

**STATEMENT OF ENVIRONMENTAL EFFECTS FOR
MODIFICATION TO DEVELOPMENT CONSENT 578/2009B
FOR EXTRACTIVE INDUSTRY AT LOT 3 DP 567166
AND LOT 2 DP 510812
4713 AND 4751 OLD NORTHERN ROAD, MAROOTA**

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1. The Importance of Maroota Construction Sand for Metropolitan Sydney

The Department of Planning & Environment has stated that *“sand quarries provide a critical resource, particularly to the construction industry. Sand is used primarily for concrete and additionally for uses such as paving, mortars and landscape supply. Demand for sand is continuing to increase as Sydney and the far north coast’s population expands and infrastructure is developed. Sydney currently uses about 7.0 million tonnes of construction sand annually, some 50% of which is fine sand. In the next 20 years approximately 66 million tonnes of fine sand will be required to meet the needs of the construction industry. The Department understands that the two current major suppliers of fine sand in Sydney are likely to cease over the next 5 years. Once both sources are exhausted, the Sydney market would likely experience a supply shortage of sand for a range of construction products”* (Summary of the Compliance Audit Campaign of NSW Sand Quarries, February 2016).

Construction sand has low unit value and is best obtained from sources close to markets to minimise both transport costs and the adverse environmental impacts associated with transporting large quantities of material. The major areas producing construction sand for the Sydney region are Kurnell, Maroota, Newnes Plateau, Somersby Plateau and Elderslie. This supply comes from a variety of beach, river and sandstone deposits. Marine sands off the Sydney coast have yet to be exploited.

High quality construction sand located relatively close to the main markets in the Sydney region is a limited resource. As a number of large sources of supply become exhausted over the next 5 years (for example, quarries at Penrith Lakes and Kurnell) or are subject to stringent environmental controls, a secure supply of sand will become increasingly valuable to the NSW economy. Construction sand produced from sources such as Maroota will have increased importance in supplying construction sand for the Sydney market in future.

There are two distinct types of sand known as friable sandstone and tertiary sand produced in the Maroota area located north of metropolitan Sydney. Tertiary sand is found in the southern Maroota area and is mainly used as coarse sand in concrete related products in the metropolitan Sydney construction industry. Friable sandstone found in the northern Maroota area is used for bricklaying sand and fine sand. The Maroota area provides approximately 10% of Sydney’s total sand supplies. Approximately 50% of Sydney’s white bricklaying sand is sourced from Maroota.

The Maroota sand resource has been proven based on previous investigations completed by the Department of Mineral Resources for extractive industry in the Maroota area culminating in *Sydney Regional Environmental Plan No. 9 - Extractive Industry (No 2 - 1995)* to protect the sand resource for existing and future development.

A Plan for Growing Sydney (NSW Government, December 2014) will guide land use planning decisions for the next 20 years. The document states in the next 20 years metropolitan Sydney’s population will grow by 1.6 million people and 664,000 new homes. This large increase in metropolitan Sydney population and new homes will similarly increase the demand for construction sand. It is critical that the Maroota area continues to supply and meet future demands for construction sand in metropolitan Sydney.

PF Formation has been operating in the Maroota area since 1983 and has experience in assessing sand resource potential, sand extraction, processing and land rehabilitation. PF Formation supplies tertiary sand, friable sandstone sand and white sand to the metropolitan Sydney market and proposes to supplement their current operations in the Maroota area by supplying more sand from existing and additional sources. In particular, PF Formation has a large interest and is a major operator in the Maroota area and needs efficient development consents for existing quarries in order to continue regular and increased supply of construction sand for metropolitan Sydney.

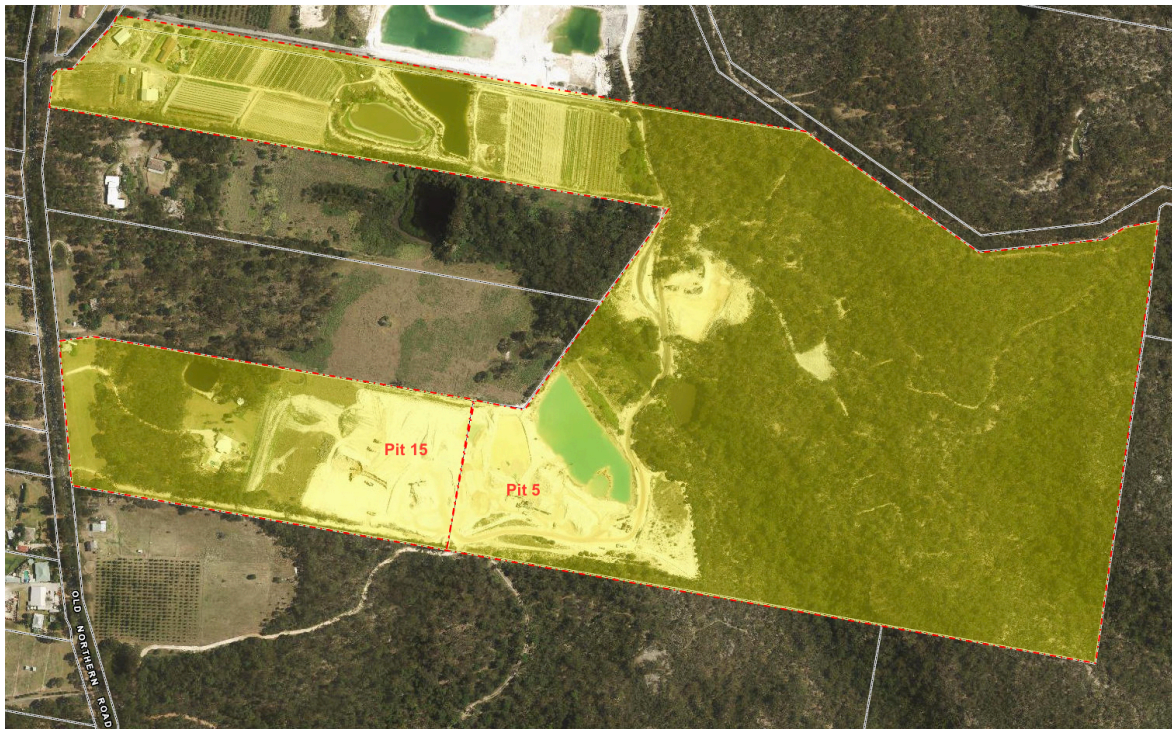
The proposal described below will assist in the operational efficiency of one of PF Formation’s quarries to further enable existing and future sand supplies for the metropolitan Sydney construction industry.

2. Background and Description of Site

The approved extraction areas are situated within Lot 3 DP 567166 (Pit 5) and the adjacent Lot 2 DP 510812 (Pit 15) at Maroota. The two lots have a combined area of approximately 60.7 hectares and are situated east of Old Northern Road approximately 2 km north of its intersection with Wisemans Ferry Road. The site geology is weathered Hawkesbury sandstone underlain by shale and both lots are included within the Maroota area of *Sydney Regional Environmental Plan No. 9 - Extractive Industry (No 2 - 1995)*. The site is also known as Pit 5 and Pit 15 by PF Formation and is shown as the yellow shaded area in Figure 1.

Site operations and extraction of material commenced in January 2013 and is subject to the conditions in Development Consent No. 578/2009B and the requirements of EPA Licence No. 3829. The development consent runs until 3 March 2030.

Figure 1 Aerial View of Lot 3 DP 567166 and Lot 2 DP 510812



Source: SIX Maps 2017

Lot 3 DP 567166 has been partially extracted and rehabilitated under a previous development consent 725/94 which commenced in Pit 5 in 1998 and was completed by 2009. Lot 3 DP 567166 is a battle-axe shaped lot with an area of 50.59 hectares and has a dwelling house located at the front of the property near Old Northern Road. Further east within the site are two dams which support market gardening on rehabilitated land previously used for extractive industry.

Lot 2 DP 510812 is owned by a legal entity associated with PF Formation and is a rectangular shaped lot with an area of 10.12 hectares and frontage to Old Northern Road. A dwelling house occupied by an employee of PF Formation is located within the property near Old Northern Road as well as a dam and cleared grazing land.

Two tributaries of the natural intermittent watercourse known as Coopers Creek cross the site and flow in a south-east direction into the adjoining Marramarra National Park. Coopers Creek drains into the Hawkesbury River approximately 4 km to the east. The flow of water in Coopers Creek is affected by agricultural use. The surrounding area has rural land uses characterised by areas of sand extraction, bushland and market gardens. Annual rainfall in the area is highly variable with a long term average around 910mm.

The site has a maximum production rate of 195,000 tonnes/annum with a maximum extraction depth of 177 metres AHD and a 2 metre buffer above the wet weather high water table whichever is the higher level. Extraction is being staged over 11.8 hectares and 20 years.

Administration of the site is carried out from PF Formation's main processing plant, weighbridge, workshop and offices at 1774 Wisemans Ferry Road, Maroota approximately 4 km from the site. The hours of operation are from 7am to 6pm Monday to Saturday. The site operates for around 275 days a year subject to weather and market conditions. An average 35 truck loads can be removed from the site per day averaged over one month. In addition, a maximum of 10 laden vehicles is permitted to enter and leave the site between 6am and 7am Monday to Saturday excluding Sundays and public holidays.

All PF Formation quarries in the Maroota area including the site have development consents, Environment Protection Licences and pay Section 7.11¹ contributions to Hornsby Shire Council and The Hills Shire Council.

An Environmental Management Plan (November 2016) incorporating environmental safeguards is being successfully implemented for the site. Annual Environmental Management Reviews (formerly plans) are produced for the site and the latest 2016-2017 Annual Environmental Management Review was forwarded to Hornsby Shire Council on 2 November 2017.

3. Proposed Modification to Development Consent 578/2009B

Development consent No. 578/2009B for extractive industry on Lot 3 DP 567166 and Lot 2 DP 510812 at Old Northern Road, Maroota was endorsed by Hornsby Shire Council on 3 March 2010 and runs until 3 March 2030.

The original development consent was modified by Hornsby Shire Council on 28 March 2012 by amending conditions relating to time limit, monitoring, management and rehabilitation works, processing of materials, Section 7.11 contributions conditions and noise monitoring. In January 2013 an order of the Land and Environment Court amended the development consent with regard to reduced setbacks from two Aboriginal sites. Condition 10 of the development consent was modified by Hornsby Shire Council on 3 November 2016.

Annual Volume of Materials Extracted

Condition 13 of development consent No. 578/2009B which was imposed by Hornsby Shire Council states as follows.

The annual volume of material to be extracted shall be in accordance with the details provided in the Environmental Impact Statement and accompanying documents (i.e. 195,000 tonnes per annum).

The proposed modification to Condition 13 would read as follows.

The annual volume of material to be extracted will be a maximum of 250,000 tonnes per annum.

Justification

The objectives of the proposed modification to development consent No. 578/2009B are:

- to improve the operational efficiency of the site by increasing production to a maximum of 250,000 tonnes per annum.
- to increase supply and help meet demand for construction sand in metropolitan Sydney.
- to be consistent with development consent No. 342/98F for the nearby Pit 4 (Lot 2 DP 748820) with a maximum production rate of 250,000 tonnes/annum and transport of material from the site limited to 35 laden road vehicles a day.

Production from Pits 5 and 15 has increased since development commenced in January 2013 reaching approximately 189,000 tonnes for the financial year 2016-2017. This production is close to the maximum annual volume of material of 195,000 tonnes per annum permitted by Condition 13. Due to increased demand for construction sand in metropolitan Sydney caused by continuing residential development and NSW government infrastructure works the maximum annual volume of extracted material of 195,000 tonnes per annum is likely to be exceeded in the near future. Demand for construction sand has exceeded supply in the Maroota area and there is an urgent need to expand production from existing quarries and to develop new quarries.

¹ Since 1 March 2018 Section 94 contributions are known as Section 7.11 contributions.

The increase in production to 250,000 tonnes per annum of material extracted would be achieved with use of existing modern plant and machinery within the approved extraction area and for transport of material. There would be no increase in operating hours (7am to 6pm Monday to Saturday); or the maximum of 35 truck loads of material permitted to be removed from the site each day averaged over one month; or the maximum depth of allowable excavation of 177 metres AHD and the retention of a 2 metre buffer above the wet weather high water table. Maximum noise and dust limits would still apply and the EPA Licence 3829 would not need amendment except for condition L5.1 which relates to annual extraction of 195,000 tonnes per annum of material.

Since the May 2009 EIS for the project the average payload of each truck transporting material off-site has increased by over three tonnes. In 2009 the average payload of each truck was 27 tonnes and in 2017 the average payload for each truck was over 30 tonnes. It can be clearly demonstrated that the permissible truck movements of 35 per day averaged over one month is ample to achieve the proposed 250,000 tonnes per annum without requiring additional truck movements. For example, 275 working days per year x 35 truck loads per day x average payload of 30 tonnes = 288,750 tonnes per annum.

Since 2014 the National Heavy Vehicle Regulator provides for heavy vehicles to operate on Higher Mass Limits in stated areas and routes via a Performance Based Standard where approved heavy vehicles are designed to carry more weight without creating additional impacts on the road. To be eligible for Higher Mass Limits vehicles must be fitted with certified road friendly suspensions and use authorised Higher Mass Limits routes. This is subject to being monitored by the Intelligent Access Program with Roads and Maritime Services in NSW. Old Northern Road and Wisemans Ferry Road to and from Maroota are approved routes for Higher Mass Limits vehicles. The majority of PF Formation customers use Higher Mass Limits trucks and the Performance Based Standard with the average payload on a truck and trailer/dog transporting material increasing to 40 tonnes in 2017 with some selected combinations hauling from the site carrying payloads of over 46 tonnes.

There was a workforce of 4 staff at the commencement of extraction in January 2013 and this would not change with the modification.

No Other Changes to DA578/2009B Conditions Required

No other changes or modifications would need to be made to development consent No. 578/2009B including key operational conditions for monitoring and management, truck movements, extraction depths, noise limits, hours of operation and dust controls as follows.

- Condition 2. Consent limited to a period of 20 years including rehabilitation.
- Condition 10. *A maximum of 35 truck loads of material are permitted to be removed from the site each day averaged over 1 month.*
- Condition 11. Monitoring and management requirements.
- Condition 12. *Processing of materials must take place wholly within the Maroota area.*
- Condition 24. *The maximum depth of allowable excavation is 177 metres AHD or the retention of a 2 metre buffer above the wet weather high water table.*
- Condition 48. Noise limits.
- Condition 52. *All activities at the premises must only be carried out on between 0700 and 1800 Monday to Saturday inclusive. Up to ten (10) laden vehicles can enter or leave the premises between 0600 and 0700 Monday to Saturday inclusive.*
- Condition 54. *Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.*
- Condition 55. *Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.*
- Condition 64. The proponent must prepare and implement a dust monitoring plan.

Environment Protection Licence 3829

Existing noise limits in Environment Protection Licence 3829 would not need any changes or modifications as shown in the conditions below.

L3 Noise Limits

L3.1 Noise generated at the premises must not exceed the day time noise limits dB(A) presented in the table below:

Location	Day; LAeq,15min
R3 - Lot 59, DP 752029	43
R6 - Lot 2, DP 567166	45
R7 - Lot 2, DP 567166	45
R8 - Lot 2, DP 567166	46
R9 - Lot 1, DP 567166	47
R10 - Lot 10, DP 752029	47
R11 - Lot 1, DP 621814	35
R12 - Lot 6, DP 39392	35
R13 - Lot 5, DP 39392	35
R14 - Lot 4, DP 39392	35
R15 - Lot 3, DP 39392	35
R16 - Lot 2, DP 39392	35
R17 - Lot 1, DP 39392	35

Existing air quality controls in Environment Protection Licence 3829 would not need any changes or modifications as shown in the conditions below.

O3 Dust

O3.1 *The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.*

O3.2 *Trucks entering or leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.*

Monthly air monitoring near the Old Northern Road frontage of Lot 2 DP510812 for Particulates Deposited Matter in grams per square metre per month would continue.

Condition L5.1 which states *Unless otherwise permitted by any other licence condition, annual extraction from Lot 2 DP510812 and Lot 3 DP567166 must not exceed 195,000 tonnes per annum* would need to be changed with the modification.

4. Section 4.15 Evaluation

The proposed modification would be a Section 4.55 (2) application. A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:

- (a) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all), and
- (b) it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 5) in respect of a condition imposed as a requirement of a concurrence to the consent or in accordance with the general terms of an approval proposed to be granted by the approval body and that Minister, authority or body has not, within 21 days after being consulted, objected to the modification of that consent, and
- (c) it has notified the application in accordance with:
 - (i) the regulations, if the regulations so require, or

- (ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and
- (d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan, as the case may be.

Under Section 4.55 (3) of the *Environmental Planning and Assessment Act 1979* in determining an application for modification of a consent under this section, the consent authority must take into consideration such of the matters referred to in Section 4.15 (1) as are of relevance to the development the subject of the application.

(1) Matters for consideration-general. In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) the provisions of:

- (i) any environmental planning instrument, and**
- (ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and**
- (iii) any development control plan, and**
- (iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and**
- (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and**
- (v) any coastal zone management plan (within the meaning of the *Coastal Protection Act 1979*),**

that apply to the land to which the development application relates,

The development consent modification would meet the requirements of the *Hornsby Local Environmental Plan 2013*, *Hornsby Development Control Plan 2013* and other relevant provisions of the *Hawkesbury-Nepean Sydney Regional Environmental Plan 20 (No.2 – 1997)*, *Sydney Regional Environmental Plan No. 9 Extractive Industries (No. 2 – 1995)* and *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

The aims of *Sydney Regional Environmental Plan No 9 - Extractive Industry (No 2 - 1995)* to allow the extraction and processing of material within the Maroota area would be reinforced with the modified condition. The modification would be wholly in accord with the aims of *Sydney Regional Environmental Plan No 9 - Extractive Industry (No 2 - 1995)* which include the following.

- (a) to facilitate the development of extractive resources in proximity to the population of the Sydney Metropolitan Area by identifying land which contains extractive material of regional significance, and
- (b) to permit, with the consent of the council, development for the purpose of extractive industries on land described in Schedule 1 or 2 (*which includes the site*), and
- (c) to ensure consideration is given to the impact of encroaching development on the ability of extractive industries to realise their full potential, and
- (d) to promote the carrying out of development for the purpose of extractive industries in an environmentally acceptable manner.

Section 2.5 of the *Hornsby Development Control Plan 2013* provides controls for extractive industries at Maroota. The DCP provides desired outcomes and prescriptive measures for various environmental issues. The proposed modification where relevant complies with the DCPs desired outcomes listed below.

Setbacks

- Setbacks to extractive operations that protect the natural environment and provide reasonable visual and acoustic amenity to the area.
- Where extraction is occurring on adjoining properties, the setbacks may be reduced to provide an integrated final land form.

Transport

- Extractive industries that maintain a safe and efficient road network.
- Extractive industries that have minimal impact on the local road network.

Water Resources

- The protection of existing drainage patterns including location, quantity and quality of water.
- The conservation and effective management of the sustainability of surface and groundwater resources.
- The protection of downstream dependent riparian ecosystems and natural habitats.

Soil and Water Management

- Extractive operations that minimise soil erosion and water pollution by minimising land disturbance and requiring control measures on-site.

Acoustic Environment

- Reasonable acoustic amenity for residents and other users of the area.

Air Quality

- Extractive industries designed with measures to prevent air pollution.

Mitigation and Monitoring

- The implementation of good environmental management practices and mitigation measures throughout the life of an extractive operation.
- The establishment of a framework for ongoing monitoring of the environmental management practices and mitigation measures of an extractive operation including a flora and fauna monitoring program.

Extraction Sequence

- Extraction that occurs in an orderly and controlled manner.
- Extraction that is undertaken in an environmentally acceptable manner.
- Protection of land holdings not currently being extracted and to facilitate future extraction.

Rehabilitation

- Extractive industries that implement progressive rehabilitation strategies that minimise long-term impacts on surrounding land uses and optimise sustainable future land use.
- Extractive industries that adopt measures to ensure ongoing biodiversity conservation and sustainable management of vegetation.

There are no known Draft Local Environmental Plans for the site yet to be publicly exhibited. No planning agreements or draft planning agreements apply to the land.

The prescribed matters being the provisions of Australian Standard AS 2601 – 1991 *The Demolition of Structures* and *NSW Coastal Policy 1997: A Sustainable Future for the New South Wales Coast* do not apply to the modification.

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

The May 2009 EIS for the project assessed the impacts of the project for 195,000 tonnes of material processed annually and 35 truck loads of material transported each day averaged over one month. The EIS also stated finished product would be removed from the site using a combination of 15t tipper trucks and 32t truck-and-dog trucks with an average load of 20t which has increased to over 30t in 2017.

The Section 4.55 (2) modification of consent would involve the same environmental impacts as those detailed in the May 2009 EIS for the site. Most adverse and beneficial environmental impacts would be similar with the modification while extracted material within the site was available for processing. There would be no significant changes to those previously described impacts in the May 2009 EIS compared with the proposed modification to allow 250,000 tonnes of material to be processed annually for economic effects, social impacts, groundwater, surface water, flora and fauna, cultural heritage, traffic and transport, visual impacts, waste management and risk management. There may be imperceptible changes in noise, vibration and air quality over time due to use of more modern plant and machinery within the approved extraction area. However, the

site operations would still need to meet noise controls and air quality limits specified in the development consent conditions and Environment Protection Licence requirements.

Since commencement of extraction in January 2013 the 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016 and 2016-2017 Annual Environmental Management Plans/Reviews for the project have demonstrated compliance with the development consent conditions and Environment Protection Licence requirements. For the key amenity issues of noise and air quality all noise limits and air quality controls have been met between 2011 and mid-2017 for the project. No noise, air quality or other complaints were received from the community in the period between 2011 and mid-2017 for the project. No pollution complaints were made to the Environment Protection Authority between 2011 and mid-2017 for the project. There has never been any need to implement the Pollution Incident Response Management Plan for the project.

Since the May 2009 EIS for the project, newer model dump trucks and road trucks have become more efficient with reduced emissions and less noise. Since October 2015 improvements have been made to reduce traffic generation of on-site dusts by installation of a manually operated dust suppression system designed by professional irrigation contractors along approximately 1.5km of internal haul roads. A mechanical road sweeper and water cart are also available to reduce dust emissions.

Appendix 1 includes all the noise and air quality extracts from the Annual Environmental Management Reviews between 2011 and 2017 for the project demonstrating compliance with the noise limits and air quality controls. In addition, Appendix 2 provides a letter from Koikas Acoustics about operational noise impacts from Pits 5 and 15 with increased production stating as follows.

"As the mode of operation for the quarry operations of Pit 5 and Pit 15 will not change including the use of plant/equipment and extraction methodology, the noise impact will not increase. In fact, as the depth of the quarries increases, it is expected that the subject noise will decrease. This is expected to be the outcome following the next series of noise compliance testing at the same noise sensitive receiver locations. The increase in sand extraction/production will not lead to any increase in truck movements as the total daily truck movements will continue to be controlled.

It is expected that the proposed increase in sand extraction/production at Pit 5 (Lot 3, DP 567166) and Pit 15 (Lot 2, DP510812) will therefore comply with the nominated noise criteria at all noise sensitive receiver locations. No further noise mitigation measures are required for the proposed increase in sand extraction/production. Noise compliance testing will continue to be carried out as per EPL 3829 requirements as has been done annually. If any increase is observed, appropriate actions will be undertaken as required."

Compared to the May 2009 EIS for the project there would be no increase in operating hours; or the maximum of 35 truck loads of material permitted to be removed from the site each day averaged over one month; or the maximum depth of allowable excavation of 177 metres AHD and the retention of a 2 metre buffer above the wet weather high water table; and maximum noise limits and air quality controls would still apply. Processing of materials would continue to take place within the site and Maroota area. The area and depth of extraction would be the same with the proposed modification but at a faster rate of extraction with the increased production of 250,000 tonnes per annum. The increased rate of extraction could reduce the consent period of 20 years including rehabilitation but dependent on future demand for construction sand in metropolitan Sydney.

The modification is basically the same development as the development for which the development consent No. 578/2009B was granted except for increasing the material extracted from 195,000 tonnes to 250,000 tonnes annually. The proposed modification would be relatively minor and insignificant with environmental impacts and benefits spread around the Maroota area. The proposed modification would be of minimal environmental impact compared with the original environmental impacts. It is anticipated that there would be no change in any potential adverse impacts on adjoining residents. Should any future environmental issues arise PF Formation would proactively implement the best solution.

The proposed modification would also be consistent with Development Consent No. 342/98F for the nearby PF Formation Pit 4 (Lot 2 DP 748820) with a maximum production rate of 250,000 tonnes/annum and transport of material from the site limited to 35 laden road vehicles a day averaged over 1 month.

Failure to proceed with the modification would result in less efficient utilisation of a regionally significant *Sydney Regional Environmental Plan No 9 - Extractive Industry (No 2 - 1995)* resource located close to the Sydney market leading to increased reliance on sources at a greater distance resulting in higher costs to the consumer and increased environmental impacts.

Not proceeding with the modification would result in foregoing the full opportunity to extract and process a high quality accessible resource in demand in the Sydney region with minimal additional environmental impacts and using existing plant and infrastructure.

Failure to proceed may also result in possible loss of future employment for PF Formation quarry staff as extractive industry becomes more efficient. A number of jobs indirectly generated by the operation may also be foregone. In summary, failure to proceed would result in foregoing the positive benefits and not imposing any adverse environmental impacts.

The environmental impacts of the modified consent include continued (but no increase) in traffic in the Maroota area; a greater contribution to the economic and employment growth of the metropolitan area; and more efficient and productive use of the existing resource. The scale, character and nature of the area in relation to the modification and associated environmental impacts would not change. The impact on local residents would be minimal as the surrounding rural area is dominated by agricultural practices and extractive industry that depend on daylight hours for operations. The modification would not compromise any cumulative environmental impacts.

The proposed modification to development consent No. 578/2009B condition 13 would not affect the other approved operational requirements for the site.

(c) the suitability of the site for the development,

The site has been used for extractive industry including rehabilitation since the early 1990's and since January 2013 with the current development consent. The site has the capacity and is suitable for the modification. Due to the relatively minor localised changes and associated environmental impacts, the receiving environment has the capacity to accommodate the modification.

The modification would be compatible with the existing on-site and likely future land uses of extractive industry, agriculture and bushland and will not have any significant impact on these existing and likely future land uses.

PF Formation has operated in an environmentally responsible manner in the Maroota area at various sites for over 30 years using the best available and cost effective management practices.

(d) any submissions made in accordance with this Act or the regulations,

There are no known submissions made in accordance with the *Environmental Planning and Assessment Act 1979* or the *Environmental Planning and Assessment Regulation 2000*.

(e) the public interest.

The modification would benefit the Sydney metropolitan building and construction industry which is subject to varying market and weather conditions and demands that vary from day to day, month to month and year to year. With increased production there would be a more efficient market with supply of Maroota sand to meet the varying demands of the Sydney metropolitan building and construction industry.

The modification would be in the public interest by providing for enhanced use of the Maroota regional sand resource and increased supply to the Sydney metropolitan building and construction industry. The modification would be wholly in accord with the aims of *Sydney Regional Environmental Plan No. 9 - Extractive Industry (No 2 - 1995)*. Any relatively minor adverse environmental impacts associated with the modification would be minimal and outweighed by the increased economic benefits of improved supply to the Sydney metropolitan building and construction industry. Approval of the modified consent condition for the development would be substantially the same as the approved development.

The modification would assist in the continuing employment of around 30 full-time existing employees by PF Formation at Maroota and long term employment security for the employees and their families into the future. Continuing sand extraction activity at the site and in the Maroota area will support employment in the transport industry in addition to plant and equipment supply and maintenance. The proposed modification would continue in making a contribution to economic development in the local community through the purchase of services and various consumables.

Appendix 1 Noise and Air Quality Extracts from the Annual Environmental Management Plans/Reviews for the Project Between 2011 and 2017

Extract from 2011-2012 Annual Environmental Management Plan

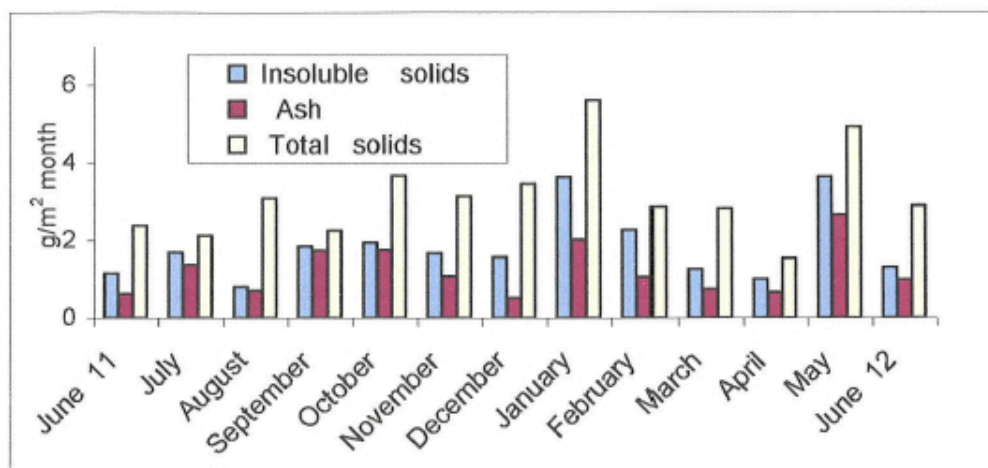
6. Air Quality

Dust deposition is monitored on a monthly basis via a dust gauge located near the western boundary of Lot 2 DP 510812 (formerly Lot 3 Attard's) and in accordance with the EPA endorsed Dust Monitoring Plan. A summary of the results of the monthly dust monitoring completed by the private contractor is shown below.

Dust Monitoring

Maroota Site 4 Lot 3 Attard's

	Insoluble solids	Ash	Total solids
June 11	1.14	0.61	2.38
July	1.69	1.37	2.11
August	0.80	0.70	3.08
September	1.85	1.74	2.25
October	1.95	1.75	3.66
November	1.67	1.07	3.13
December	1.56	0.52	3.45
January	3.63	2.01	5.61
February	2.27	1.05	2.86
March	1.25	0.74	2.81
April	1.00	0.65	1.54
May	3.64	2.65	4.91
June 12	1.29	0.99	2.89



The above results show that the annual average for insoluble solids dust deposition for the year ending June 2012 is 1.88 grams/square metre/month and below the objective of 4 grams/square metre/month. No complaints from any residents on dust deposition were received by PF Formation during 2011-2012.

PF Formation has an agreement with Dixon Sands to be advised if the rolling 24-hour average PM₁₀ impacts at Maroota Public School reach 42.5 µg/m³. At no time during 2011-2012 were PF Formation advised that the TEOM recorded results of 42.5 µg/m³ or above during working hours.

The Environmental Manager is responsible for ensuring the air quality monitoring is completed by others with full documentation held at 1774 Wisemans Ferry Road, Maroota and available for inspection.

In addition, regular on-site checks are made by the Environmental Manager that there is no visible dust blowing across the site on windy days; there are no visible continuous exhaust emissions on public lands for greater than 10 seconds; and that dust suppression techniques have been applied during operations including on-site watering and keeping stockpiles damp.

7. Noise

EPA Licence 3829 for the site has a number of requirements including L_{Aeq} (15 minute) noise limits for 13 locations in the Maroota area and requires implementation of a Noise Management Plan for the area so that the limits are not exceeded. The closest noise monitoring location to Pit 5 is the western boundary of Lot 2 DP 510812 on Old Northern Road and the EPA Licence 3829 specifies a noise limit of 45 dB(A) L_{Aeq} (15 minute) during the day. Noise has been monitored quarterly at this location since October 2010. Full documentation and results are held at 1774 Wisemans Ferry Road, Maroota and are available for inspection.

An acoustic assessment report (Koikas Acoustics, July 2012) for Pit 4 (Old Telegraph Road being the site) and Pit 5 (Old Northern Road) in the Maroota area is provided in Appendix 4. Noise monitoring was undertaken at the western boundary of 4713 Old Northern Road in July 2011, October 2011, January 2012 and April 2012. The results show that the EPA noise criteria for the site for the hours of operation were not exceeded. No noise mitigation measures need to be implemented.

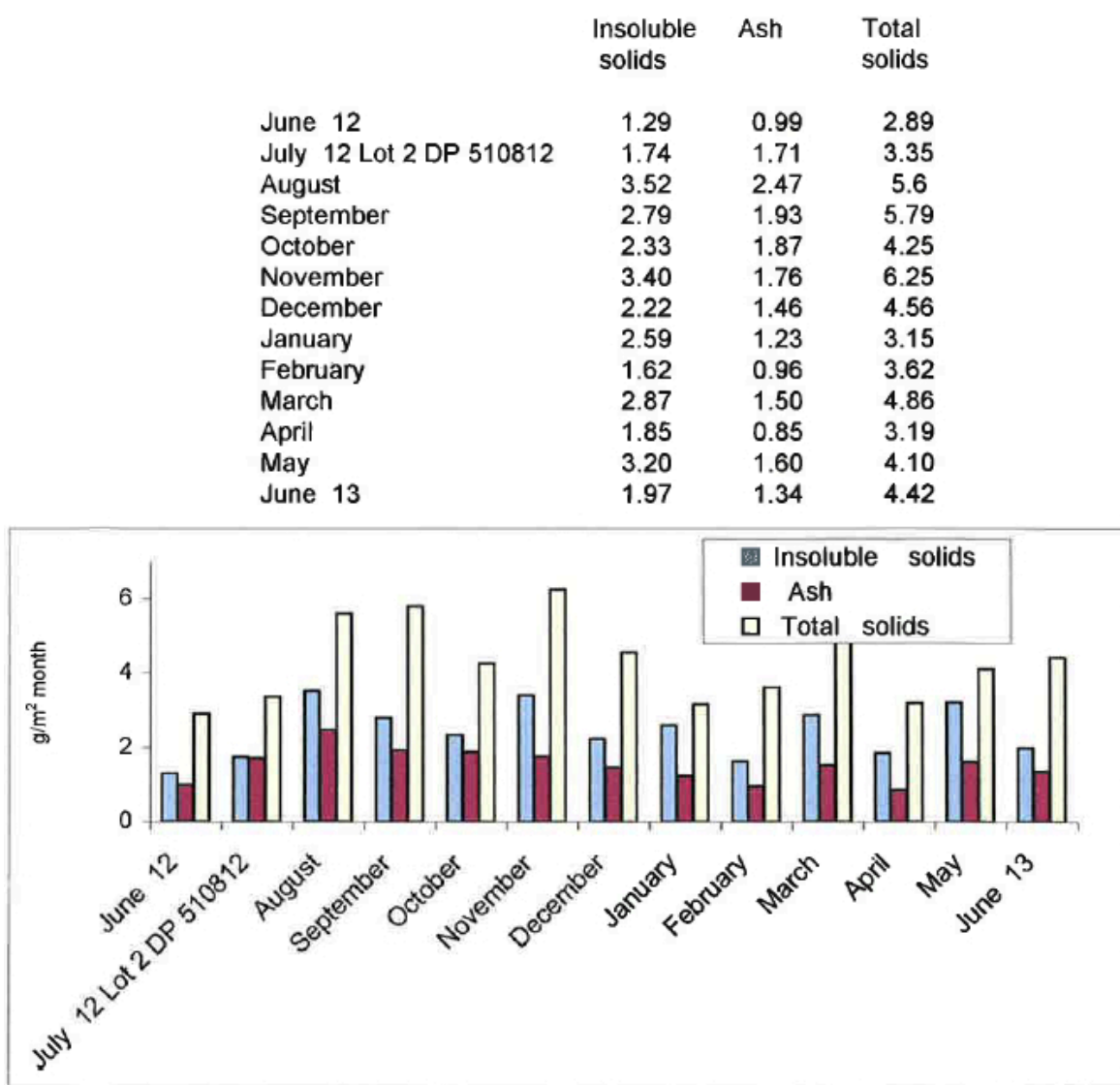
Extract from 2012-2013 Annual Environmental Management Plan

6. Air Quality

Dust deposition is monitored on a monthly basis via a dust gauge located near the western boundary of Lot 2 DP 510812 (formerly Lot 3 Attard's) and in accordance with the EPA endorsed Dust Monitoring Plan. A summary of the results of the monthly dust monitoring completed by the private contractor is shown in Figure 3.

The results show that the annual average for insoluble solids dust deposition for the year ending June 2013 is 2.51 grams/square metre/month and below the objective of 4 grams/square metre/month. No complaints from any residents on dust deposition were received by PF Formation during 2012-2013.

Figure 3 Pit 5 Dust Monitoring Results



PF Formation has an agreement with Dixon Sands to be advised if the rolling 24-hour average PM₁₀ impacts at Maroota Public School reach 42.5 µg/m³. At no time during 2012-2013 were PF Formation advised that the TEOM recorded results of 42.5 µg/m³ or above during working hours.

The Environmental Manager is responsible for ensuring the air quality monitoring is completed by others with full documentation held at 1774 Wisemans Ferry Road, Maroota and available for inspection.

In addition, regular on-site checks are made by the Environmental Manager that there is no visible dust blowing across the site on windy days; there are no visible continuous exhaust emissions on public lands for greater than 10 seconds; and that dust suppression techniques have been applied during operations including on-site watering and keeping stockpiles damp.

7. Noise

EPA Licence 3829 for the site has a number of requirements including L_{Aeq} (15 minute) noise limits for 13 locations in the Maroota area and requires implementation of a Noise Management Plan for the area so that the limits are not exceeded. The closest noise monitoring location to Pit 5 is the western boundary of Lot 2 DP 510812 or 4713 Old Northern Road and the EPA Licence 3829 specifies a noise limit of 45 dB(A) L_{Aeq} (15 minute) during daytime. Noise has been monitored quarterly at this location since October 2010. Full documentation and results are held at 1774 Wisemans Ferry Road, Maroota and are available for inspection.

An acoustic assessment report (Koikas Acoustics, August 2013) for Pit 4 (Old Telegraph Road being the site) and Pit 5 (Old Northern Road) in the Maroota area is provided in Appendix 4. Noise monitoring was undertaken at the western boundary of 4713 Old Northern Road in July 2012, October 2012, January 2013 and April 2013. The results show that the EPA noise criterion for the site for the hours of operation were not exceeded. No noise mitigation measures need to be implemented.

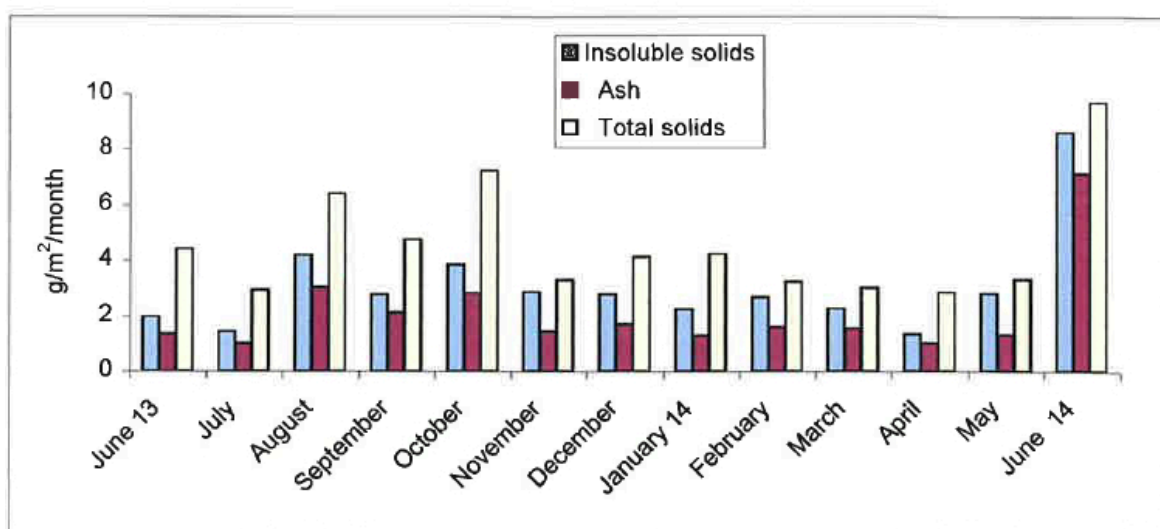
Extract from 2013-2014 Annual Environmental Management Plan

6. Air Quality

Dust deposition is monitored on a monthly basis via a dust gauge located near the western boundary of Lot 2 DP 510812 (formerly Lot 3 Attard's) and in accordance with the EPA endorsed Dust Monitoring Plan. A summary of the results of the monthly dust monitoring completed by the private contractor is shown in Table 2.

Table 2 Pit 5 Dust Monitoring Results

	Insoluble solids	Ash	Total solids
June 13	1.97	1.34	4.42
July	1.43	1.03	2.94
August	4.19	3.03	6.41
September	2.78	2.12	4.77
October	3.84	2.82	7.25
November	2.88	1.44	3.28
December	2.77	1.69	4.12
January 14	2.24	1.30	4.23
February	2.69	1.60	3.23
March	2.28	1.55	3.02
April	1.34	1.03	2.84
May	2.79	1.32	3.30
June 14	8.62	7.13	9.69



The results show that the annual average for insoluble solids dust deposition for the year ending June 2014 is 3.15 grams/square metre/month and below the objective of 4 grams/square metre/month. No complaints from any residents on dust deposition were received by PF Formation during 2013-2014.

PF Formation has an agreement with Dixon Sands to be advised if the rolling 24-hour average PM₁₀ impacts at Maroota Public School reach 42.5 µg/m³. At no time during 2013-2014 were PF Formation advised that the Tapered Element Oscillating Microbalance recorded results of 42.5 µg/m³ or above during working hours.

The Environmental Manager is responsible for ensuring the air quality monitoring is completed by others with full documentation held at 1774 Wisemans Ferry Road, Maroota and available for inspection.

In addition, regular on-site checks are made by the Environmental Manager that there is no visible dust blowing across the site on windy days; there are no visible continuous exhaust emissions on public lands for greater than 10 seconds; and that dust suppression techniques have been applied during operations including on-site watering and keeping stockpiles damp.

7. Noise

EPA Licence 3829 for the site has a number of requirements including L_{Aeq} (15 minute) noise limits for 13 locations in the Maroota area and requires implementation of a Noise Management Plan for the area so that the limits are not exceeded. The closest noise monitoring location to Pit 5 is the western boundary of Lot 2 DP 510812 or 4713 Old Northern Road and EPA Licence 3829 specifies a noise limit of 45 dB(A) L_{Aeq} (15 minute) during daytime. Noise has been monitored quarterly at this location since October 2010.

Noise is measured using Australian Standard AS 1055.1 1997 *Acoustics - Description and Measurement of Environmental Noise – General Procedures*. Instrumentation is held at 1774 Wisemans Ferry Road, Maroota and includes a 01dB Stell Integrating Sound Level Meter and a Luton 94 dB/1000 Hertz Sound Level Calibrator. Instructions are available for the use of the equipment and the Environmental Manager has been trained in their use. Full documentation and results are held at 1774 Wisemans Ferry Road, Maroota and are available for inspection.

An acoustic assessment report (Koikas Acoustics, August 2014) for Pit 4 (Old Telegraph Road being the site) and Pit 5 (Old Northern Road being the site) in the Maroota area is provided in Appendix 4. Noise monitoring was undertaken at the western boundary of 4713 Old Northern Road in July 2013, October 2013, January 2014 and April 2014. The results show that in all cases the measured L_{Aeq} (15 minute) was dominated by environmental and intermittent noise sources unrelated to the quarry noise. The noise criteria in EPA Licence No. 3829 for the site for the hours of operation were not exceeded. No noise mitigation measures need to be implemented.

Extract from 2014-2015 Annual Environmental Management Plan

6. Air Quality

Dust deposition is monitored on a monthly basis via a dust gauge located near the western boundary of Lot 2 DP 510812 (formerly Lot 3 Attard's) and in accordance with the EPA endorsed Dust Monitoring Plan. A summary of the results of the monthly dust monitoring completed by a private contractor is shown in Table 2.

The results show that the annual average for insoluble solids dust deposition for the year ending June 2015 is 2.98 grams/square metre/month and below the EPA limit of 4 grams/square metre/month. No complaints from any residents on dust deposition were received by PF Formation during 2014-2015.

PF Formation has an agreement with Dixon Sands to be advised if the rolling 24-hour average PM₁₀ impacts at Maroota Public School reach 42.5 µg/m³. At no time during 2014-2015 were PF Formation advised that the Tapered Element Oscillating Microbalance recorded results of 42.5 µg/m³ or above during working hours.

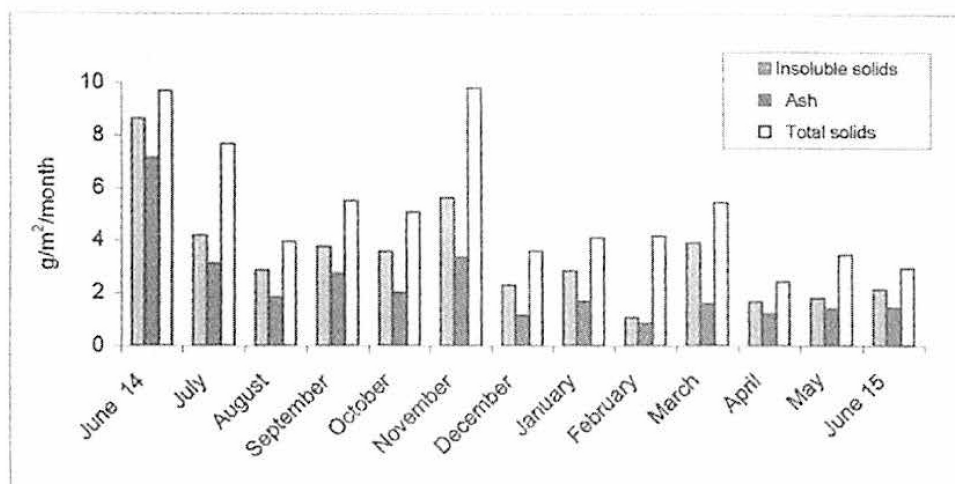
The Environmental Manager is responsible for ensuring the air quality monitoring is completed by others with full documentation held at 1774 Wisemans Ferry Road, Maroota and available for inspection.

In addition, regular on-site checks are made by the Environmental Manager that there is no visible dust blowing across the site on windy days; there are no visible continuous exhaust emissions on public lands for greater than 10 seconds; and that dust suppression techniques have been applied during operations including on-site watering and keeping stockpiles damp.

At no time during 2014-2015 were operations stopped at Pit 5 because of windy conditions.

Table 2 Pit 5 Dust Monitoring Results

	Insoluble solids	Ash	Total solids
July	4.19	3.12	7.66
August	2.87	1.85	3.95
September	3.76	2.75	5.51
October	3.58	2.02	5.07
November	5.62	3.35	9.80
December	2.31	1.17	3.60
January	2.84	1.70	4.12
February	1.08	0.86	4.17
March	3.91	1.62	5.43
April	1.67	1.22	2.44
May	1.83	1.42	3.46
June 15	2.14	1.45	2.94



7. Noise

EPA Licence 3829 for the site has a number of requirements including $L_{Aeq (15 \text{ minute})}$ noise limits for 13 locations in the Maroota area and requires implementation of a Noise Management Plan for the area so that the limits are not exceeded. The closest noise monitoring location to Pit 5 is the western boundary of Lot 2 DP 510812 or 4713 Old Northern Road and EPA Licence 3829 specifies a noise limit of 45 dB(A) $L_{Aeq (15 \text{ minute})}$ during daytime. Noise has been monitored quarterly at this location since October 2010. Other receiver locations listed in the EPA Licence 3829 were further away from Pit 5 and therefore noise impact would be less.

Noise is measured using Australian Standard AS 1055.1 1997 *Acoustics - Description and Measurement of Environmental Noise – General Procedures*. Instrumentation is held at 1774 Wisemans Ferry Road, Maroota and includes a Class 1 Svan Sound Level Meter and a Class 1 Svantech Acoustic Calibrator. Instructions are available for the use of the equipment and the Environmental Manager has been trained in their use. Full documentation and results are held at 1774 Wisemans Ferry Road, Maroota and are available for inspection.

An acoustic assessment report (Koikas Acoustics, August 2015) for Pit 4 (Old Telegraph Road) and Pit 5 (Old Northern Road being the site) in the Maroota area is provided in Appendix 4. Noise monitoring was undertaken at the western boundary of 4713 Old Northern Road in July 2014, October 2014, February 2015 and May 2015. The results show that in all cases the measured $L_{Aeq (15 \text{ minute})}$ was dominated by environmental and intermittent noise sources unrelated to the quarry noise. The noise criteria in EPA Licence No. 3829 for the site for the hours of operation were not exceeded. No noise mitigation measures need to be implemented.

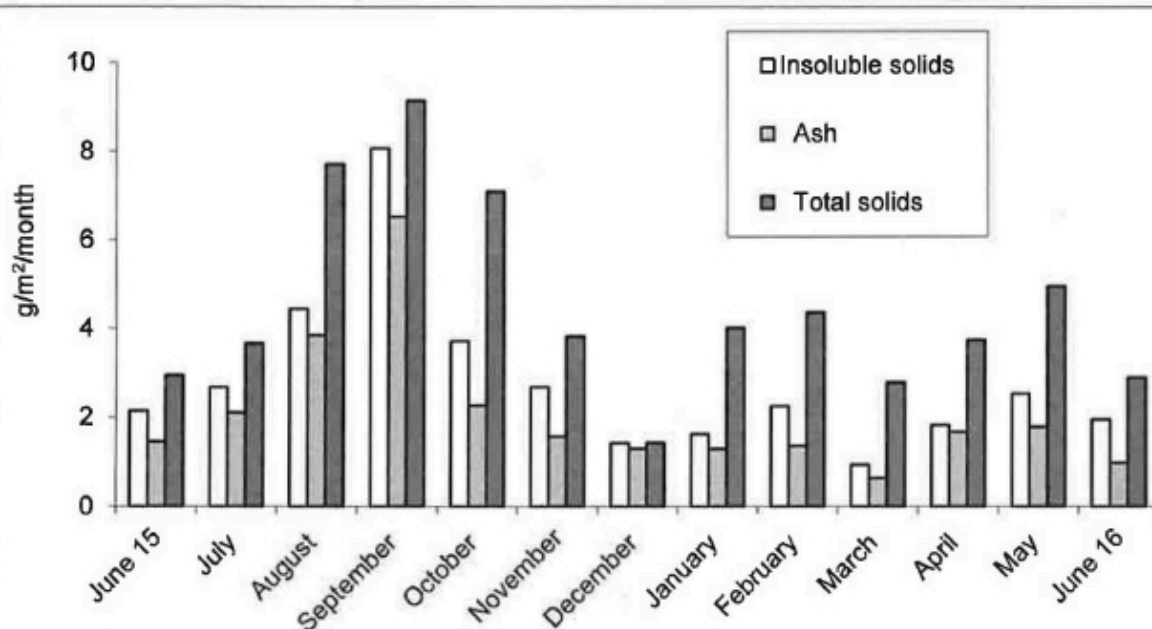
Extract from 2015-2016 Annual Environmental Management Plan

6. Air Quality

Dust deposition is monitored on a monthly basis via a dust gauge located near the western boundary of Lot 2 DP 510812 and Pit 15 and in accordance with the EPA endorsed Dust Monitoring Plan. A summary of the results of the monthly dust monitoring completed by a private contractor is shown in Table 2.

Table 2 Pit 15 Dust Monitoring Results

	Insoluble solids	Ash	Total solids
June 15	2.14	1.45	2.94
July	2.67	2.10	3.66
August	4.44	3.84	7.71
September	8.06	6.52	9.14
October	3.71	2.27	7.09
November	2.68	1.57	3.82
December	1.42	1.29	1.43
January	1.62	1.29	4.01
February	2.25	1.36	4.36
March	0.93	0.63	2.78
April	1.82	1.67	3.74
May	2.53	1.78	4.95
June 16	1.95	0.97	2.89



The results show that the annual average for insoluble solids dust deposition for the year ending June 2016 is 2.84 grams/square metre/month and below the EPA limit of 4 grams/square metre/month. The higher than normal levels in September 2015 were likely due to works carried out near the monitoring point on the neighbouring property. No complaints from any residents on dust deposition were received by PF Formation during 2015-2016.

PF Formation has an agreement with Dixon Sands to be advised if the rolling 24-hour average PM₁₀ impacts at Maroota Public School reach 42.5 µg/m³. At no time during 2015-2016 were

PF Formation advised that the Tapered Element Oscillating Microbalance recorded results of 42.5 µg/m³ or above during working hours.

The Environmental Manager is responsible for ensuring the air quality monitoring is completed by others with full documentation held at 1774 Wisemans Ferry Road, Maroota and available for inspection.

In addition, regular on-site checks are made by the Environmental Manager that there is no visible dust blowing across the site on windy days; there are no visible continuous exhaust emissions on public lands for greater than 10 seconds; and that dust suppression techniques have been applied during operations including on-site watering and keeping stockpiles damp. In October 2015, a manually operated dust suppression system designed by professional irrigation contractors was installed along approximately 1.5km of internal haul roads to help reduce traffic generation of on-site dusts. A mechanical road sweeper and water cart are also available to reduce dust emissions.

At no time during 2015-2016 were operations stopped at Pits 5 and 15 because of windy conditions.

7. Noise

EPA Licence 3829 for the site has a number of requirements including L_{Aeq} (15 minute) noise limits for 13 locations in the Maroota area and requires implementation of a Noise Management Plan for the area so that the limits are not exceeded. The closest noise monitoring location to Pit 5 is the western boundary of Lot 2 DP 510812 or 4713 Old Northern Road and EPA Licence 3829 specifies a noise limit of 45 dB(A) L_{Aeq} (15 minute) during daytime. Noise has been monitored quarterly at this location since October 2010. Other receiver locations listed in the EPA Licence 3829 were further away from Pit 5 and therefore noise impact would be less.

Noise is measured using Australian Standard AS 1055.1 1997 *Acoustics - Description and Measurement of Environmental Noise – General Procedures*. Instrumentation is held at 1774 Wisemans Ferry Road, Maroota and includes a Class 1 Svan Sound Level Meter and a Class 1 Svantek Acoustic Calibrator. Instructions are available for the use of the equipment and the Environmental Manager has been trained in their use. Full documentation and results are held at 1774 Wisemans Ferry Road, Maroota and are available for inspection.

An acoustic assessment report (Koikas Acoustics, 30 August 2016) for Pit 4 (Old Telegraph Road) and Pits 5 and 15 (Old Northern Road being the site) in the Maroota area is provided in Appendix 4. Noise monitoring was undertaken at the western boundary of 4713 Old Northern Road in July 2015, October 2015, January 2016 and April 2016. The results show that in all cases the measured L_{Aeq} (15 minute) was dominated by environmental and intermittent noise sources unrelated to the quarry noise. The noise criteria in EPA Licence No. 3829 for the site for the hours of operation were not exceeded. No noise mitigation measures need to be implemented.

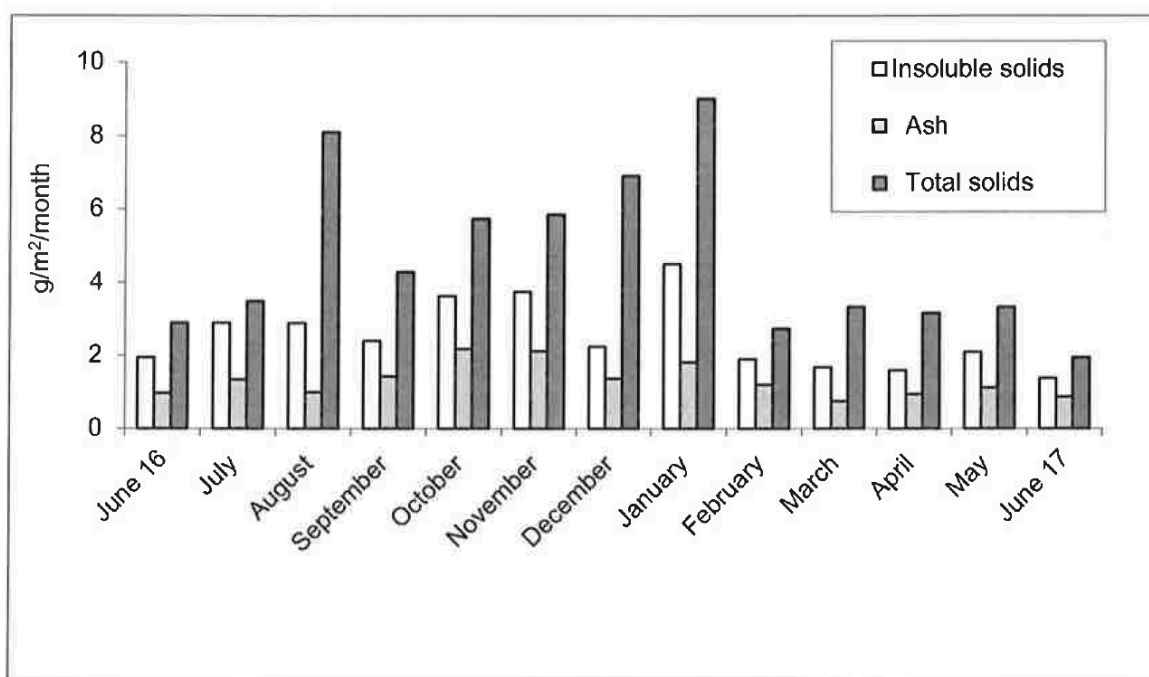
Extract from 2016-2017 Annual Environmental Management Review

6. Air Quality

Dust deposition is monitored on a monthly basis via a dust gauge located near the western boundary of Lot 2 DP 510812 and Pit 15 and in accordance with the EPA endorsed Dust Monitoring Plan. A summary of the results of the monthly dust monitoring completed by a private contractor is shown in Table 1.

Table 1 Pit 15 Dust Monitoring Results

	Insoluble solids	Ash	Total solids
June 16	1.95	0.97	2.89
July	2.89	1.34	3.48
August	2.88	1.00	8.09
September	2.40	1.43	4.28
October	3.62	2.18	5.73
November	3.74	2.12	5.85
December	2.24	1.37	6.91
January	4.50	1.82	9.01
February	1.90	1.21	2.73
March	1.68	0.75	3.33
April	1.59	0.95	3.16
May	2.09	1.12	3.33
June 17	1.38	0.88	1.95



The results show that the annual average for insoluble solids dust deposition for the year ending June 2017 is 2.58 grams/square metre/month and below the EPA limit of 4 grams/square metre/month.

PF Formation has an agreement with Dixon Sands to be advised if the rolling 24-hour average PM₁₀ impacts at Maroota Public School reach 42.5 µg/m³. At no time during 2016-2017 were PF Formation advised that the Tapered Element Oscillating Microbalance recorded results of 42.5 µg/m³ or above during working hours.

The Environmental Manager is responsible for ensuring the air quality monitoring is completed by others with full documentation held at 1774 Wisemans Ferry Road, Maroota and available for inspection.

In addition, regular on-site checks are made by the Environmental Manager that there is no visible dust blowing across the site on windy days; there are no visible continuous exhaust emissions on public lands for greater than 10 seconds; and that dust suppression techniques have been applied during operations including on-site watering and keeping stockpiles damp. In October 2015, a manually operated dust suppression system designed by professional irrigation contractors was installed along approximately 1.5km of internal haul roads to help reduce traffic generation of on-site dusts. The bitumen at the entrance to the site is monitored regularly for material tracking and any visible dust. Several hundred tonnes of road base was placed on the haul road starting where the bitumen finishes to ensure that mud and fines are not tracked onto the road. A mechanical road sweeper and water cart are also available to reduce dust emissions.

At no time during 2016-2017 were operations stopped at Pits 5 and 15 because of windy conditions.

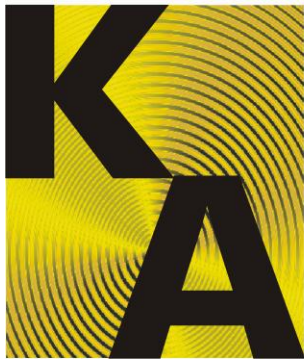
7. Noise

EPA Licence 3829 for the site has a number of requirements including L_{Aeq} (15 minute) noise limits for 13 locations in the Maroota area and requires implementation of a Noise Management Plan for the area so that the limits are not exceeded. The closest noise monitoring location to Pit 5 is the western boundary of Lot 2 DP 510812 or 4713 Old Northern Road and EPA Licence 3829 specifies a noise limit of 45 dB(A) L_{Aeq} (15 minute) during daytime. Noise has been monitored quarterly at this location since October 2010. Other receiver locations listed in the EPA Licence 3829 were further away from Pit 5 and therefore noise impact would be less.

Noise is measured using Australian Standard AS 1055.1 1997 *Acoustics - Description and Measurement of Environmental Noise – General Procedures*. Instrumentation is held at 1774 Wisemans Ferry Road, Maroota and includes a Class 1 Svan Sound Level Meter calibrated with a Class 1 Svantek Acoustic Calibrator. Instructions are available for the use of the equipment and the Environmental Manager and a delegate have been trained in their use. Full documentation and results are held at 1774 Wisemans Ferry Road, Maroota and are available for inspection.

An acoustic assessment report (Koikas Acoustics, 9 October 2017) for Pit 4 (Old Telegraph Road) and Pits 5 and 15 (Old Northern Road being the site) in the Maroota area is provided in Appendix 4. Noise monitoring was undertaken at the western boundary of 4713 Old Northern Road in July 2016, October 2016, February 2017 and June 2017. The results show that in most cases the measured L_{Aeq} (15 minute) was dominated by environmental noise (for example, birds chirping, insects, rustling of leaves) and intermittent traffic noise sources unrelated to the quarry noise. Generally quarry noise was not audible and not measurable. The noise criteria in EPA Licence No. 3829 for the site for the hours of operation were not exceeded. No noise mitigation measures need to be implemented.

**Appendix 2 September 2017 Letter from Koikas Acoustics Pty Ltd on Quarry
Operational Noise Impact at Pit 5 & Pit 15, Old Northern Road, Maroota
for Increasing Sand Extraction/Production**



KOIKAS ACOUSTICS PTY LTD

CONSULTANTS IN NOISE & VIBRATION

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Date: Wednesday, 6th September 2017

Our Reference: Z:\ACOUSTICS\ACOUSTICS
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Project No.: 1933

Prepared For: PF Formation
Attention: Joshua Graham
E-mail: josh@pfformation.com.au ; accounts@pfformation.com.au

RE: QUARRY OPERATIONAL NOISE IMPACT AT PIT 5 & PIT 15, OLD NORTHERN ROAD, MAROOTA FOR INCREASING SAND EXTRACTION/PRODUCTION

INSTRUCTIONS

Koikas Acoustics Pty Ltd was requested to address the potential additional noise impact associated with a proposed increase in sand extraction/production from 195,000tonnes/annum to 250,000tonnes/annum for the quarries at Pit 5 (Lot 3, DP567166) and Pit 15 (Lot 2, DP510812), Old Northern Road in Maroota.

PREVIOUS ACOUSTIC REPORT

This document should be read in conjunction with the latest noise compliance report prepared by Koikas Acoustics for July 2016 to June 2017. Details are provided below:

Acoustic Assessment Prepared by Koikas Acoustics

Report Title: *Noise Compliance Testing of PF Formation Extractive Industry Operations
At Pit 4 Old Telegraph Road and Pit 5 & 15 Old Northern Road, Maroota*

Report Ref: *1933C20170822mfcMaroota\$5-7v1.docx*

Date: *22/08/2017*

Version: *V1*

Hereafter referred as the 'acoustic report'.

Please note, this letter relates to quarries at Pit 5 and Pit 15 only.

As per our most recent 'acoustic report', the resultant noise levels from subject quarry operations (Pit 5 & 15) to surrounding residential receivers (Location 5, 6 & 7) was perceived as being either just audible or inaudible during lulls in traffic. For the majority of the time, the noise emanating from the quarries was found not to be measureable on account of that the natural noise that includes birds chirping, insects, rustling of leaves, and un-natural noise sources being cars and trucks traversing along the main roads. No further noise mitigation measures are required.

POTENTIAL ADDITIONAL NOISE IMPACT FOR INCREASING PRODUCTION

Due to high demand for construction sand, the extraction/production would be increased from 195,000tonnes/annum to 250,000tonnes/annum. As the mode of operation for the quarry operations of Pit 5 and Pit 15 will not change including the use of plant/equipment and extraction methodology, the noise impact will not increase. In fact, as the depth of the quarries increases, it is expected that the subject noise will decrease. This is expected to be the outcome following the next series of noise compliance testing at the same noise sensitive receiver locations.

The increase in sand extraction/production will not lead to any increase in truck movements as the total daily truck movements will continue to be controlled under Condition No. 10 of the Notice of Determination for DA/578/2009B which is consistent with the Statement of Environmental Effects for Section 96, DA578/2009B (dated September 2017) and acoustic report prepared by Renzo Tonin & Associates Pty Ltd (Ref: TD721-01F04 Rev 4 and dated 17 March 2008). Condition 10 states '*A maximum of 35 truck loads of material are permitted to be removed from the site each day averaged over 1 month*'.

STATEMENT OF COMPLIANCE

It is expected that the proposed increase in sand extraction/production at Pit 5 (Lot 3, DP 567166) and Pit 15 (Lot 2, DP510812) will therefore comply with the nominated noise criteria at all noise sensitive receiver locations. No further noise mitigation measures are required for the proposed increase in sand extraction/production. Noise compliance testing will continue to be carried out as per EPL 3829 requirements as has been done annually. If any increase is observed, appropriate actions will be undertaken as required.

Yours Sincerely,
Koikas Acoustics Pty Ltd



Nick Koikas
Principal Consultant