



Karuah East Quarry – Community Consultative Committee

Site Inspection Record – 2 September 2019

Venue: Karuah East Quarry

Time: Start 3.00pm
End 3.20pm

Attendees: Michael Ulph (Chairperson), Wade Cameron (Community Representative), Goetz Schraer (Community Representative), Greg Dressler (Karuah East Quarry), Joel Fleming (Karuah East Quarry) and Mat Radnidge (ADW Johnson).

Apologies &
Absentees: Tony Ebben (Community Representative) – Apology.
Mat Bell (Mid Coast Council) – Absent.

Record of Site Inspection

- All CCC members met at the Karuah East Quarry office at 3pm.
- Greg Dressler and Joel Fleming transported the CCC members in two vehicles to the Crushing Plant (Lot 13 DP 1024564). At the crushing plant all CCC members exited the vehicles for discussion.
- CCC members were returned to the Karuah East Quarry office at 3.20pm.

Record of Matters Discussed During Site Inspection

- Greg Dressler – provided an update on the status of construction, in particular the implementation of noise mitigation measures. This included:
 - Confirmation that the noise mitigation measures previously identified to the CCC had been successfully installed. These measures include (1) the use of ‘hush clad’ material within the northern and eastern walls of the building enclosure that contains the secondary and tertiary cone crushers; and (2) the use of concrete pre cast panels as walls surrounding the primary jaw crusher with the use of ‘hush clad’ material on the roof.

Greg indicated that the Jaw Crusher was not operating at the time of the inspection. This was unfortunately because due to the acoustic mitigation measures installed the jaw crusher can only be heard from the west (which is where the enclosure is open to allow rock to be fed into the crusher).

Goetz Schraer – Indicated that from his residence to the east, the crushers cannot be heard. Goetz indicated that the only activity that can be heard is the rock breaker that is used after a blast.

- The secondary and tertiary cone crushers were operating and it was observed that they were very quiet.
- Greg Dressler provided a summary explanation of the quarrying process including:
 1. Quarried rock is transported from the pit and fed through the primary jaw crusher;
 2. The rock is then conveyed to the secondary and tertiary cone crushers;
 3. The rock is then fed into the screening plant where various rock sizes are achieved (ie. 7mm, 10mm, 12mm, etc); and
 4. Rock is then stockpiled for sale.
- Greg Dressler – Identified the water spray system installed around the plant for dust suppression.
- Wade Cameron – Have KEQ Pty Ltd had any problems with commissioning of the plant?

Greg Dressler – The key problem encountered is a harmonic issue between the structural and mechanical design (ie. getting all equipment to work together and not move in opposite directions). Otherwise things are progressing well.

- Greg Dressler – During August 2019 approximately 28,000 tonnes of product was produced. During July 2019 approximately 30,000 tonnes of material was produced. Over the coming months the operations of the adjoining Karuah Quarry will be scaled back and Karuah East will intensify. The intensification will largely be a truck movement increase.

- Greg Dressler – Identified that a new water treatment system is scheduled to be installed at Dam 1 over the next 1-2 weeks.
- Wade Cameron – How is diesel usage progressing?

Greg Dressler – The loads of the generator are not as high as expected, however it is anticipated that at full production up to \$1 million annually will be spent on diesel.

55,000L of diesel storage is provided on site, which is approximately a 2 week supply.

- Greg Dressler – KEQ Pty Ltd have considered implementation of a 3 megawatt solar energy system. The key constraint at this time is cost associated with the infrastructure required and also physical space to erect the solar panels. Generators would also still be necessary for plant start up.

Wade Cameron – Reduction in carbon footprint is a good thing that should be encouraged.

End of Site Inspection Discussions



Karuah East Quarry - Community Consultative Committee

Meeting Minutes – 2 September 2019

Venue: Karuah East Quarry Office (Blue Rock Close, Karuah)

Time: CCC Meeting: Start 3.30pm
End 5.00pm

Minutes

Attendees: Michael Ulph (Chairperson), Wade Cameron (Community Representative), Goetz Schraer (Community Representative), Greg Dressler (Karuah East Quarry), Joel Fleming (Karuah East Quarry) and Mat Radnidge (ADW Johnson).

1) Welcome

- Michael Ulph paid respect to the traditional Aboriginal land owners of Karuah, past, present and future.
- Joel Fleming was welcomed to the CCC. Joel is employed as the Environmental Officer for the Karuah East Quarry.

2) Apologies / Absentees

- Tony Ebben (Community Representative) – Apology.
- Mat Bell (Mid Coast Council) – Absent.

3) Declaration of Pecuniary Interests

- Michael Ulph confirmed that KEQ Pty Ltd is paying GHD (his employer) a fee for Michael to act as the independent chairperson for the CCC.
- Mat Radnidge confirmed that KEQ Pty Ltd is paying ADW Johnson (his employer) a fee for Mat to be a member of the CCC.
- Greg Dressler & Joel Fleming are employees of Hunter Quarries / Karuah East Quarry Pty Ltd.

4) Acceptance of Previous Minutes

- Draft CCC meeting minutes dated 4 March 2019; and
- Draft site inspection record dated 4 March 2019.

Moved: Wade Cameron

Seconded: Goetz Schraer

5) Business Arising from Previous Minutes

- a) Mat Radnidge to advise Michael Ulph when the Section 4.55 Modification Application (acoustics) is placed on public exhibition. Michael Ulph to then advise the CCC members.

Completed. Michael Ulph supplied an email to all CCC members on 26/7/19 confirming that the Section 4.55 Modification application is on public exhibition for 14 days between the dates of 26/7/19 to 18/8/19 (inclusive). A link to the NSW DPIE's webpage was supplied.

- b) KEQ Pty Ltd is willing to allow the Great Lakes Wild Dog Control Group to undertake feral pig trapping on Lot 14 DP 1024564.
- c) Next CCC site inspection and meeting scheduled to occur on Monday 2 September 2019.

Each of the above was noted by all CCC members present.

Relevant to item 5(b), Joel Fleming advised that successful trapping on Lot 14 DP 1024564 (near the dam) had occurred.

6) Correspondence

- a) 26 March 2019 – Michael Ulph supplied the draft minutes of the 4 March 2019 CCC meeting and site inspection to all CCC members and invited comment.
- b) 3 July 2019 – Michael Ulph supplied to all CCC members an email from Mat Radnidge. The email provided an update on the status of the Section 4.55 Modification Application (acoustics), in particular:
- Confirmation that the application had been lodged with the NSW DPIE.
 - Reconfirmation of what the application was for (being improved acoustic mitigation measures and to update the currently approved Noise Impact Assessment (SLR, 2012) with a new Noise Impact Assessment (Thearle Acoustics, 2019) to consider current background data and facilitate operation in line with the current *NSW Noise Policy for Industry 2017* based on actual plant layout and equipment (rather than assumptions from 2012).
 - Confirmation that the CCC would be advised of exhibition details once available.
- c) 26 July 2019 – Michael Ulph confirmed exhibition details of the Section 4.55 Modification Application (acoustics).

Each of the above items were noted by the CCC members present.

Relevant to items 6(a) and 6(b), Michael Ulph indicated that he accidentally supplied the draft March 2019 CCC minutes twice. No comments on the draft minutes were received.

7) Company Report and Overview of Activities

The Company Report and Overview of Activities (see attached) was presented by Joel Fleming and Greg Dressler and included the following:

- Progress of the Karuah East Quarry
- Construction & Operation Schedule
- Monitoring and Environmental Performance
- Community Complaints
- Information Provided to the Community

Questions / discussions resulting from the above were as follows:

- Michael Ulph – How will dam levels go over summer with water for dust suppression?

Greg Dressler – Cannot confirm how dam levels will go however the quarry is not yet operating at full production (which is 1.5 million tonnes per annum) and dust suppression installed at the plant is sufficient to control dust, even on hot windy days. This includes a sprinkler system at the plant stockpile area (as viewed during the site inspection) and water cart use on internal haul roads. If ever necessary, water can be trucked in on an as needed basis.

- Greg Dressler – The next stage of clearing will require the removal of 2 – 3 habitat trees. In line with the development consent, an ecologist will be present during the clearing works.
- Wade Cameron – What are the fauna crossings for? (Fauna crossings were shown across the north south haulage road of Karuah East Quarry on Lot 13 DP 1024564 and across the haulage road of the Karuah Quarry on Lot 21 DP 1024341)

Joel Fleming – The crossings are for gliders.

Mat Radnidge – Explained that the background behind the fauna crossings was that during assessment of the original Karuah East Quarry application, NSW OEH sought to ensure that the vegetation at the southern end of Lots 11 & 12 DP 1024564 was not fragmented. KEQ Pty Ltd are currently in discussions with the NSW DPE regarding installation of the fauna crossings.

- Joel Fleming and Greg Dressler – Monitoring for air quality, noise, blasting and groundwater has been generally good.

There was one exceedance with air quality in February 2019 due to a region wide dust storm.

- Goetz Schraer – Confirmed that relevant to noise he doesn't hear the plant. Occasionally he can hear the rock breaker being used after a blast has occurred.

Greg Dressler – Indicated that as the quarry progresses and quarry depth is achieved, this creates a natural noise barrier around the quarry pit. Additionally, as the quarry gets deeper, 'cap rock' is reduced. Given that the quarry pit is new and is establishing, it is during this phase that the rock breaker will be at its noisiest until quarry pit depth is achieved. Notwithstanding this, acoustic monitoring is compliant with operational criteria.

Greg indicated that KEQ Pty Ltd will keep Goetz's comment in mind when targeting future blasts.

- Wade Cameron – Relevant to blasting, where is Location B?

Greg Dressler – On the opposite side of the Pacific Hwy, south west of the Karuah East Quarry (on Mr Bob Trotter's property). Greg confirmed that Mr Trotter has previously advised that he does not feel the blasts.

- Greg Dressler - Surface water has been good except for 1 incident on 24th, 25th and 26th June 2019. During a period of significant rainfall there was an uncontrolled discharge of water from Dam 1. The water discharged did not meet Environment Protection License (EPL) criteria for TSS (total suspended solids).

KEQ Pty Ltd self-reported this matter to the NSW EPA with a solution to resolve future occurrences. The solution is to implement a system at Dam 1 to control treatment of excess TSS in dam water. This system will be installed within the coming weeks.

Despite KEQ Pty Ltd self-reporting this matter as well as providing a solution, KEQ Pty Ltd received a penalty infringement notice.

Wade Cameron & Mat Radnidge – A penalty infringement notice appears excessive given that KEQ Pty Ltd self-reported with a solution to the problem.

- Wade Cameron – Why is there a difference in PH levels recorded?

Greg Dressler – At present Dam 1 captures all types of soil, clay and mineral run off. Greg is advised by his experts that given that the Karuah East Quarry is new, the results are expected to level out over time.

- Wade Cameron – How is the TJ translocation area going? Is irrigation being used?

Greg Dressler – Currently at about a 70% survival rate which is a good result to date. Yes irrigation is occurring.

Joel Fleming – He will be monitoring this area as part of his role with KEQ Pty Ltd.

- Joel Fleming – No complaints have been received.

Greg Dressler – Reconfirmed the complaint handling procedure. Refer to Item 4 of the attached Company Report and Overview of Activities.

8) CCC briefing on the status of Modification Applications lodged with the NSW Department of Planning & Environment by KEQ Pty Ltd.

- Mat Radnidge – MOD 1 and MOD 2 have been approved and previously discussed with the CCC.
- Mat Radnidge – As referenced in Item 6(b) and 6(c) of the agenda, a Section 4.55 modification is currently being assessed by the NSW Department of Planning & Industry (DPIE). This application is referred to as MOD 8. The purpose of the application is to:
 - Formalise improved acoustic mitigation measures including:
 - Enclosing the primary jaw crusher with concrete pre cast panel walls and ‘hush clad’ roofing;
 - Enclosing the secondary and tertiary crusher with ‘hush clad’ walls on the northern and eastern elevations; and
 - Use of acoustically treated generator sets.
 - To update the currently approved Noise Impact Assessment (SLR, 2012) with a new Noise Impact Assessment (Thearle Acoustics, 2019) to consider current background data and facilitate operations (including acoustic criteria) in line with the current *NSW Noise Policy for Industry 2017* based on actual plant layout and equipment (rather than assumptions from 2012).

Exhibition of the application occurred between 26 July 2019 and 8 August 2019. No public submissions were received by the NSW DPIE.

Assessment of the application is currently being progressed by the NSW DPE in consultation with the NSW EPA.

The CCC will be updated on the status of this application once a decision has been made by the NSW DPIE.

- Mat Radnidge – KEQ are currently considering a new s4.55 application, to be known as MOD 9. This application was previously flagged to the CCC at the March 2019 CCC meeting on a preliminary basis. The proposal is still very preliminary in nature. The following high level summary was provided:
 - The proposal involves extending the quarry footprint into the established offset area on Lot 13 DP 1024564 by approximately 5.3ha.
 - The additional disturbance area is essential to KEQ Pty Ltd because more stockpiling area is needed. The current situation is highly problematic for KEQ Management, because in tendering for key infrastructure projects (eg. Council and RMS projects), demonstrated stockpiles of certain size product are a mandatory tender requirement. The stockpiling areas currently available are too small and KEQ Pty Ltd management have identified that tenders will be lost.
 - The most logical position for the additional disturbance area is on Lot 13 DP 1024564 between the crushing plant and southern stockpile / weighbridge area.
 - Discussions have been held with the NSW DPIE; the NSW Biodiversity Conservation Division (BCD) (formerly NSW OEH); and the Federal Department of Environment and Energy (DoEE). The DPIE recommended early consultation with BCD and DoEE and advised that the appropriate pathway to progress will be another MOD application. BCD and DoEE advised that they could support the application provided that a suitable ecology outcome is achieved that includes (1) a replacement biodiversity offset (to replace the portion of the established offset area to be disturbed); plus (2) an offset of the impact of the proposed additional disturbance area.

Wade Cameron – Will the fauna crossing and a link to the fauna crossing be maintained? This is important.

Greg Dressler – Yes, it is the intention of KEQ Pty Ltd to maintain a link. Ecological advice will be sought to ensure that a suitably sized link will be maintained.

Mat Radnidge and Greg Dressler – Other than ecology, MOD 9 will be required to address a number of other key items including surface water management, groundwater, air quality, noise, visual impact, Aboriginal Archaeology and rehabilitation.

Mat Radnidge – As per previous MOD applications, the CCC will be kept up to date on MOD 9 as things progress (ie. such as lodgement, exhibition, etc).

9) General Business

- Wade Cameron – Does KEQ Pty Ltd have any concern with the proposed Karuah South Quarry?

Greg Dressler – No concern to the operation of the Karuah East Quarry. The proposed Karuah South quarry is an entirely separate application by another party. It is expected that the proposal will be assessed to the same extent as Karuah East.

- Joel Fleming – Advised CCC members that if any questions arise regarding the separate Hunter Quarries Pty Ltd Karuah Quarry operation he is happy to assist with any enquiries.

This was noted by all CCC members.

- Michael Ulph – Any feedback from the community?

Wade Cameron – He regularly informs members of the Karuah Motor Yacht Club on the status of Karuah East Quarry. Generally the feedback he receives is positive and evident that Karuah East Quarry Pty Ltd are trying to do the right thing.

- Michael Ulph – Thanked the community representatives for their participation on the CCC during 2019.

10) 2020 CCC meetings and site inspections to be scheduled.

Next meeting scheduled for Monday 2 March 2020. Details as follows:

- 3pm – Site Inspection (meet at Karuah East Quarry Office, Blue Rock Close, Karuah); and
- 4pm – CCC Meeting at Karuah East Quarry office.

Michael Ulph confirmed he would issue calendar invites to CCC members.

Meeting closed – 5.00pm.

Summary of Actions Arising from Meeting

- Mat Radnidge to advise Michael Ulph when a decision on MOD 8 (to address acoustics) is made by the NSW DPIE. Michael will then advise the CCC members.

- Mat Radnidge to advise Michael Ulph as any progress on MOD 9 (proposed additional disturbance area for stockpiling) is made. In particular when an application is lodged with NSW DPIE.
- Next CCC meeting is scheduled as follows:
 - Monday 2 March 2020:
 - 3pm – Site Inspection (meet at Karuah East Quarry Office, Blue Rock Close, Karuah); and
 - 4pm – CCC Meeting at Karuah East Quarry office.

Michael Ulph to issue calendar invites.

Enclosed:

- Site Inspection Minutes 2 September 2019; and
- Company Report & Overview 2 September 2019 (refer to Item 7 above).



Karuah East Quarry (PA 09_0175)

Company Report & Overview

Community Consultative Committee
2 September 2019

1. Progress of the Quarry



As of 2 September 2019, Karuah East Quarry is now operational.

Management Area	Task	Status
Extraction	General	<ul style="list-style-type: none"> There was approximately 500 square metres of vegetation cleared, in line with Project Approval
	Blasting	<ul style="list-style-type: none"> There have been three blasts in the period from 1 March 2019 to 31 August 2019
Production & Sales	Volume (tonnes)	<ul style="list-style-type: none"> 96,650.76 tonnes
	Truck Movements	<ul style="list-style-type: none"> 3,880 total truck movements
Construction	Stage 2 of Crushing Plant	<ul style="list-style-type: none"> Construction commenced in July 2018. Stage 2 of the acoustic mitigation measures were complete by April 2019.
	Acoustic enclosure (Jaw Crusher)	<ul style="list-style-type: none"> An acoustic enclosure of the main jaw crusher commenced at the end of 2018. Enclosure of the acoustic enclosure was completed and operational April 2019.
Section 75(W) Modifications	MOD2	<ul style="list-style-type: none"> MOD2 of the Project Approval was granted by the DPE on 19 December 2018. All MP's relating to the KEQ Project Approval will be updated accordingly as per the requirements of this Modification.
	MOD 3 (8)	<ul style="list-style-type: none"> Lodged with DPIE July 2019. Still being assessed by DPIE and EPA
Reporting	2018 Annual Review	<ul style="list-style-type: none"> The Annual Review was submitted to the DPIE March 2019.
Biodiversity	Annual Monitoring	<ul style="list-style-type: none"> Annual monitoring of the Biodiversity Offset Area was undertaken in October 2018. Annual monitoring of the <i>Tetratheca juncea</i> translocation was undertaken in September 2018.

1. Progress of the Quarry (cont.)



Crushing plant as of 13 August 2019

2. Construction & Operational Schedule



Full quarry operations at Karuah East Quarry commenced as of June 2019 at reduced volumes, with expected increase in volumes by late 2019.

It is anticipated the following activities will occur over the next 6 months:

- Stripping of overburden and topsoil will occur in the extraction area in order to expose more rock;
- Civil works on internal haul roads and drains;
- Investigations into additional site infrastructure currently being undertaken;
- Investigation of location for aerial fauna crossing to be installed; and
- Installation of a water treatment system at dam 1.

3. Monitoring & Environmental Performance



- a) Air Quality Monitoring
- b) Blast Monitoring
- c) Noise Monitoring
- d) Surface Water Monitoring
- e) Groundwater Monitoring

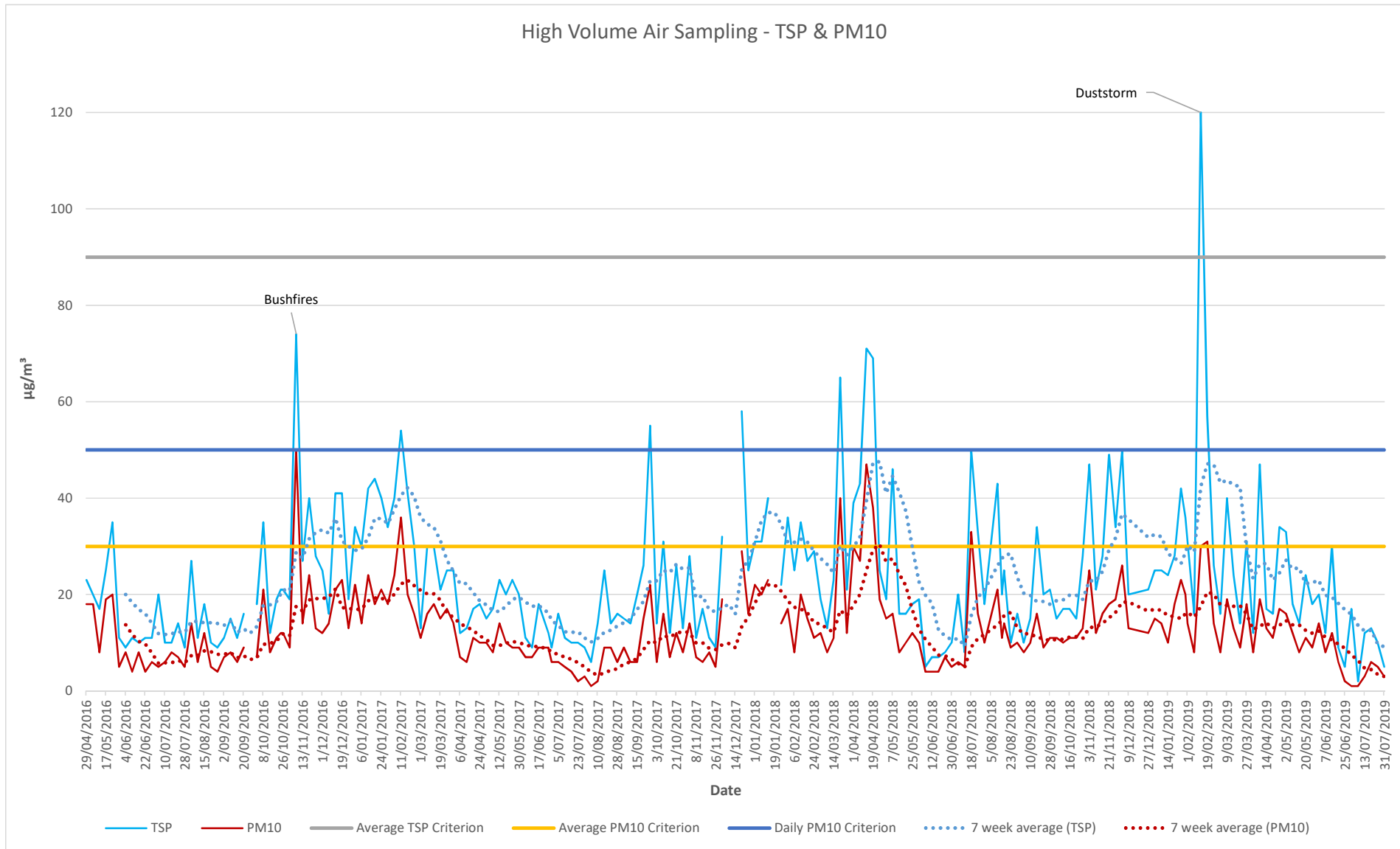
3a Air Quality Monitoring



High Volume Air Sampling (TSP & PM10)

Date	TSP ($\mu\text{g}/\text{m}^3$)	PM10 ($\mu\text{g}/\text{m}^3$)
1/02/2019	31	14
7/02/2019	16	8
13/02/2019	120	30
19/02/2019	57	31
25/02/2019	26	14
3/03/2019	16	8
9/03/2019	40	19
15/03/2019	24	13
21/03/2019	14	9
27/03/2019	31	18
2/04/2019	12	8
8/04/2019	47	19
14/04/2019	17	13
20/04/2019	16	11
26/04/2019	34	17
2/05/2019	33	16
8/05/2019	18	12
14/05/2019	14	8
20/05/2019	24	11
26/05/2019	18	9
1/06/2019	20	14
7/06/2019	12	8
13/06/2019	30	12
19/06/2019	9	6
25/06/2019	5	2
1/07/2019	17	1
7/07/2019	2	1
13/07/2019	12	3
19/07/2019	13	6
25/07/2019	10	5
31/07/2019	5	3
Year-to-date Average	26.5	13.1
Limit	90	30

3a Air Quality Monitoring (cont.)



3a Air Quality Monitoring (cont.)



Insoluble Solids (g/m²/month)

Date	DDG 1	DDG 2	DDG 3	DDG 4	DDG 5
18/07/2017 to 17/08/2017	0.6	0.5	0.6	0.5	0.8
17/08/2017 to 14/09/2017	1.4	0.2	1.4	1.5	0.7
14/09/2017 to 12/10/2017	1.1	0.1	1.2	1.8	1.5
12/10/2017 to 9/11/2017	1.7	0.5	0.9	1.0	1.2
9/11/2017 to 7/12/2017	1.0	1.8	0.7	1.8	2.1
7/12/2017 to 8/01/2018	1.3	0.6	1.1	1.7	1.3
8/01/2018 to 5/02/2018	1.5	0.8	1.3	1.0	0.7
5/02/2018 to 5/03/2018	1.6	1.0	1.5	1.5	2.0
5/03/2018 to 3/04/2018	0.6	0.6	1.1	2.6	0.9
3/04/2018 to 1/05/2018	0.8	1.0	1.0	1.7	0.7
1/05/2018 to 30/05/2018	0.9	0.5	0.7	1.1	0.3
30/05/2018 to 27/06/2018	0.6	0.5	0.4	0.9	0.5
27/06/2018 to 26/07/2018	0.7	0.6	0.6	1.2	0.6
26/07/2018 to 23/08/2018	0.9	0.9	0.9	1.3	0.8
23/08/2018 to 20/09/2018	1.6	1.0	0.6	0.7	0.9
20/09/2018 to 26/10/2018	1.2	0.9	0.6	1.0	1.0
26/10/2018 to 23/11/2018	1.5	3.4	1.1	1.1	2.1
23/11/2018 to 21/12/2018	1.3	0.6	0.1	3.0	1.2
21/12/2018 to 18/01/2019	0.8	0.4	2.2	0.2	0.9
18/01/2019 to 18/02/2019	1.7	2.7	1.2	1.0	2.5
18/02/2019 to 20/03/2019	2.4	2.5	1.7	1.7	3.7
20/03/2019 to 16/04/2019	2.1	4.0	0.9	1.0	1.8
16/04/2019 to 15/05/2019	0.8	1.2	0.5	4.8	1.1
15/05/2019 to 12/06/2019	0.4	0.6	0.3	<0.1	0.3
12/06/2019 to 15/07/2019	0.4	0.5	0.2	0.1	0.3
¹ Rolling Annual Average	1.3	1.3	0.9	1.2	1.2
² Annual Average Criteria	4.0	4.0	4.0	4.0	4.0

Note ¹: Rolling annual average from EPL 20611 anniversary date of 26 August.

Note ²: Maximum criteria as specified in EPL 20611.

3b Blast Monitoring



Blasting at KEQ results are shown below.

Date and time	Overpressure and vibration	Monitor Point 1 (Front Gate)	Monitor Point 2 (Location B)
2/02/2018	Overpressure dB(L)	114.4	108.1
	Vibration (mm/s)	1.20	0.68
18/04/2019	Overpressure dB(L)	121.3	114.9
	Vibration (mm/s)	0.55	0.68
3/05/2019	Overpressure dB(L)	Below detection limits	Below detection limits
	Vibration (mm/s)	Below detection limits	Below detection limits
15/07/2019	Overpressure dB(L)	Below detection limits	Below detection limits
	Vibration (mm/s)	Below detection limits	Below detection limits
30/08/2019	Overpressure dB(L)	Results are not yet available	
	Vibration (mm/s)		

3c Noise Monitoring



2019 Q1 Monitoring Results

Location	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L _{Amax}	L _{A1}	L _{A10}	L _{A90}	L _{Aeq}	
F Lot 50 DP 1036893	14/2/2019 07:45 W = 2.5m/s ESE Temp = 21°C	79	57	51	46	52	Local Traffic 60 - 79 dBA Pacific Highway 50 – 52 dBA Birds 47-50 dBA Plane 49 dBA Karuah East Project Inaudible
		Karuah East Quarry inaudible					
G Lot 3 DP 1032636	6/2/2019 10:48 W = 1.5m/s SE Temp = 21°C	54	43	37	32	35	Residential Construction 33 – 34 dBA Pacific Highway 29 – 32 dBA Birds 54 dBA Insects 34 – 35 dBA Karuah East Project Inaudible
		Karuah East Quarry inaudible					

2019 Q2 Monitoring Results

Location	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L _{Amax}	L _{A1}	L _{A10}	L _{A90}	L _{Aeq}	
F Lot 50 DP 1036893	22/05/2019 09:54 W = 1.7m/s SW Temp = 17°C	84	58	54	45	54	Car pass by 84 dBA Pacific Highway 45 to 52 dBA Plane 50 dBA Karuah East Project inaudible
		Karuah East Quarry inaudible					
G Lot 3 DP 1032636	22/05/2019 09:23 W = 1.2m/s WSW Temp = 15°C	79	60	57	40	49	Cattle 48 to 79 dBA Dogs 49 to 56 dBA Pacific Highway 39 to 44 dBA Plane 53 dBA to 55 dBA Karuah East Project inaudible
		Karuah East Quarry inaudible					

3d Surface Water Monitoring



Monthly Monitoring Results – Sediment Dams

Date	LDP001 (Dam 1)				LDP002 (Dam 2)				LDP003 (Dam 3)			
	pH (Lab)	TSS	Oil & Grease	EC	pH (Lab)	TSS	Oil & Grease	EC	pH (Lab)	TSS	Oil & Grease	EC
EPL Criterion	6.50 – 8.50	40	5	-	6.50 – 8.50	40	5	-	6.50 – 8.50	40	5	-
20/07/2018	6.50	12	<5	600	6.80	5	<5	540	7.40	63	<5	570
17/08/2018	6.71	12	<5	553	6.64	5	<5	604	7.16	14	<5	622
14/09/2018	7.09	33	<5	508	6.37	7	<5	405	6.94	6	<5	520
19/10/2018	6.78	81	<5	593	6.77	191	<5	268	8.07	38	<5	688
15/11/2018	7.42	76	<5	1035	6.76	14	<5	470	8.01	23	<5	833
18/12/2018	7.20	98	<5	543	4.62	162	<5	193	7.57	341	<5	758
18/01/2019	7.13	10	<5	975	6.55	17	<5	533	8.15	43	<5	975
18/02/2019	7.12	19	<5	862	6.53	19	<5	367	8.35	23	<5	1140
20/03/2019	6.89	44	<5	494	5.29	185	<5	536	7.57	30	<5	915
16/04/2019	8.03	415	<5	538	7.30	109	<5	185	7.49	164	<5	998
15/05/2019	6.78	406	<5	520	6.71	135	<5	264	7.69	19	<5	1049
12/06/2019	6.5	13	<5	631	6.37	25	<5	190	7.63	12	<5	846
15/07/2019	6.79	19	<5	524	6.37	9	<5	304	6.96	6	<5	1036

Units: pH in pH units, Total Suspended Solids (TSS) in mg/L, Oil & Grease in mg/L, Electrical Conductivity (EC) in $\mu\text{S/cm}$

Note: EPL Criterion is for discharge limits.

3d Surface Water Monitoring (cont.)



Monthly Monitoring Results – Creeks

Date	SW1 (Bulga Creek)				SW2 (Bulga Creek)				SW3 (Yalimbah Creek)				SW4 (Yalimbah Creek)			
	pH (Lab)	TSS	Oil & Grease	EC	pH (Lab)	TSS	Oil & Grease	EC	pH (Lab)	TSS	Oil & Grease	EC	pH (Lab)	TSS	Oil & Grease	EC
20/07/2018	-	-	-	-	6.50	14	<5	410	-	-	-	-	-	-	-	-
17/08/2018	-	-	-	-	6.52	16	<5	385	-	-	-	-	-	-	-	-
14/09/2018	-	-	-	-	6.72	10	<5	304	-	-	-	-	-	-	-	-
19/10/2018	-	-	-	-	6.34	20	<5	533	-	-	-	-	-	-	-	-
15/11/2018	-	-	-	-	6.57	19	<5	568	6.16	248	<5	243	-	-	-	-
19/12/2018	-	-	-	-	6.45	63	<5	448	-	-	-	-	-	-	-	-
18/01/2018	-	-	-	-	6.86	24	<5	533	-	-	-	-	-	-	-	-
18/02/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20/03/2019	-	-	-	-	6.51	16	<5	496	5.64	51	<5	202	-	-	-	-
16/04/2019	-	-	-	-	7.12	121	<5	506	-	-	-	-	-	-	-	-
15/05/2019	-	-	-	-	7.76	45	<5	510	-	-	-	-	-	-	-	-
12/06/2019	-	-	-	-	6.17	11	<5	531	5.77	12	<5	268	-	-	-	-
15/07/219	-	-	-	-	6.99	<5	<5	526	-	-	-	-	-	-	-	-

Units: pH in pH units, Total Suspended Solids (TSS) in mg/L, Oil & Grease in mg/L, Electrical Conductivity (EC) in µS/cm

3e Groundwater Monitoring



Groundwater Levels

Date	Unit	² BH205	³ BH207	BH208	BH303
30/03/2016	¹ metres	22.83	12.38	19.54	29.93
04/10/2016	¹ metres	24.00	9.61	19.77	30.45
04/04/2017	¹ metres	25.30	9.39	19.99	30.66
05/10/2017	¹ metres	22.87	8.88	19.90	30.60
17/01/2018	¹ metres	21.98	9.12	20.27	30.67
18/04/2018	¹ metres	21.69	9.20	20.47	30.80
26/07/2018	¹ metres	20.46	8.89	20.49	30.86
30/10/2018	¹ metres	20.40	9.30	19.98	30.80
18/01/2019	¹ metres	20.11	9.21	20.44	30.96
30/04/2019	¹ metres	20.30	9.20	20.45	30.61
23/07/2019	¹ metres	19.68	9.08	20.57	31.09

- Note:**
1. Groundwater levels are measured in metres below ground level.
 2. BH205 was relocated on 26 September 2016.
 3. BH207 was relocated on 13 March 2017.

4. Community Complaints



Community member was notified of correct procedure to lodge complaints.

No complaints have been received in the last three months.

Complaints relating to the Karuah East project can be made via telephone or through the Hunter Quarries website. Once a complaint has been received, the following procedure is followed:

- The details of the complaint will be recorded and investigated once received;
- Acknowledgement of the complaint will be made to the complainant within 24 hours of receiving the complaint;
- The complainant will receive notification within 3 working days of the outcome of the investigation; and
- Where applicable, a written response will be provided within 10 working days.

All complaints are recorded and kept for at least 4 years in accordance with Condition M5 of the EPL. A complaints register is also provided on the website, which is updated quarterly in accordance with the Project Approval.

5. Environmental Incidents



There was one environmental incident during this CCC period.

After a sustained period of rainfall over the 24 to 27 June 2019, KEQ dams experienced an uncontrolled discharge. A sampling program was put in place while water was discharging, results shown in **Table 1**.

Table 1 – TSS reported at Dams 1, 2 and 3

Date	Rainfall (mm)	TSS (mg/L)		
		Dam 1	Dam 2	Dam 3
18/06/19	16.4	ND	ND	ND
19/06/19	0.2	ND	ND	ND
20/06/19	0	ND	ND	ND
21/06/19	0.2	ND	ND	ND
22/06/19	1.6	ND	ND	ND
23/06/19	21.2	ND	ND	ND
24/06/19	22.0	182	49	ND
25/06/19	15.8	139	27	58
26/06/19	0.6	96	ND	51
27/06/19	0.8	103	ND	46

ND = no discharge

Bold text indicates exceedance of the licence limits

KEQ self reported this incident to the EPA, and was therefore required to prepare a report to explain the event. The EPA proceeded to issue a Penalty Notice; associated with a \$15,000 fine.

KEQ are currently in the process of constructing a water treatment system at dam 1 that will allow for efficient treatment of excessive total suspended solids in dam water.

5. Information provided to the Community and Feedback



- In 2018, KEQ was liaising with residents of Halloran and Huntview Road in regards to noise issues. The concerns regarding the excess noise have been acknowledged and KEQ has developed a plan to mitigate the noise and to meet consented noise levels. An investigation was carried out to determine appropriate acoustic mitigation measures. All recommended measures have now been successfully implemented.
- There is a blast register for anyone living in the vicinity of Karuah or Karuah East Quarry. If anyone wishes to be added to the register, they can phone the Weighbridge office on 4997 5966 or email joel.fleming@hunterquarries.com.au.
- Since Project Approval, the following information has been made publicly available:
 - Environmental Management Plans
 - Environmental Assessment Reports
 - Complaints Register
 - Environmental Monitoring Reports
 - Community Consultative Committee meetings and related documents

All the above information can be downloaded from the following webpage.

<http://hunterquarries.com.au/karuah-east-documents/>