



17.02.2023

DPM/MINES/PTK (ML-II)/MOEF: 2022 – 23

The Additional Principal Chief Conservator of Forest(c),

Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), Ist and IInd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai - 34

Dear Sir,

Sub: Submission of II Half yearly report on Ambient Air Quality of our Periathirukonam Limestone Mine, ML-II - Reg.

In order to fulfill the general condition No. B (iv) of environmental clearance letter No. J.11015/366/2005-IA-II (M) dated 25.01.2006, we submit herewith the II half yearly report for the year 2022 (July - 22 to Dec - 22) on Ambient Air Quality of our Periathirukonam Limestone Mine (ML - II).

Kindly acknowledge the receipt of the same.

Thanking you

Yours faithfully, For Dalmia Cement (Bharat) Limited,

Johnson D Mine Manager

Encl: As above

Cc: DISTRICT ENVIRONMENTAL ENGINEER
PUBLIC INFORMATION OFFICER, TAMILNADU POLLUTION CONTROL BOARD,4/326, TRICHY MAIN ROAD, NEARBY
RTO OFFFICE, KEELAPALUR POST, KEELAPALUR.ARIYALUR DISTRICT-621 707.

Compliance Report on Conditions Issued by MOEF on Periathirukonam Limestone Mines (ML – II) vide Lr. No. J.11015/366/2005-IA-II(M) dated 25.01.06

Annexure - 1

S.No	Conditions	Compliance
A	Specific Conditions	•
(i)	The Project proponent should obtain Prior approval of the Central Ground Water Authority (CGWA) for mining below water table.	Approval from the CGWA is obtained. Renewal application submitted to state ground and surface water resource data centre Tharamani, Chennai, which is under active consideration.
(ii)	Topsoil should be stacked properly with proper slope at ear-marked site(s) with adequate measures and should be used for reclamation and rehabilitation of mined out areas.	Topsoil mined is being used over the backfilled area above which plantations are being developed.
(iii)	OB should be stacked at earmarked dumpsite(s) only and should not kept active for long period. Proper terracing of OB dump should be carried out so that the overall slope shall not exceed 28 degree. Backfilling should start from 2 nd year onwards. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests on six monthly basis.	OB / Sub grade Limestone is stacked separately. Proper terracing of OB dump is carried out so that the overall slope is not exceeding 28 degree. Backfilling of the mined out area is in progress and till date about 5.55 Ha of the land is being backfilled. Monitoring and management of rehabilitated areas will continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests on six monthly basis.
(iv)	Catch drains and siltation ponds of appropriate size should be	Garland Drains are formed around the dumps to arrest the

	constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted and maintained properly. Garland drain (size, gradient & length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should	silt. All the water collected inside the pit is channelized to the sump. The sump is designed in such a way that safety margin over the previous rainfall data. The rainwater & seepage water collected in the mine sump is allowed to settle in the sump. Hence the mine sump acts as a settling tank. The water collected inside the pit is used for haul roads/greenbelt development
	also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains.	
(v)	Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation should be based on the rain fall data.	Garland drainage to check run off water is formed.
(vi)	Drills should be wet operated or with dust extractors.	Drill fitted with water mist system is deployed
(vii)	Blasting operation should be carried out only during daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Blasting is carried out with Non electric shock tubes to reduce the noise and ground vibrations. Blasting will not be carried out during the night time.
(viii)	Crusher should be operated with high efficiency bag filters. Water sprinkling system should be provided to check fugitive emissions from crushing operations, haulage roads, transfer points, etc.	Crusher is situated at the plant site located at 32 Kms away from the mines. The crusher is operated with bag filters to arrest the fugitive dust emissions from crushing operations, haulage roads, transfer points etc.,

(ix)	Water sprinkling arrangements to	Water sprinkling on haul roads
	control the fugitive dust generation	is done regularly to suppress
	from the haulage roads and to the	the dust.
	crusher should be provided.	
(x)	Measures shall be taken for	Proper periodical maintenance
	maintenance of vehicles used in	practice is being followed for
	mining operations and in	equipment and tippers used in
	transportation of mineral ore. The	mining operations The
	vehicles should be covered with	transportation vehicles are
	tarpaulin and should not be overloaded.	loaded upto the body level and
	Overloaded.	covered with tarpaulin during the transport.
(xi)	Progressive Mine Closure Plan	The mined out area is
(XI)	shall be implemented to backfill	backfilled in a phased manner
	and reclaim an area of 14.69 ha.	as per the approved mining
	The higher benches of the balance	plan. Till date about 5.55 ha is
	excavated void/mine pit	backfilled and plantations are
	comprising an area of 17.56 ha,	developed over that.
	which will be converted into a	Backfilling will be carried out
	water reservoir, shall be terraced	as per approved mining plan.
	and plantation done to stabilize the	
	slopes. Peripheral fencing shall be	At the end of mine life, the
	done along the excavated area.	remaining portion of the mined
		out area will be converted into
		a water storage reservoir. Fencing will be done around
		the excavated area
(xii)	Plantation should be developed in	Plantation is developed all
(1112)	an area of 24.505 ha. by planting	along the ML boundary and
	the native species around the ML	roads.
	boundary, OB dumps, roads and	
	undisturbed area etc., in	
	consultation with the local	
	DFO/Agriculture department. The	
	density of the trees should be	
	around 2000 plants per hectare.	
(xiii)	A final mine closure Plan along	Not applicable at this stage
	with details of Corpus Fund should	
	be submitted to the Ministry of	
	Environment & Forests 5 years prior to closure of mine for	
	approval of the ministry.	
L	approvar or the ministry.	

(xiv)	Consent to operate should be obtained from State Pollution Control Board expanding mining activities.	Consent to Operate obtained from State Pollution Control Board.
В	General Conditions	
(i)	No change in technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Mechanised method of Mining is followed and there is no change in mining technology.
(ii)	No change in the calendar plan including excavation, quantum of limestone, waste / OB dumps should be made.	The quantity of limestone is restricted as per the plan.
(iii)	Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest department and experts.	The flora & fauna study was conducted and the conservation measures is carried out.
(iv)	Ambient air quality-monitoring stations should be established in the core zone as well as buffer zone for SPM and RPM monitoring. Location of the ambient air quality stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and the frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Ambient Air quality readings are taken from the stations already established in the core zone and buffer zone as per our REIA/EMP approved by your office.
(v)	Data on air quality should be regularly submitted to the Ministry including its Regional Office at Bangalore and the State Pollution Control Board / Central Pollution Control Board once in six months.	The season wise data on ambient air quality collected are submitted to the MoEF, Regional Office at Bangalore and the State Pollution Control Board once in six months

(vi)	Adequate measures for control of fugitive emissions should be undertaken such as water spraying arrangements on haul roads, loading and unloading points and transportation of minerals, etc. Fugitive dust emissions from all sources should be regularly monitored and data recorded properly.	Drills are operated with water mist system for dust suppression. Water sprinkling is being done on haul roads regularly. Dust emission is monitored every fortnightly and data maintained. Vehicles carrying Limestone
		were covered with tarpaulin to prevent the dust from being airborne.
(vii)	Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operations of HEMM etc., should be provided with ear plugs/muffs.	Noise level is maintained well below 85 dBA. Periodical monitoring is carried out by TNPCB on yearly basis. Persons are provided with PPE.
(viii)	Industrial waste water (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of effluents from the Workshop.	The workshop water is properly collected in the up flow filters before discharge, in order to trap the oil and grease in the effluent. The water is then used for afforestation purposes.
(ix)	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers should be undertaken periodically and	All our mine employees are provided with protective equipment such as dust mask, earplugs, shoes, helmets etc. Periodical Medical Examination is done for all our Mine employees regularly.

	corrective measures taken, if required.	Training on Safety and Health aspects is given at regular intervals for all our Mine Employees as per Mines Vocational training Rules 1966.
(x)	The funds earmarked for environmental protection measures should be kept in separate account and not diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment & Forests.	The fund earmarked from the Company will be spent for the Environmental Protection measures only.
(xi)	The project authorities should inform to the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	The final approval of the project was informed to the MoEF, Regional Office at Bangalore. The fund required for the project was managed from the resources internally from the company. Hence the date of Financial Closure is not applicable.
(xii)	The Regional Office of this Ministry located at Bangalore shall monitor compliance of the stipulated environmental conditions. The project authorities should extend full co-operation to the officer(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.	_
(xiii)	A copy of the clearance letter should be marked to concerned Panchayat/local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.	A copy of the clearance letter was given to Panchayat as advised.

(xiv)	The State Pollution Control Board	
(2117)	should display a copy of the	
	clearance letter at the Regional	
	9	_
	office, District Industry Centre and	
	the Collector's/Tahsildar's office	
	for 30 days.	
(xv)	The Project authorities should	The Advertisement was given
	advertise at least in two local	in two local newspapers as
	newspapers widely circulated	advised by you and the copy of
	around the project, one of which	the same was submitted to your
	shall be in the vernacular language	Regional office.
	of the locality concerned within 7	
	days of issuance of the clearance	
	letter informing that the project has	
	been accorded environmental	
	clearance and a copy of the	
	clearance letter is available with	
	the State Pollution Control Board	
	and may also be seen at web site of	
	the Ministry of Environment &	
	Forests at http://envfor.nic.in .	

40 milligram

/cu.m

PERIATHIRUKONAM LIMESTONE MINES (ML - 2) (General condition No. B (iv) of environmental clearance letter No. J.11015/244/2005-IA-II(M) dated 28.10.2005) AIR QUALITY - PERIATHIRUKONAM LIMESTONE MINES FIRST HALF YEARLY REPORT (July 2022 to December 2022) Abstract of Ambient Air quality data for the period July 22 to September 22 Sulphur Nox as PM- 10 PM - 2.5 Dioxide CO (NO2) Station Name (SO₂) (in µg /m³) (in $\mu g / m^3$) (in $\mu g / m^3$) (in $\mu g/m^3$) $(\mu g/m3)$ Number of observations 8 8 8 8 8 *Periathirukonam 60.52 7.41 23.69 19.44 < 0.1 Limestone Mines *Elleri Village 57.96 22.86 7.31 18.46 <0.1 ʻldaiyattankudi 19.43 6.71 49.64 15.87 <0.1 Village *Chetti Tirukonam 48.68 19.12 6.83 15.61 Village <0.1 **Ottakovil Village 45.79 18.08 6.16 14.77 <0.1 **Kallakudi Village 50.20 19.85 6.41 16.13 <0.1 **Poyyur Village 58.35 22.96 7.01 18.72 <0.1 **Pudupalaiyam 56.61 22.34 6.77 18.14 Village < 0.1 40 milligram NAAQ Norms* 100 80 80 60 /cu.m Abstract of Ambient Air quality data for the period October 22 to December 22 Sulphur Nox as PM- 10 PM - 2.5 Dioxide CO Station Name (NO2) (SO₂) (in $\mu g / m^3$) (in µg /m³) (in $\mu g / m^3$) (in $\mu g / m^3$) $(\mu g/m3)$ Number of observations 8 8 8 8 8 *Periathirukonam 56.11 6.91 21.89 18.04 <0.1 Limestone Mines *Elleri Village 51.26 6.47 16.47 <0.1 20.16 'ldaivattankudi 51.26 20.16 6.47 16.47 <0.1 Village *Chetti Tirukonam 46.32 18.29 6.56 14.87 <0.1 Village 6.27 **Ottakovil Village 49.22 19.22 15.82 < 0.1 **Kallakudi Village 45.01 17.66 6.10 14.45 <0.1 **Poyyur Village 6.21 16.77 52.19 20.57 <0.1 **Pudupalaiyam 50.04 19.53 5.94 16.06 < 0.1 Village

NAAQ Norms*

100

60

80

80

Annexure 3 Construction of Borewell and motor setup in Alandhuraiyarkattalai village (Near our PTK mines







Soil test sample collection program in Chettithirukonam Village



Opening of three Self Help Group In Edayathankudi village



Annexure-4

Details of Green Belt For Periyathirukonam Limestone Mines (ML2)				
	No. of Saplings		Exter	nt (Ha)
Year	within lease	outside lease	within lease	outside lease
Total as on 30.06.2022	7339	1992	6.26	1.83
Upto 31.12.2022	1900	0	1	0
Total	9239	1992	7.26	1.83

AFFORESTATION IN PERIATHIRUKONAM LIMESTONE MINES $ML-2\,$





Compliance Report on Conditions Issued by MOEF on Periathirukonam Limestone Mines (ML – II) vide Lr. No. J.11015/366/2005-IA-II(M) dated 25.01.06

S.No	Conditions	Compliance
A	Specific Conditions	•
(i)	The Project proponent should obtain Prior approval of the Central Ground Water Authority (CGWA) for mining below water table.	Approval from CGWA is obtained.
(ii)	Topsoil should be stacked properly with proper slope at earmarked site(s) with adequate measures and should be used for reclamation and rehabilitation of mined out areas.	Topsoil mined is being used over the backfilled area above which plantations are being developed.
(iii)	OB should be stacked at earmarked dumpsite(s) only and should not kept active for long period. Proper terracing of OB dump should be carried out so that the overall slope shall not exceed 28 degree. Backfilling should start from 2 nd year onwards. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests on six monthly basis.	
(iv)	Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted and maintained properly.	monthly basis. Garland Drains are formed around the dumps to arrest the silt. All the water collected inside the pit is channelized to the sump. The sump is designed in such a way that safety margin over the previous rainfall data. The rainwater & seepage water collected in the mine sump is

	Garland drain (size, gradient & length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains.	allowed to settle in the sump. Hence the mine sump acts as a settling tank. The water collected inside the pit is used for haul roads/greenbelt development
(v)	Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation should be based on the rain fall data.	Garland drainage to check run off water is formed.
(vi)	Drills should be wet operated or with dust extractors.	Wagon drill fitted with water mist system is deployed
(vii)	Blasting operation should be carried out only during daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Blasting is carried out with Milli – Second Delay Detonators to reduce the noise and ground vibrations. Blasting will not be carried out during the night time.
(viii)	Crusher should be operated with high efficiency bag filters. Water sprinkling system should be provided to check fugitive emissions from crushing operations, haulage roads, transfer points, etc.	Crusher is situated at the plant site located at 32 Kms away from the mines. The crusher is operated with bag filters to arrest the fugitive dust emissions from crushing operations, haulage roads, transfer points etc.,
(ix)	Water sprinkling arrangements to control the fugitive dust generation from the haulage roads and to the crusher should be provided.	Water sprinkling on haul roads is done regularly to suppress the dust.
(x)	Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral ore. The vehicles should be covered with tarpaulin and should not be	Proper periodical maintenance practice is being followed for equipments and tippers used in mining operations The transportation vehicles are loaded upto the body level and

	overloaded.	covered with tarpaulin during the transport.
(xi)	Progressive Mine Closure Plan shall be implemented to backfill and reclaim an area of 14.69 ha. The higher benches of the balance excavated void/mine pit comprising an area of 17.56 ha, which will be converted into a water reservoir, shall be terraced and plantation done to stabilize the slopes. Peripheral fencing shall be done along the excavated area.	The mined out area is backfilled in a phased manner as per the approved mining plan. Till date about 2 ha is backfilled and plantations are developed over that. Backfilling will be carried out as per approved mining plan. At the end of mine life, the remaining portion of the mined out area will be converted into a water storage reservoir. Fencing will be around the excavated area
(xii)	Plantation should be developed in an area of 24.505 ha. by planting the native species around the ML boundary, OB dumps, roads and undisturbed area etc., in consultation with the local DFO/Agriculture department. The density of the trees should be around 2000 plants per hectare.	Plantation is developed all along the ML boundary and roads.
(xiii)	A final mine closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years prior to closure of mine for approval of the ministry.	Not applicable at this stage
(xiv)	Consent to operate should be obtained from State Pollution Control Board expanding mining activities.	Consent to Operate obtained from State Pollution Control Board.
В	General Conditions	
(i)	No change in technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Mechanised method of Mining is followed and there is no change in mining technology.
(ii)	No change in the calendar plan including excavation, quantum of limestone, waste / OB dumps should be made.	The quantity of limestone is restricted as per the plan.

(iii)	Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest department and experts.	The flora & fauna study was conducted and the conservation measures is carried out.
(iv)	Ambient air quality-monitoring stations should be established in the core zone as well as buffer zone for SPM and RPM monitoring. Location of the ambient air quality stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and the frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Ambient Air quality readings are taken from the stations already established in the core zone and buffer zone as per our REIA/EMP approved by your office.
(v)	Data on air quality should be regularly submitted to the Ministry including its Regional Office at Bangalore and the State Pollution Control Board / Central Pollution Control Board once in six months.	The season wise data on ambient air quality collected are submitted to the MoEF, Regional Office at Bangalore and the State Pollution Control Board once in six months
(vi)	Adequate measures for control of fugitive emissions should be undertaken such as water spraying arrangements on haul roads, loading and unloading points and transportation of minerals, etc. Fugitive dust emissions from all sources should be regularly monitored and data recorded properly.	Drills are operated with water mist system for dust suppression. Water sprinkling is being done on haul roads regularly. Dust emission is monitored every fortnightly and data maintained. Vehicles carrying Limestone were covered with tarpaulin to prevent the dust from being airborne.
(vii)	Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations,	Noise level is maintained well below 85 dBA. TNPCB monitoring periodically. Periodical monitoring is carried out by TNPCB on

	operations of HEMM etc., should be provided with ear plugs/muffs.	yearly basis. Persons are provided with PPE.
(viii)	Industrial waste water (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of effluents from the Workshop.	The workshop water is properly collected in the up flow filters before discharge, in order to trap the oil and grease in the effluent. The water is then used for afforestation purposes.
(ix)	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers should be undertaken periodically and corrective measures taken, if required.	All our mine employees are provided with protective equipments such as dust mask, earplugs, shoes, helmets etc. Periodical Medical Examination is done for all our Mine employees regularly. Training on Safety and Health aspects is given at regular intervals for all our Mine Employees as per Mines Vocational training Rules 1966.
(x)	The funds earmarked for environmental protection measures should be kept in separate account and not diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment & Forests.	The fund earmarked from the Company will be spent for the Environmental Protection
(xi)	The project authorities should inform to the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	The final approval of the project was informed to the MoEF, Regional Office at Bangalore. The fund required for the project was managed from the resources internally from the company. Hence the date of Financial Closure is not

		applicable.
(xii)	The Regional Office of this Ministry located at Bangalore shall monitor compliance of the stipulated environmental conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	
(xiii)	A copy of the clearance letter should be marked to concerned Panchayat/local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.	A copy of the clearance letter was given to Panchayat as advised.
(xiv)	The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's/Tahsildar's office for 30 days.	_
(xv)	The Project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within 7 days of issuance of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at web site of the Ministry of Environment & Forests at http://envfor.nic.in .	The Advertisement was given in two local newspapers as advised by you and the copy of the same was submitted to your Regional office.