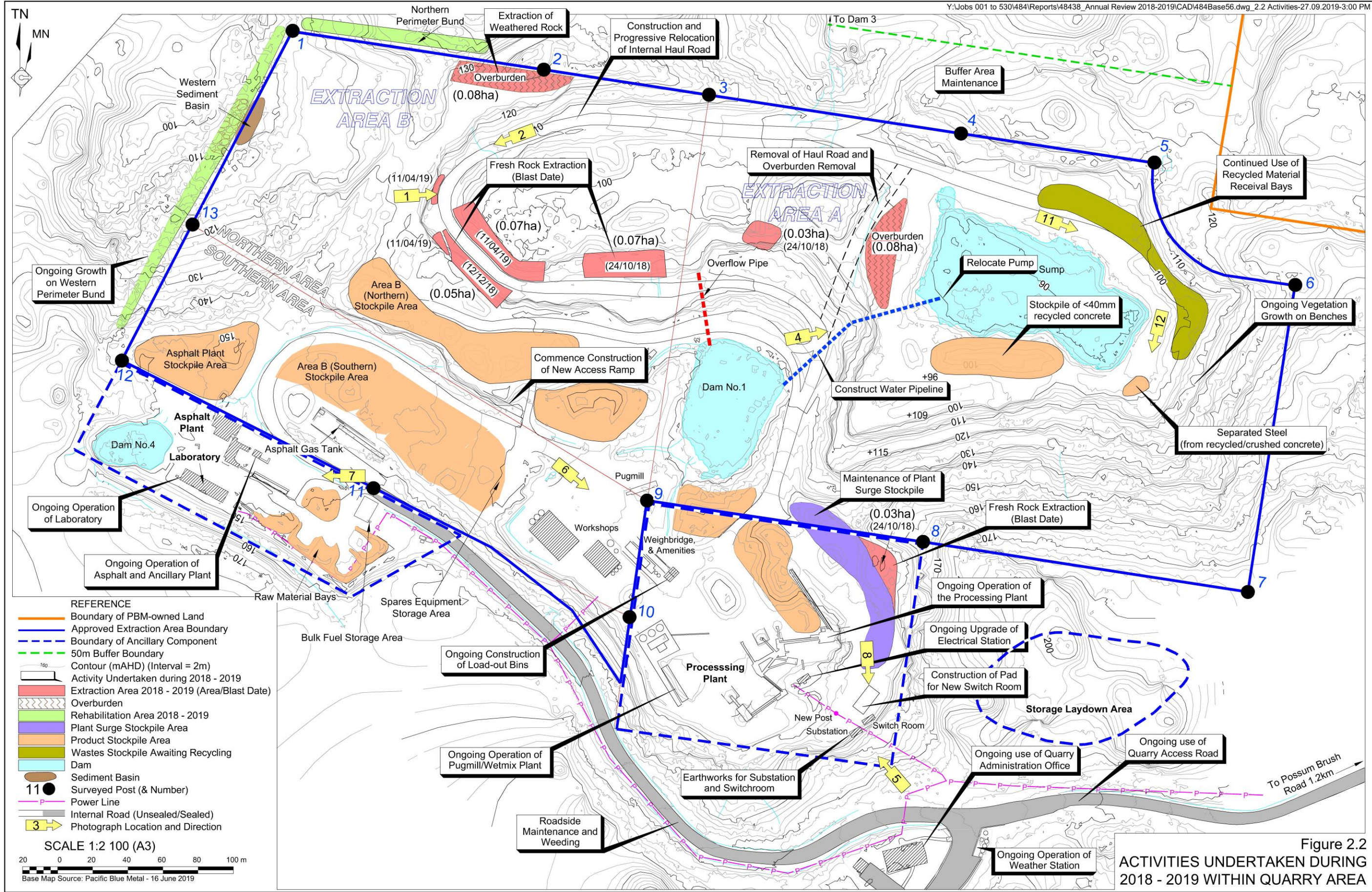


Figure 2.1
ACTIVITIES UNDERTAKEN DURING
2018 - 2019 OUTSIDE QUARRY AREA



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Plate 1: View to the east across
Extraction Area B
(Ref: E484Q_057)

Plate 2: View to the southwest along
the Haul Road in Extraction Area B
Quarry (Ref: E484Q_027)



Plate 3: View to the south towards
the new constructed pipeline from
Area A Sump to Dam No.1
(Ref: E484Q_030)

Plate 4: View to the east-northeast
across the Area A sump and
stockpile of <40mm crushed recycled
concrete (right hand side)
(Ref: E484Q_016)





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Plate 5: View to the northwest
 across the processing plant
 (Ref: E484Q_062)

Plate 6: View to the southeast
 across the floor of the processing
 plant and related buildings
 (Ref: E484Q_001)



Plate 7: View to the west towards
 the Asphalt plant
 (Ref: E484Q_059)

Plate 8: View to the south across the
 concrete pad foundation for the
 proposed new switch room
 (Ref: E484Q_012)





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Plate 9: View to the west towards the wildlife corridor from the elevated ridge east of the corridor (Ref: E484Q_043)

Plate 10: View to the west towards the wildlife corridor from the adjoining low land (Ref: E484Q_047)



Plate 11: View to the east across the incoming waste stockpiles (Ref: E484Q_036)

Plate 12: View to the south towards the steel stockpile recovered from recycled concrete (Ref: E484Q_034)



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 to the above approvals and licences were required or received during the reporting period.

4. OPERATIONS SUMMARY

4.1 MINING OPERATIONS

Figure 2.2 displays the six areas within the approved Extraction Areas A and B where overburden and fresh rock were extracted during the reporting period.

Overburden

1. A 800m² area adjacent to the northern boundary of Area B near Survey Post 2.
2. A 900m² area immediately west of the Area A sump (in conjunction with the removal of overburden within the former haul road).

Fresh Rock

3. A 700m² area adjacent to the northern side of the haul road in the centre of Area B and two twin areas on the western side of the haul road to Area B floor (6809m³) (Blast Date: 11 April 2019).
4. A 300m² area adjacent to the surge stockpile area undertaken to enlarge the footprint of surge stockpile area (1744m³) (Blast Date: 24 October 2018).
5. A 700m² area adjacent to the northern side of the main haul road through Area B (5780m³) (Blast Date: 24 October 2018).
6. A 500m² area adjacent to the southern side of the haul road in Area B (5176m³) (Blast Date: 12 December 2018).

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 3** show the main extraction areas within Areas A and B of the Quarry.

Broken and fragmented rock suitable for processing was transported to the processing plant by off-road haul trucks. All oversize rock was sold as armour rock. No secondary breakage took place during the reporting period.

Table 3 presents the production summary for the extraction operations.

Table 3
Production Summary: 2018 – 2019

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	164 360 tonnes	148 800 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 641 854 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, 164 360 tonnes in 2017-2018 and 148 800 tonnes in 2018-2019.

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 2018-2019 Return for Extractive Materials submitted to the Resource Economics, Resource Planning and Projects within the DPIE is presented as **Appendix 2**. This document records the total site production of extractive materials was 145 411.94 tonnes. This represents the Saleable product tonnage of 148 800 tonnes less inputs of 3388.06 tonnes.

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. Plate 7 presents a view to the west towards the asphalt plant.

During the reporting period, the asphalt plant operated within the nominated hours including 22 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 receipt 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 7188.48 tonnes of waste materials were received for processing, the bulk of which was clean concrete. A high quality <40mm recycled concrete product was produced during the reporting period (see **Plate 4**)

In accordance with *Condition L3.2* EPL 3393, the authorised amount of waste brought into the Quarry must not exceed 10 000 tonnes per year i.e. for the year ending on the anniversary date of 17 August. In October 2018, PBM exceeded this authorised amount by 376 tonnes. PBM self-reported the exceedance to EPA and the EPA issued a Show Cause letter. No further action was taken. 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 2018-2019 reporting period, implementation of the QA program ensured all operational conditions of DA 769/2009 were fully adhered to. Two loads were rejected and Council was notified, as required.

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 \$16 367.95 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 2018-2019 reporting period, Council did not request any material for road repairs along Possum Brush Road. Further discussion regarding the maintenance of Possum Brush Road is provided in Section 11.

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 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.

During an inspection of the meteorological data in late March 2019, it was discovered that the 10m temperature sensor was not reading correctly. This occurred from 25 March 2019 until it was repaired on 16 June 2019. Reliance was placed upon data from the meteorological station at Failford Quarry during the period of malfunction

4.3 NEXT REPORTING PERIOD

The principal activities planned during 2019-2020 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 2019-2020, 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 be focused in Area B with the removal of the western access ramp to Area B and the removal of both overburden and fresh rock as extraction progresses westward. Some small areas are to be extracted within Area A to improve access and storage areas.

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 2019-2020 reporting period.

The progressive upgrade of the electrical substation and switch room will also continue to be undertaken throughout the 2019-2020 reporting period.

Asphalt Production

PBM intends to continue to operate the asphalt plant, at a higher output level to that produced during 2018-2019 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 2019-2020.

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 2019-2020. 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. In the 2019 Regeneration Report, IBIS stated the current regeneration within the wildlife corridor is progressing towards the goal of closed forest canopy that will minimise non-native flora resurgence. As such, IBIS has recommended undertaking regeneration activities on a 12 monthly basis.

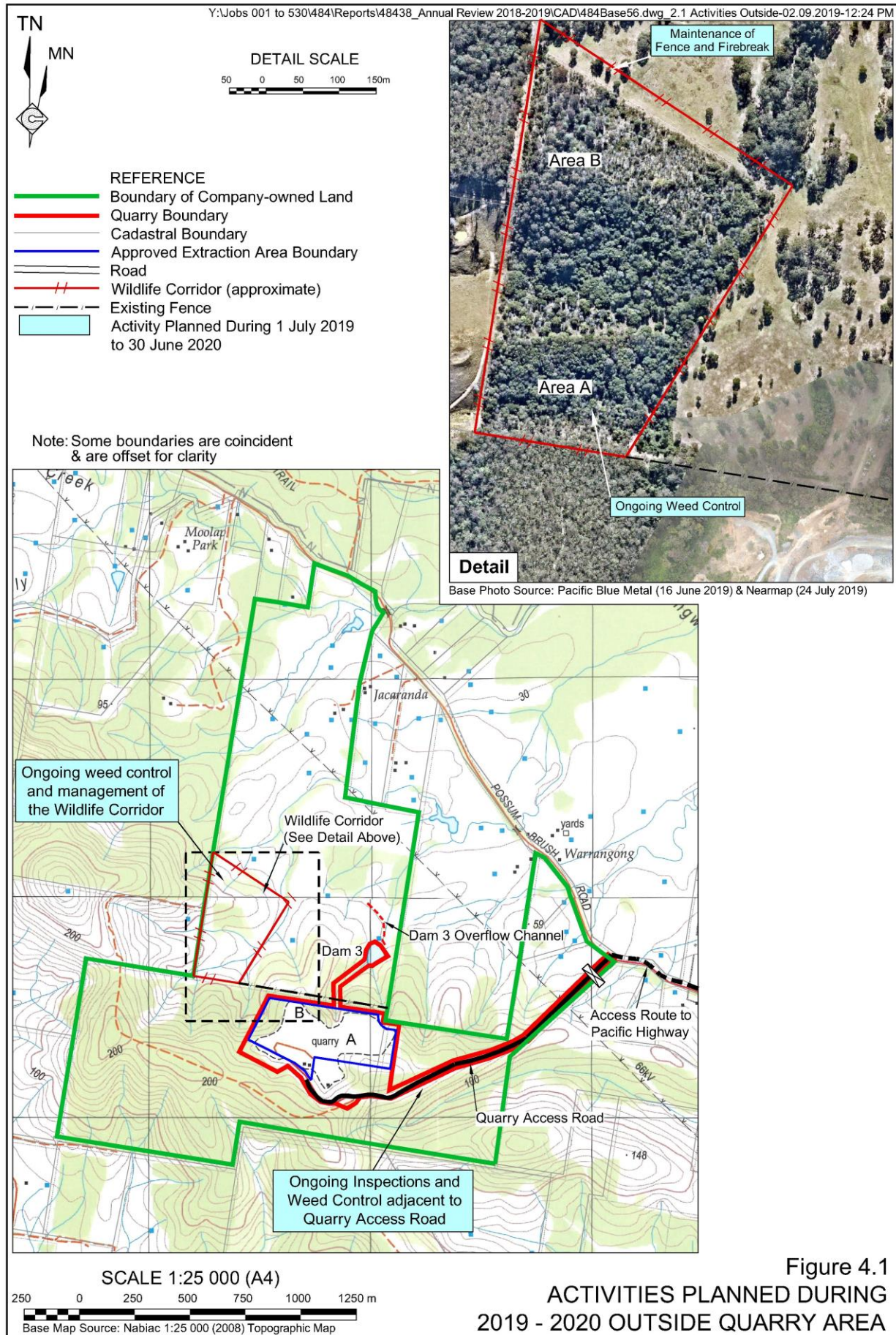


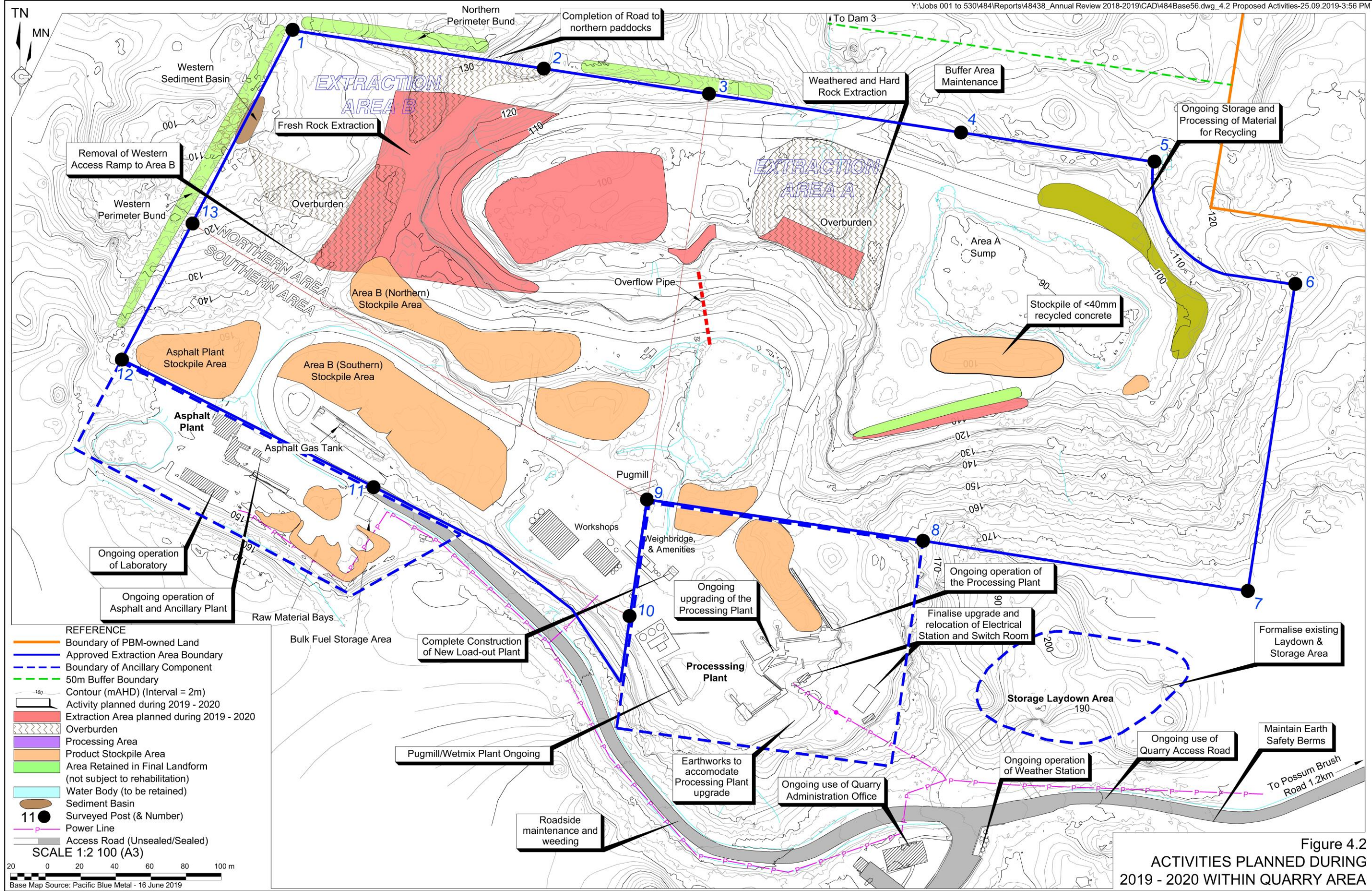
Figure 4.1
ACTIVITIES PLANNED DURING
2019 - 2020 OUTSIDE QUARRY AREA

Environmental Monitoring

The monitoring activities currently undertaken within and surrounding the Quarry will remain in place throughout 2019-2020. The monitoring proposed during 2019-2020 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 conditions

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 2019-2020 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.



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5. ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

Table 4 records there were no actions arising from the 2017-2018 Annual Review

Table 4
Actions from the Previous Annual Review

Action Required from Previous Annual Review	Requested by	Action Taken by the Operator	Where Discussed in Annual Review
n/a			

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

Tables 5 presents the results from the noise monitoring undertaken throughout 2018-2019. Noise monitoring covering the day, evening and night periods was undertaken on three occasions during the reporting period, namely on 15 August 2018, 10 December 2018 and 3 April 2019 at the three regular locations (see **Figure 6.1**).

- 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.

In order to understand the status of noise monitoring over time, the noise monitoring data results over the previous 4 years together with the monitoring undertaken throughout 2018-2019 are presented in **Table 6**. It is noted from **Table 6** that the noise levels recorded in 2018 – 2019 were lower than the bulk of the measurements recorded over the previous 4 years.

6.3 BLASTING

A total of three 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 100.3dB(L) to 105.0dB(L) with recorded ground vibration levels varying from 0.59mm/s to 1.34mm/s. Airblast levels recorded at Site R2 ranged from Nil Trigger to 113.4dB(L) with recorded ground vibration levels varying from Nil Trigger to 0.27 mm/s.

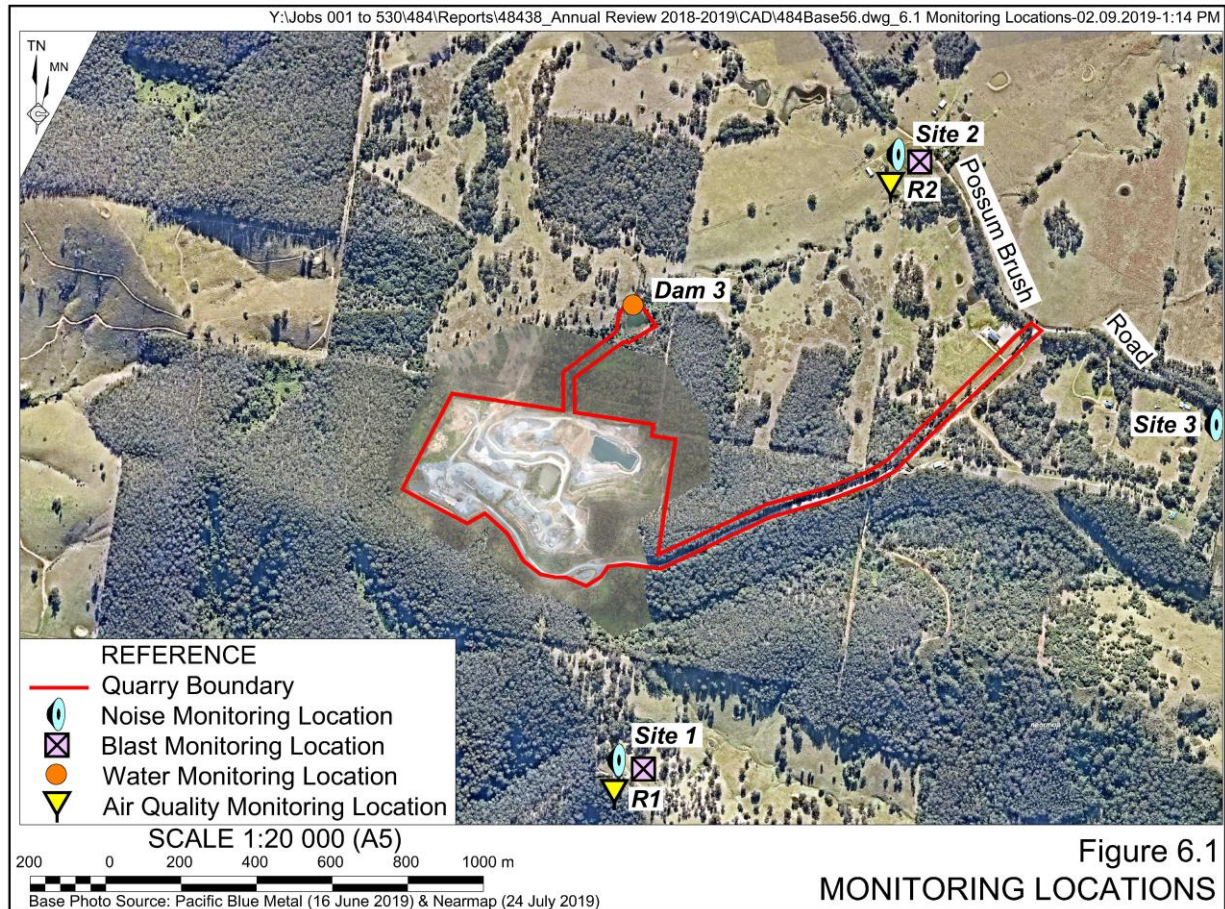


Table 5
Summary of Noise Monitoring Data and PBM Contributions: 2018 – 2019

Site / Date	Day		Evening		Night	
	dB(A) LAeq (15 min)	PBM	dB(A) LAeq (15 min)	PBM	dB(A) LAeq (15 min)	PBM
Criteria ¹	Site 1: 39dB(A) LAeq (15 min)		Site 2: 38dB(A) LAeq (15 min)		Site 3: 37dB(A) LAeq (15 min)	
Site 1: 5 St Peters Close						
15/08/18	34	32 ²	43	38	47	38
10/12/18	40	<20	40	28	48	<20
03/04/19	38	28	40	<25	42	inaudible
Site 2: 175 Possum Brush Road						
15/08/18	40	<20	n/a ³	n/a ³	33	33
10/12/18	56	<20	46	<20	38	<20
03/04/19	41	<25	36	inaudible	38	<25
Site 3: 55 Possum Brush Road						
15/08/18	30	<20	n/a ³	n/a ³	43	<20
10/12/18	38	<20	56	<20	58	<20
03/04/19	47	36	48	inaudible	44	<25
1 Criteria for PBM contribution						
2 Noise from quarry trucks on Quarry Access Road						
3 Prior to the asphalt plant starting up there was no activity on site and, therefore, only one site was able to be monitored during the evening period						

Table 6
Compilation of Noise Monitoring Data and PBM Contributions: 2014 – 2019

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						
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
18/07/17	49	<20	45	inaudible		inaudible
25/09/17	36	<23	40	27	39	29
29/03/18	43	28	44	inaudible	40	inaudible
29/06/18	43	29	38	inaudible	45	inaudible
15/08/18	34	32 ²	43	38	47	38
10/12/18	40	<20	40	28	48	<20
03/04/19	38	28	40	<25	42	inaudible
Site 2: 175 Possum Brush Road						
2014-2015	45	26 ²	-	-	49	Inaudible
2015-2016	40	25	38	Inaudible	46	Inaudible
2016-2017	44	21 ²	41	<20	39	23
18/07/17	37	<20	51	<20	41	<20
25/09/17	38	<20	32	28	32	28
29/03/18	43	25 ²	41	inaudible	43	<25
29/06/18	53	<25 ²	44	inaudible	53	<25
15/08/18	40	<20	n/a ³	n/a ³	33	33
10/12/18	56	<20	46	<20	38	<20
03/04/19	41	<25	36	inaudible	38	<25
Site 3: 55 Possum Brush Road						
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
18/07/17	56	inaudible	54	inaudible	57	inaudible
25/09/17	54	inaudible	47	inaudible	43	<20
29/03/18	42	<20	46	inaudible	46	25
29/06/18	52	<20	46	31	63	<25
15/08/18	30	<20	n/a ³	n/a ³	43	<20
10/12/18	38	<20	56	<20	58	<20
03/04/19	47	36	48	inaudible	44	<25
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						

Table 7
Ground Vibration and Airblast Overpressure Recorded: 2014– 2019

	Ground Vibration (mm/s)		Airblast Overpressure (dB(L))	
	Site R1	Site R2	Site R1	Site R2
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
2017-2018	0.88 – 4.29	Did not trigger – 0.45	98.3 – 105.1	Did not trigger – 108.3
24/10/18 11.56am	1.34	0.27	100.4	113.4
12/12/18 1.55pm	0.95	Did not trigger	100.3	Did not trigger
11/4/19 12.27pm	0.59	Did not trigger	105.0	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

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 was 0.76 and 1.16g/m²/month respectively. High levels of dust were recorded in February 2019 at both R1 and R2, when NSW experienced severe dust storms. December 2018 levels were also high at both R1 and R2. Site R1 was contributed to high combustible materials i.e. organic matter, not soil, whilst Site R2 readings were similar to readings from the previous summer (1.2-1.4) and were attributable to dust from the nearby dirt road.

Table 8
Deposited Dust Monitoring Results: 2018 – 2019

Residence ID	Deposited Dust Levels	
	Site R1	Site R2
Units	g/m ² /month	g/m ² /month
July 2018	0.1	0.4
August 2018	0.4	0.6
September 2018	0.7	0.7
October 2018	0.4	0.8
November 2018	Monitoring not undertaken	
December 2018	1.5	1.3
January 2019	1.1	0.3
February 2019	2.0	3.3
March 2019	1.0	1.7
April 2019	0.1	1.7
May 2019	0.3	0.8
June 2019	Monthly monitoring ceased in May 2019	
Average	0.76	1.16

Deposited dust monitoring ceased in May 2019 with the agreement of the EPA.

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 2018-2019 year, 148 800 tonnes of quarry products (including asphalt and recycled products) were transported from the Quarry. The additives to these products (lime, bitumen, sand, flyash etc) amounted to 3 388 tonnes of this total quantity 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 30 per hour (7.00am – 8.00am 01 November 2018) and 172 per day (01 November 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 in accordance with EPL 3393 *Condition M2*. EPL 3393 *Condition L2.5* stipulates the concentration limits for pollutants in water at the overflow are:

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

There has been a nil discharge from the water quality monitoring point since 22 March 2018.

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

Table 9
Water Quality Data (Dam 3) 2012 – 2019

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
2018 - 2019	No overflow events		

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 10
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 11
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.			

Rehabilitation and Conservation Bond

PBM finalised the Rehabilitation and Conservation Bond for the Possum Brush Quarry on 18 May 2019 through execution of the Company's Bankers' undertaking for the Bond in accordance with Condition 3(23). It is proposed that the quantum of the Bond is reviewed following the next Independent Environmental Audit due to be submitted within 6 weeks after 30 September 2022.

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 its growth during the reporting period although the lower rainfall received during 2018-2019 resulted in less growth than previous years.

Wildlife Corridor

During the 2018-2019 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). A short (3 week) period of cattle grazing was undertaken within the corridor during the reporting period principally to assist in removing the rank grass remaining. **Plates 9 and 10** display views of the wildlife corridor.

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, i.e. 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 2018-2019 were as follows.

- Continued bio-security to minimize the threat of Myrtle Rust (*Uredo rangellii*) 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.

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 2019-2020. The considerable progress in weed reduction and native plant re-establishment will result in maintenance programs occurring annually during 2019 – 2020, as advised by the bush regenerator IBIS. 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.

9. COMMUNITY

9.1 COMMUNITY RELATIONS

No complaints were received during the 2018-2019 reporting period for Quarry-related incidents.

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 2018 annual meeting of the Community Consultative Committee has yet to be convened by MidCoast Council.

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 12
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.

10. INCIDENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD

No incidents reportable to the DPE or EPA occurred within the Quarry throughout the 2018 - 2019 reporting period.

11. ACTIVITIES TO BE UNDERTAKEN IN THE NEXT REPORTING PERIOD

This section focusses upon the activities that PBM plans to progress during the 2019-2020 reporting period to improve the performance of the despatch of the products from the Quarry, i.e. in addition to the activities previously documented in Sections 4.3 and 8.2.

Maintenance of Possum Brush Road

PBM will continue to draw MidCoast Council's attention to the need to undertake maintenance of Possum Brush Road to re-instate the hitherto high quality of the road pavement. Since May 2008, Council has received \$261,491.18 for maintenance of the 1.13km section of Possum Brush Road of which little has been spent since 2008.

PBM is concerned that, given there has been negligible maintenance undertaken on the section of road for over the past 10 years, its condition will progressively deteriorate the required maintenance. PBM has been corresponding with Council since December 2018 in an attempt to initiate the road maintenance works.

In order to progress the road maintenance, PBM has provided MidCoast Council with a Quotation to undertake the required works. No response has been received throughout the past 9 months. This matter needs to be resolved to ensure the required maintenance works are completed prior to 30 June 2020.

Return of Bank Guarantee from MidCoast Council

As outlined in Section 8 of this report, PBM finalised the Rehabilitation and Conservation Bond for the Quarry on 18 May 2019. PBM has since formally approached MidCoast Council seeking Council's written acceptance that PBM's bank can cancel the Bank Guarantee in place under the former Council-controlled Development Consent (DA 431/1986) for the Quarry. PBM will continue to liaise with MidCoast Council until this matter is resolved.