



MEGHALAYA CEMENTS LIMITED

CIN- U26942ML2003PLC007125



Ref: - MCL/ENV/MOEF&CC/Compliance-I/2019-20/21

Date:- 20.11.2019

To,
The Addl. Director General (Central)
Ministry of Environment Forest & Climate Change,
North Eastern Regional Office, Shillong,
Meghalaya

Sub: - Submission of half yearly compliance report for the period from April'2019 to September'2019.

Dear Sir,

We are hereby furnishing the half yearly compliance report (hard copy and soft copy) for the period from April'2019 to September'2019 on Environmental Stipulations for Expansion of Cement Plant (from 900 TPD to 2600 TPD) along with 10MW Captive Power Plant at village – Thangskai, East Jaintia Hills District, Meghalaya, vide your Environmental Clearance letter no SEIAA/PROJECT-2/2007/18 dated 25th March'2009.

This is for your kind information and perusal. You are requested to kindly acknowledge the receipt of the same.

Thanking you,

Yours faithfully,
For Meghalaya Cements Limited,

(R.K. Pareek)
President

Encl: As stated above

Copy to:

- 1) The Member Secretary, State Environment Impact Assessment Authority, Shillong
- 2) The Member Secretary, Meghalaya State Pollution Control Board, Shillong



ISO 9001:2015 & 14001:2015
50001:2011 Certified Company

Sales & Marketing Office:
Mega Plaza, 4th Floor, Christian Basti,
G.S. Road, Guwahati - 781 005
Tel : 0361 2345421/22/23, Fax : 0361 2345419
E-mail : guwahati@topcem.in
Web : www.topcem.in

Kolkata:
BE-77, Salt Lake City
Sector-II, Kolkata - 700 064
Tel : 033 2334 0666 / 0084
Fax : 033 2334 0505
E-mail : kolkata@topcem.in

Registered Office:
Village: Thangskai, P.O. & P.S. Lumshing
District: East Jaintia Hills, Meghalaya, PIN: 793210
Tel : +91 98742 17765 / 70850 58489 / 98625 08599
E-mail : meghalaya@topcem.in



HELPLINE NO : 18001233666

Half yearly Compliance Report (for the period April'19 to Sep'19) on Environmental Stipulations for Expansion of Cement Plant (from 900 TPD-2600 TPD), along with 10 MW Captive Power Plant at Thangskai, East Jaintia Hills District by M/s Meghalaya Cements Ltd. – Environmental Clearance Letter No. SEIAA/PROJECT-2/2007/18; Dated 25th March 2009.

Sl. No. as per letter dated 25.03.2009 of State Environment Impact Assessment Authority

Compliance Status

SPECIFIC CONDITIONS

(i)	A stack of 100 m height shall be provided with continuous on-line monitoring system in respect of Thermal Power Plant [TPP] The data collected shall be analyzed and submitted regularly to the Meghalaya State Pollution Control Board.	Complied with. A stack of required height is provided and opacity meter for continuous online monitoring (CEMS) is provided. The data transmission of online data to MsPCB and CPCB are being done through the system.
(ii)	High efficiency Electrostatic Precipitators [ESPs] of not less than 99.98% efficiency shall be installed in the TPP to limit particulate emission to 50 mg/Nm ³	Complied with. ESP is provided for thermal power plant and it is working effectively.
(iii)	Sorbent limestone shall be fed (12% of coal by weight) along with coal in the boiler of the TPP to reduce formation of Sox and thus help neutralize the impact of sulphur in coal.	Complied with. Provision has been made for lime feeding in boiler through over bed feeding system to reduce the formation of Sox. Project proponent is using limestone for above purpose, as per requirement of the process.
(iv)	Space provision shall be made for Flue Gas De-sulphurisation [FGD] unit of requisite efficiency for removal of SO ₂ when required at a later stage.	Complied with. Provision for flue gas De-sulphurisation has made.



(v)	Dust extraction and suppression system along with water sprinklers shall be provided for controlling fugitive dust during transportation, in coal storage area and other vulnerable area of the TPP.	Complied with. Water sprinkling is being carried out on daily basis in plant premises on the places where fugitive dust particles are present. Provision of water sprinklers system has made at coal storage area and other vulnerable area of TPP.
(vi)	Water requirement for the Thermal Power Plant shall be met from the existing water source. No ground water shall be extracted for the power plant at any stage.	Complied with. No extraction of ground water for Thermal Power plant is being done.
(vii)	Closed Cycle Cooling system with induced draft cooling towers shall be provided in the Thermal Power Plant.	Complied with. Closed cycle cooling system has been adopted and recirculation of cooling water is being practiced
(viii)	Fire protection system shall be made in coal stock yard and other vulnerable areas of the TPP. Fire protection equipment and machinery should be tested periodically and shall always be kept in operational mode. Mock drills shall be conducted regularly.	Complied with. Regular safety training is being provided. Fire protection system along with fire extinguisher of various types is already installed within the entire premises as well as other vulnerable areas of TPP. The fire protection equipments and machineries are being tested periodically and kept in operation mode. Mock drills are being conducted every year by our Safety & Vigilance Department. Details of Mock drills and trainings are attached herewith. Annexure-1
(viii) (a)	The PP is prohibited to use high sulphur local coal in its thermal power plant.	Complied with. PP is not using high sulphur local coal in its thermal power plant.
(ix)	The treated effluents shall be re-circulated and reused within the plant area. There shall be no waste water discharge outside the plant boundary.	Complied with. The treated water is being utilized for greenbelt development around the plant and colony. Also a surface water sump is made for recycle/Treatment.



(x)	Rain water harvesting shall be practiced. A detailed scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority/State Ground Water Board within six months of receipt of Environmental Clearance.	Complied with. The PP has upgraded the existing system. Scheme for rain water recharging pit has been made, the lay out copy is submitted earlier. The rain water collection and reuse also being practiced to fulfill the requirement of cooling water as well as drinking purpose during monsoon period.
(xi)	Permission for drawl of water of the required quantity from the streams in favor of the Cement – Thermal Power Plant complex shall be secured from the competent Authority within 6 (six) months of receipt of Environmental Clearance.	Complied with. Permission for drawing of water has been obtained from Executive Engineer (Irrigation), Jaintia, Hills Dist; vide letter no.AID (J) 223/2007-2008, Dated Jowai 24/03/08 was enclosed earlier.
(xii)	Noise level in the Thermal Power Plant premises shall be limited to 75 dB and regular maintenance of equipment should be undertaken. For personnel working in high noise areas, personal protection devices like earplugs /ear muffs, etc. should be provided. Workers engaged in noisy areas such as turbine area, air compressors, etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss apart from exercising option of shifting to non noisy/less noisy areas when necessary.	Complied with. Noise level in TTP premises is under limit. Necessary PPEs to employee are being provided. We have fully automated system for operation of turbine, so the exposure of employee to the high noise is minimum. The PP has provided an acoustic covered screw air compressor to maintain the noise level within the acceptable limit. The regular routine testing is been carried out as per the manufacturers' manuals and, by using the necessary PPE's. (Half yearly report is enclosed). <i>Annexure-II</i>
(xiii)	Acoustic hoods shall be provided in respect of all equipment that has potential to contribute towards noise pollution and additionally technical improvement measure detailed in Para 4.3.2 of the EIA/EMP report of the project proponent shall be adopted in the TPP towards noise attenuation.	Complied with. The project proponent has provided acoustic hoods in the Thermal Power Plant.

(xiv)	Dry ash collection system shall be provided in the Thermal Power Plant. 100% ash utilization shall be ensured from the very first day of commissioning of the Thermal Power Plant.	Complied with. Fly ash generated in Captive Power Plant is completely collected silo through ESP and it is being loaded into tankers for feeding to cement mill hoppers pneumatically. Hence 100% consumption of the ash generated is achieved in our cement plant.
(xv)	The stack emission from various sources shall not exceed 50 mg/Nm ³	Complied with. (Six month's report is enclosed) as an <i>Annexure- II</i>
(xvi)	The project proponent shall get the optimum functioning of the environmental protection equipment certified by a technical institution of repute.	Complied with. Performance assessment has been conducted as per as the norms by the NCCBM, New Delhi. The test results are submitted earlier. Further the project proponent is continuously maintaining the pollution control devices to maintain the efficiency.
(xvii)	Bag House/Filters shall be provided to control the fugitive emission during loading and unloading of raw materials/intermediate and finished products.	Complied with. Nuisance bag filters has been provided to control fugitive emission at Raw Mill, Coal Mill, Kiln and Cement mill. Water sprinkler has also installed at transportation area, Coal storage area and other vulnerable area of the plant.
(xviii)	The project proponent shall store all the raw materials except limestone in covered sheds to control fugitive emission. The coal storage facility should have water sprinkling facility in order to arrest fire hazard, if any.	Complied with. Proper water sprinkling on the places of fugitive dust generation is implemented and controlled.
(xviii) (a)	The storage of the coal dump shall be housed by permanent sheds open on all sides and stacked on impervious floor, preferably cemented to prevent Acid Mine Drain (AMD).	Agreed for compliance. Construction of permanent shed for storage of coal with cemented flooring is in process and will be completed shortly.
(xviii) (b)	The project proponent shall construct garland drains along with Acid Mine Drains Neutralisation tanks, in	Agreed for compliance. Garland drain is provided along the shed and shed is covered from all side to avoid any

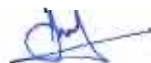
	consultation with and approved by the state pollution control board.	contamination of surface water due to storage of coal.
(xviii) (c)	No direct discharge of AMD into any drains/natural drains shall be allowed; proper treatment of AMD shall be done by the Project Proponent in the Neutralisation Tank before releasing the water to the drain/natural drain, which shall be duly approved by the Meghalaya State Pollution Control Board .	Agreed for compliance. Garland drain is provided along the shed and shed is covered from all side to avoid any contamination of surface water due to storage of coal. No direct discharge of AMD will be assured by the PP.
(xix)	The ambient air quality monitoring stations shall be set up as per statutory requirement in consultation with the Meghalaya State Pollution Control Board (MsPCB) and additional stations shall be installed, in the downwind direction as well as where maximum ground level concentrations are anticipated.	Complied with. Ambient Air Quality monitors – Installed as required having one point at crusher area where maximum concentration is anticipated. (Six month's report is enclosed) Annexure-II
(xx)	Quarterly reports on emission levels, surface and ground water quality shall be submitted to Meghalaya State Pollution Control Board, Chromium (VI) level in nearby surface water bodies flowing in the eastern site of the Plant, and ground water shall be monitored and reported to the MSPCB. Water in the Common Effluent Pit of the TPP shall be monitored monthly for Chromium (VI) toxicity and ensured that its level dose not rise beyond 0.05 mg/t.	Complied. Monitoring of surface water from River pumped to CPP and surface water from water harvesting pit near primary crusher is being tested and reports are being submitted to MsPCB, Chromium (VI) level testing from the effluent is also been tested on monthly basis and reports are attached herewith. Annexure- III

(xxi)	Total water requirement shall not exceed 2000 cum/day [inclusive of the water requirement of the TPP]. The project proponent shall install sewage treatment plant of minimum 120 m ³ /day capacity employing suitable and appropriate technology to treat domestic sewage and treated sewage shall be utilized for green belt development. No waste water shall be discharged outside the premises and zero discharge shall be ensured. No surface runoff from the factory premises shall either reach/contaminate Um-lunar River or any other stream flowing near the industrial location.	Complied. Total water requirement will not exceed 2000cum/day including TPP. The PP has install the STP to treat and reuse the residential waste water and ETP to treat and reuse the waste water generated from HEMM workshop to ensure zero discharge.STP treated water is being used for greenbelt development and sprinkling purpose. ETP treated water is reuse for vehicle washing. Annexure-II
(xxii)	The project proponent shall make all out effort to use high calorific value hazardous waste in the kiln towards which necessary provision shall be made.	Complied with. The project proponent has made a mechanical arrangement for feeding of plastic waste in pre-calciner at pre- heater and using the waste as alternative fuel on availability basis. Application for obtaining necessary NOC for utilization of high calorific waste has been submitted to MsPCB.
(xxiii)	The project proponent shall transport raw materials and industrial products through covered means.	Complied with. Raw materials like coal and industrial products like clinker are being transported from one location to other location by properly covered with tarpaulin to avoid any spreading of fugitives.
(xxiv)	Thirty three percent of the core project area i.e. 20.143 Ha of land shall be developed as green belt by the project proponent as per the guidelines of Central Pollution Control Board to mitigate the effect of fugitive emission, incurring the expenditure as stated by the project proponent. The program ought to be completed within 5 years from the date of issue of prior Environmental Clearance. Suitable species in respect of the same for the stated area shall	Complied with. Development of Green belt had been started in the Year 2009 and 100% of the project area (i.e. 20.44 Ha) plantation has been completed. Suitable local species are being planted as per the suggestions given by the Sr. Engineer, (CPCB) & DFO (Territorial); East Jaintia hills Dist, Jowai. The details are enclosed herewith for your kind reference. Additional 03 numbers of blocks having total area of 2.79 ha has been planted with local species around the project area. Total plantation including project area and around

	be approved by the project proponent from the DFO (Territorial) of Jaintia Hills District.	the project area is 22.835 ha. Annexure - IV
(xxv)	The project proponent shall provide a Health Care Center with all emergency medicines and ambulance along with regularly serving doctors complete with emergency unit that would function round the clock. Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained in compliance of provisions contained on Chapter III and V of the Factories Act, 1948.	Complied with. The Health Care Centre is functioning under qualified Doctor, Nurses and staffs. The Project proponent has also an Ambulance facility to meet up the emergency.
(xxvi)	The salaries of the Cleaners shall be raised by 30% from the present Rs.2500/- p.m. as assured by the project proponent at p.0.15 of the EIA/EMP report in response to concern raised during the Public Hearing.	Complied with. The salaries of Cleaners are being reviewed on the yearly basis. The details are already submitted earlier. Annex-VIII
(xxvii)	Measures shall be taken to prevent impact of particulate emission/fugitive emission, if any, from the proposed plant on the surrounding private forest areas depicted in their land use study.	Complied with. Necessary measures such as bag filter maintenance, Dust suppression is being practiced. Ambient Air Quality Analysis nearby plant area is being done on regular basis. Annex-IX
(xxviii)	The project proponent shall take all such measures as are necessary in the matter of utilization of limestone towards ensuring that no unscientific extraction of limestone is encouraged in the process.	Complied with. The Project proponent ensures that no unscientific extraction of limestone is encouraged in the process.



(xxix)	<p>Meghalaya has been recognized as a cradle for several endemic species and an important constituent of the biodiversity hotspots spread over North East India. Therefore, as a measure of protection of rich biodiversity of the region, the project proponent shall cover an area of not less than 2 ha where would be located green house, mist chamber etc. (within the green belt area already stipulated above), locate conservation plots in respect of at least two of the following species of endangered and endemic plants reported to have been occurring within the region:</p> <ul style="list-style-type: none"> i) <i>Pteracanthus griffithianus</i>, Acanthaceae ii) <i>Nepenthes Khasiana</i>, Nepenthaceae iii) <i>Argostemma khasianum</i>, Rubiaceae iv) <i>Fimbristylis nigrobrunnea</i>, Cyperaceae v) <i>Trivalvaria katiilali</i>, Annonaceae vi) <i>Begonia rubrovenia</i>, Begoniaceae vii) <i>Ceologyne ovalis</i>, Orchidaceae <p>A scheme /conceptual plan of raising such threatened species shall be prepared in consultation with a reputed institution such as Botanical Survey of India complete with cost and activity schedule within one year from date of issue of prior Environmental Clearance.</p>	<p>Complied with.</p> <p>The Project proponent has started the work in co-ordination with Environment Department of North Eastern Hill University, Shillong. The NEHU, officials have already appointed a Project fellow for the Project and he is now working at our site on Biodiversity Conservation Plan with focus on conservation of the schedule –I species in the area. The green house has developed and conservation of three flora species namely: <i>Fimbristylis nigrobrunnea</i>, Cyperaceae, <i>Begonia rubrovenia</i>, Begoniaceae and <i>Ceologyne ovalis</i>, Orchidaceae has been initiated</p> <p>Annexure –V</p>
(xxx)	<p>The project proponent shall sponsor research and development for conservation of threatened category of species occurring locally such <i>Hedychium dekianum</i>, [Zingiberaceae], <i>Cymbidium eburneum</i> (Orchidaceae), or <i>Dendrobium denonianum</i> (Orchidaceae) which would be carried out by an appropriate research or academic institution located in</p>	<p>Complied with.</p> <p>The Project proponent has started the work in co-ordination with Environment Department of North Eastern Hill University, Shillong. The NEHU, officials have already appointed a Project fellow for the Project and he is now working at our site on Biodiversity Conservation Plan with focus on conservation of the schedule –I species in the area. The green house has developed and conservation of three flora species namely: <i>Fimbristylis nigrobrunnea</i>, Cyperaceae, <i>Begonia</i></p>



	Meghalaya within a year of issue of prior Environmental Clearance. The research project shall be instituted at an expenditure of a minimum of Rs.5 lakh per year spread over at least 3 years.	<i>rubrovenia</i> , Begoniaceae and <i>Ceologyne ovalis</i> , Orchidaceae has been initiated Annexure -V
(xxxii)	A Conservation Plan for conservation of wild fauna in consultation with a reputed institution such as Wildlife Institute of India, Dehradun shall be prepared and implemented. Such conservation plan drawn in respect of wild life shall be completed within a maximum of 1 year from the date of issue of prior Environmental Clearance and implemented thereafter by the project proponent.	Complied with. Questionnaire survey to account for the existing fauna in the project area and its surrounding has been completed and the list of fauna has provided by NEHU. Further, camera traps have been installed near the project area and final report on existing fauna in the project area will be prepared by NEHU on the basis of data acquired by camera traps. Plantation of fruit plan bearing species in the project area has done as per Central Pollution Control Board guideline, so as to encourage the increase visitation and roosting of avian species. Annexure -V
(xxxii)	A sum of Rs.2109.52 lakh shall be spent towards capital expenditure as stated by the project proponent towards environment protection and a further sum of Rs.501.60 lakh as recurring cost annually shall be spent by the project proponent towards environmental protection.	Complied with. An expenditure detail is enclosed herewith. Annexure -VI
(xxxiii)	A sum of Rs.50 lakh shall be utilized annually by the project proponent till the project subsists towards socio-economic/eco-development activities in the area part of which shall be spent towards distribution of free medicines, malaria eradication program etc. in the nearby villages. A portion of the sum (5%) shall be set apart annually towards creation of employees' welfare fund. Details of	Complied with. Implementation done and the expenditure details are enclosed herewith. Annexure -VII

	expenditure incurred under this Para shall form part of the compliance report to be submitted to the SEIAA/SEAC. Further, a comprehensive long term eco-development plan shall be prepared by the project proponent within six months of receipt of prior Environment Clearance.	
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A. GENERAL CONDITIONS

In respect of the Cement Plant – Thermal Power Plant project the following general conditions shall be adhered to by the project proponent:

(i)	The project proponent shall strictly adhere to the stipulations of the MSPCB/State Government or any other statutory body as framed/modified from time to time.	Complied. Following the stipulation of MSPCB.
(i)-a	The Project Proponent shall not violate applicable provisions of any Acts, Rules Orders of the Government and judicial orders issued by the Hon'ble Supreme Court/High Courts/NGT, applicable to the project.	Agreed for compliance. The Project Proponent will implement all applicable provisions of any Acts, Rules Orders of the Government and judicial orders issued by the Hon'ble Supreme Court/High Courts/NGT, applicable to the project.
(ii)	At no point of time, either the clinker production or cement production of either PPC or OPC type shall exceed the limit of 2600 tons per day.	Agreed for compliance.
(iii)	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment & Forests or their nominated authority as the case may be. In case of deviation or alteration in the project proposal from those submitted to the Committee for clearance, a fresh reference shall be made to the SEAC through SEIAA to assess the adequacy of conditions	Agreed for compliance. No further expansion or modification will be carried out without prior clearance.

	imposed and to add additional environmental protection measures required, if any.	
(iv)	<p>The gaseous emissions (SO₂, NO_x) and particulate matter levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no point of time, the emissions shall exceed the prescribed limits. Interlocking system of equipment shall be chosen such that in the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.</p>	<p>Complied. ABB make SCADA based Interlocking is in system to control SO₂, NO_x levels in case of failure and working effectively</p>
(v)	<p>The project authorities should adhere to the provisions stipulated in the fly ash notification of September, 1999 as amended in August, 2003 with regard to fly ash utilization.</p>	<p>Complied with. Fly ash generation in our Captive Thermal Power Plant is completely collected by the ESP to its hoppers and it is being loaded into tankers for feeding to cement mill hoppers pneumatically. Hence 100% consumption of the ash generated is achieved by our cement plant.</p>
(vi)	<p>The industry shall undertake the following waste minimization measures:</p> <ul style="list-style-type: none"> • Reuse of by-products from the process as raw materials or as raw material substitutes in other process. • Use of closed pneumatic system for transport of fine material. • All venting systems shall be connected with dust or 	<p>Complied with. The Project Proponent is not generating any kind of bi-product of process. Closed pneumatic system is installed for transport of the fine material in the manufacturing process. All venting systems are connected with dust or particulate arresting equipments such as Bag Filters.</p>

	<p>particulate arresting equipments.</p> <ul style="list-style-type: none"> Dust/particulate matter collected in pollution control equipments shall be reused. 	
(vii)	<p>Fugitive emissions in the work zone environment, product and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by the State Pollution Control Boards/Central pollution Control Board.</p>	<p>Complied with. Monitoring of fugitive emission is already been under taken and the tests were conducted in-house with our team and also by the third party. The Project Proponent is submitting monthly report to MsPCB which is generated by the third party as well as our laboratory team.</p>
(viii)	<p>Dust/particulate matter collected in pollution control equipments shall be reused. Spares would be maintained in respect of all pollution control equipment. Maintenance and optimum functioning of the pollution control equipment shall be ensured by the project proponent.</p>	<p>Complied with. The Project proponent has provided different types of Environmental Protection Equipments for collection of dust/particulate matter and to reuse the same in our process. The required spares parts are also maintaining for optimum functioning of the said equipments.</p>
(ix)	<p>The project proponent shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989, as amended from time to time. Authorization from the MSPCB shall be obtained for collection, treatment, storage and disposal of hazardous wastes.</p>	<p>Complied with. Authorization letter No (ADDENDUM). MPCB/ATH-21/2007/ 2018-2019/14; dated 5th July 2018 for 2600 TPD cement manufacturing plant, valid up to 30th November, 2020 and Authorization letter No (ADDENDUM). MPCB/ATH-46/2017/2018-2019/2; dated July 2018 for 10 MW CPP, valid up to 31st August, 2022 obtained from MSPCB.</p>
(x)	<p>A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Environmental Quality Monitoring functions. A state of the art Chromium testing kit shall be maintained in the laboratory.</p>	<p>Complied with. Dedicated environmental Management Cell is functioning and Environmental quality functions like Ambient Air Quality Monitoring, Stack Monitoring Emission, Drinking Water Quality and Waste Water quality are being regularly monitored. Chromium testing for CPP blow down water is also being carried out regularly.</p>

(xi)	All pollution control equipment in STP of the type specified by the project proponent shall be duly installed and manned full time by trained personnel appointed for the purpose.	<p>Complied with.</p> <p>The Sewage Treatment Plant (STP) has been installed and the capacity of the same is 100m³/Day, and the treated water being utilized for suppresses the fugitive dust of our internal roads. The Effluent Treatment Plant (ETP) has been installed near Vehicle Work Shop and the treated water is being recycled for the same purpose. The capacity of the ETP is 25 kL/Day. The Neutralization Pit has been also installed at CPP. Rejected water generates through De-mineralization of water is being neutralized in the neutralizing pit and then used for green belt development.</p> <p>Drainage system and STP, ETP and NPT map are submitted earlier.</p>
(xii)	A six monthly 'compliance status report shall be submitted to SEIAA/SEAC and Regional Office, Ministry of Environment & Forests, Govt. of India, Shillong apart from posting the same on the website of the Project proponent .	<p>Complied with.</p> <p>Half yearly compliance reports along with monitoring data are being submitted to concerned officials on the regular basis and posting the same data on the website also.</p>
(xiii)	<p>Implementation of the project vis-à-vis environmental action plans shall be monitored by the Regional Office, Ministry of Environment & Forests duly assisted by the SPCB.</p> <p>The Regulatory Authority may revoke or suspend the clearance on the recommendation of the SEAC, if</p>	<p>Agreed for compliance.</p>

	<p>implementation of any of the above conditions is not satisfactory.</p> <p>The Regulatory Authority may on the recommendation of SEAC reserve the right to stipulate additional conditions, if found necessary. The Project proponent in a time bound manner shall implement these conditions too.</p> <p>The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management & Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and Rules.</p>	
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FIRE MOCKDRILL & EMERGENCY PROGRAMME

DATE: 05/07/2019

THEME: MOCKDRILL ON FIRE

CONDUCTED BY : MEGHALAYA FIRE & EMERGENCY SERVICE SHILLONG
 VENUE : Vehicle workshop
 DATE : 05/07/2019
 TIME : 3:00 PM – 3:30 PM
 NUMBER OF ATTENDED PERSONS : Fifty six [56] persons.
 NAME OF INFORMER : A staff of vehicle workshop
 ALARM RAISED BY : CCR security person (after got the information)
 FIRE CAUGHT : At around 3:01 PM.
 FIRE-FIGHTING & RESCUE TEAM REACHED : At around 3:04 PM
 TOTAL LIVING PERSONS : In Fire caught place 04 persons.
 PERSONS EVACUATED TO : Safe zone within 5 minutes.
 LAST PERSON EVACUATED : At around 3:10 PM.
 'FALLING THREE' PROCESS : Head counting started during evacuation Simultaneously.
 TOTAL RESCUER : 04 persons
 DECLARATION : After getting everyone in counting as well as Extinguished the fire, the area was declared safe and total 04 persons were safely evacuated.

On 5th July at around 3:00 PM to 3:30 PM at Vehicle workshop "Mock Drill was conducted on Fire" total 56 persons were involved from mines & vehicle workshop.

Main Motto of the training programme was, in case of any fire emergency in night time how to fight and extinguish the fire in darkness and how to handle the situation and evacuate the persons from fire area, as well as practically shown the Drill to involved persons along with rescue systems of casualties. We shown to participants about rescue procedure, if found senseless due to fire accidents then immediately how to rescue the injured persons (casualties) & also shown its procedure.

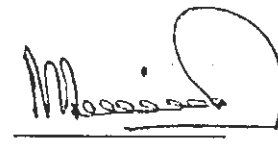
Mock Drill - Suddenly Alarm was raised by CCR security person after got the information from vehicle workshop. According to siren & information by vehicle section Fire fighting team along with Fire fighting tanker reached the spot within 3 minutes, workers were evacuated from Hot Zone to Cold zone i.e. safe zone, one person at around 3:10 PM he evacuated from there he was last men as per information of our 1st responders team Fire caught at Pock-land machine in HSD tank. During rescue simultaneously head counting also continued at safe zone by helping of 'Falling Three' procedures and finally observed total casualties were removed from Fire caught

area. After safely evacuation of workers immediately Fire extinguishing process had started, due to major fire it was extinguished by Fire Fighting Tanker, Extinguishing Media is AFFF because it was oil Fire.

Medical team also in ready position during emergency for help and further first-aid of casualties, after extinguished and controlled, Safety officer observed & investigated the area and taken the report of property lost & damage as well as after mitigation Safety officer had declared that it is now safe.

- 1) TURN OUT: Employees were taught how to fight with fire at the time of Emergency and given knowledge about evacuation process & First Aid knowledge also imparted them.
- 2) SAFE ZONE ASSEMBLY: Employees were taught about why and how gathered at assembling point also introduced "COLD / SAFE ZONE".
- 3) VICTIMS: Demonstrations for treating victims & shown to everyone. All the victims were treated & transported for Medical Aid to the nearby facility by the employees of MCL and they were aided by the Medical staff.
- 4) ATTENDANCE & CHECKING OF DAMAGE PROPERTY & LIVES LOST AND REPORTING. After the drill Safety officer with his team visited the area & estimated the damages.
- 5) COMMUNICATION: Safety officer makes the communication to concern as well as informed to unit head about the incident and for further action.

CONCLUSION: Training is important part for help to educate of employees for make potential and competent in this regards the Fire Mock drill was held which help to spread knowledge to our employees as well as participants also can understand and gain the knowledge about Fire mock drill, it was observed most of the workers activated while siren rang and every involved persons learned the lesson and became active.


Safety Officer
DGM Safety



Meghalaya Cements Ltd.

Vill: Thangskai, P.O. Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Doc.No: MCL/IMS&EnMS/HR& A/TAF/019

Rev No.:01

Date: 01.04.2018

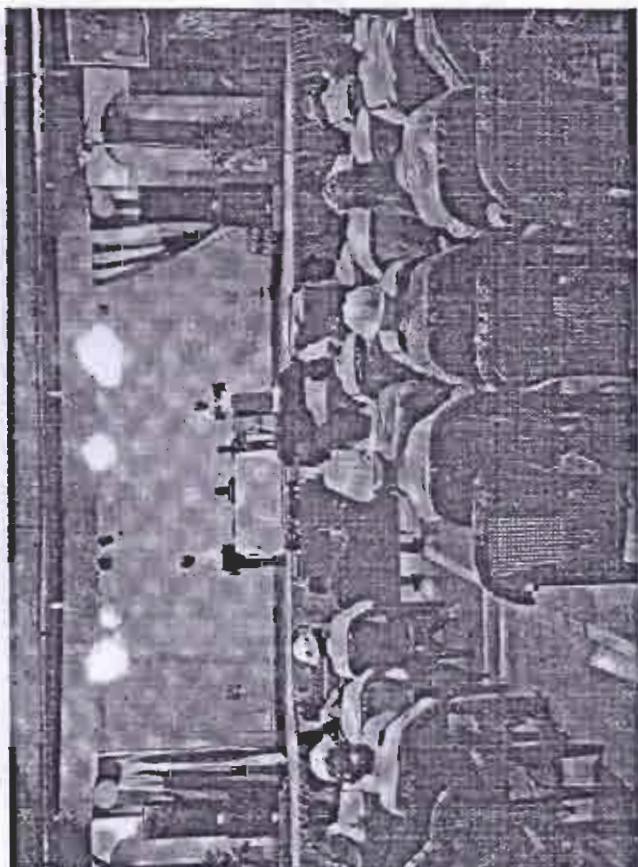
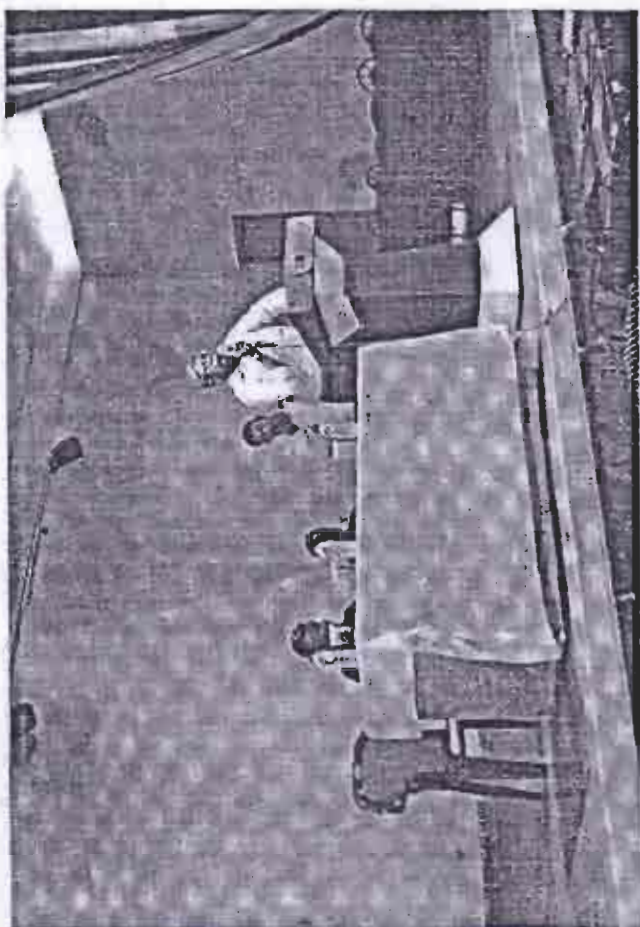
Training Details : Mock Drill on Fire Conducted at Vehicle
Workshop by Meghalaya Fire & Emergency Service
Agency : Meghalaya - A
Date : 5/07/2019
Time : 3:00pm to 3:30pm
Name of Trainers : Shri. M. Rymbai (ATPO), Shri. S. Ram, Shri. L. Rynjah (Em)

Attendance Record:

Sl. No.	Emp Code	Employee Name	Department	Designation	Signature
1		Baikhram Prasad	HR	—	B
2		Sujay Wro	B.S.S.		Sujay
3		Bipul Borah	"		B
4		prafulla medhi	"		P
5		parab Borah	"		P
6		Prakash Regu	"		P
7		Nayan Xyolipira			Nayan
8		Sudip Ch Deb	B.S.S.		S
9		Wenderson S. Souza	B.S.S.		W
10		Sagar Sharma	B.S.S.		S

11		BISU MEDHI	B.S.S		B.S.S
12		Gulip K. Das	B.S.S.		
13		Shamshul Islam Alimod	Quality Control	Asst mgs	
14		Pankaj K. Yadav	Mines (H.E. 1997)	Asst. Manager	
15		Sudarsan Dasgupta	Mines.	Asst Engineer	
16		Amit Kumar	mines	Asst Manager	Amit
17		Trilok Prasad	Mines	Engg.	
18		Bhakti Kumar	Mines	Sr. Supervisor	Bhakti Kumar
19		Uday Kumar Jais	Mines	Blaster	
20		Rakesh Kishore	mines	Asst. Eng.	
21		Mahesh Kumar	Quality control	Asst Sr	
22		Naresh K.	CPP	J.E.	
23		Anand Kumar	CPP	J.E	
24		Vakil Pandit	mines	J.E 1999	
25		A.A. Bhowmik	Geology	A.E	
26		Subash Ch Sharma	Vehicle (H.M)	Scrp	
27		Bidyut Baidya	mines	Supervisor	
28		David	Mines	CPP	
29		Upendra Prasad	Mines	Doitd op.	
30		Sujit Barman	Mines	Doitd op.	

HOD



MEGHALAYA CEMENTS LIMITED

Six Monthly Report: Stack Emission Report, 2019-2020

Chimney		Suspended Particulate Matter (PM):mg/Nm ³							Concentration not to exceed, in mg/Nm ³
		April' 2019	May' 2019	June' 2019	July' 2019	Aug' 2019	Sep' 2019	Avg.	
Pr. Crusher		21.49	18.28	21.26	19.66	14.18	18.20	18.85	30
Sec. Crusher		23.18	21.06	14.30	13.21	17.35	14.30	17.23	30
Coal mill 1		27.33	28.16	26.80	27.40	24.87	26.80	26.89	30
Coal mill 2		27.22	25.78	28.30	26.4	25.55	28.30	26.93	30
RABH 1	PM	15.90	18.20	19.20	18.70	19.40	16.90	18.05	30
	SOx	680.20	718.90	722.16	662.20	576.20	620.90	663.43	1000 (Based on pyritic sulphur presence in limestone)
	NOx	409.80	219.30	273.23	243.20	285.40	269.40	283.39	600
RABH 2	PM	15.40	16.20	17.40	18.30	18.70	12.90	16.48	30
	SOx	631.80	777.0	770.72	694.40	592.60	770.70	706.20	1000 (Based on pyritic sulphur presence in limestone)
	NOx	331.20	274.0	256.77	250.20	260.80	256.70	271.61	600
ESP 1		28.70	24.80	25.80	21.60	22.80	23.80	24.58	30
ESP 2		27.38	26.30	25.3	23.70	23.10	25.30	25.18	30
Cement Mill No-1		24.64	23.18	22.4	18.90	15.65	22.40	21.20	30
Cement Mill No-2		28.68	27.31	21.70	16.88	19.29	21.70	22.59	30
Packing House-1		18.96	13.49	23.70	18.21	15.52	23.70	18.93	30
Analyzed by		Verified by							
Arti Singh		Sunil Kumar Choudhary							

MEGHALAYA CEMENTS LIMITED

Six Monthly Report: Ambient Air Quality Report, 2019-2020

Location		Ambient Air Quality (AAQ): $\mu\text{g}/\text{m}^3$							MoEF notification G.S.R 826(E), dated 16.11.2009, Concentration not to exceed,
		April' 2019	May' 2019	June' 2019	July' 2019	Aug' 2019	Sep' 2019	Avg.	
Near CCR Building	PM ₁₀	55.89	40.59	62.48	50.49	51.38	54.72	52.59	100
	PM _{2.5}	40.57	24.85	39.71	30.44	32.93	40.55	34.84	60
	SO _x	28.35	29.12	21.66	23.46	24.35	26.31	25.54	80
	NO _x	24.17	26.72	22.48	21.66	21.86	22.56	23.24	80
Guest House	PM ₁₀	59.25	38.29	51.29	42.89	40.59	35.60	44.65	100
	PM _{2.5}	31.12	22.19	33.54	22.81	21.45	17.40	24.75	60
	SO _x	22.46	25.18	17.96	16.19	14.58	13.19	18.26	80
	NO _x	15.39	18.10	16.29	18.35	16.18	14.95	16.54	80
Crusher	PM ₁₀	54.64	35.18	54.82	46.15	46.15	49.70	47.77	100
	PM _{2.5}	37.87	20.59	35.91	27.44	27.44	22.80	28.68	60
	SO _x	28.67	23.58	21.91	20.28	22.45	24.27	23.53	80
	NO _x	24.70	21.05	17.82	19.62	21.54	18.83	20.59	80
DG House (Downwind direction)	PM ₁₀	51.93	32.57	59.17	49.58	49.58	44.60	47.91	100
	PM _{2.5}	38.52	19.17	37.08	29.85	29.85	24.50	29.83	60
	SO _x	26.34	28.61	19.16	21.66	22.15	22.44	23.39	80
	NO _x	23.57	25.70	21.68	20.46	19.66	17.71	21.46	80

Analyzed by


 Arti Singh

Verified by


 Sunil Kumar Choudhary

MEGHALAYA CEMENTS LIMITED

Six Monthly Report: Noise Intensity and Water Consumption, From April'2019 to Sep' 2019

Location		Noise Intensity: dB (A) Leq							
		April' 2019	May' 2019	June' 2019	July' 2019	Aug' 2019	Sep' 2019	Avg.	Noise Level not to exceed, in dB (A) Leq
DG House	Day	72	72	71	74	73	74	72.67	75
	Night	66	67	66	70	64	66	66.5	70
Guest House	Day	46	53	54	52	54	49	51.33	75
	Night	42	42	46	46	44	41	43.5	70
Crusher	Day	58	74	72	73	74	72	70.5	75
	Night	46	68	68	54	65	62	60.5	70

NOTE : Day Time (6:00AM to 9:00PM), Night Time (9:00PM to 6:00AM)

Location		Water Consumption(Monthly) : M ³							Water Consumption not exceed
		April' 2019	May' 2019	June' 2019	July' 2019	Aug' 2019	Sep' 2019	Avg. (m ³ /Day)	
Domestic		10070	9682	10783	10672	11507	10784	347	1236 m ³ /Day
Industrial		6175	4056	6661	4775	1281	6527	161	

Analyzed by

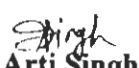


Arti Singh

Verified by


Sunil Kumar Choudhary

MEGHALAYA CEMENTS LIMITED

Six Monthly Report (CPP): PM & AAO Report, 2019-20

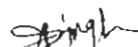
Chimney: CPP		<u>Suspended Particulate Matter (PM):mg/Nm³</u>							Concentration not to exceed, in mg/Nm ³
		April' 2019	May' 2019	June' 2019	July' 2019	Aug' 2019	Sep' 2019	Avg.	
		31.30	37.10	34.8	31.60	29.40	31.70	32.65	
Location: CPP		<u>Ambient Air Quality (AAQ):µg/m³</u>							MoEF notification G.S.R 826(E), dated 16.11.2009, Concentration not to exceed,
		April' 2019	May' 2019	June' 2019	July' 2019	Aug' 2019	Sep' 2019	Avg.	
S↔E	PM ₁₀	68.19	41.52	53.69	59.79	63.81	66.21	58.87	100
	PM _{2.5}	50.57	32.18	41.67	43.28	56.61	57.62	46.99	60
	SO _x	14.68	18.22	13.58	15.79	16.59	15.47	15.72	80
	NO _x	26.54	24.83	25.61	28.23	22.44	22.34	24.99	80
S↔W	PM ₁₀	71.22	39.57	56.28	63.88	52.59	55.99	56.59	100
	PM _{2.5}	42.76	31.57	39.57	41.12	41.72	45.36	40.35	60
	SO _x	15.24	17.71	14.28	16.25	17.28	14.62	15.89	80
	NO _x	27.21	25.43	26.38	27.68	21.49	23.74	25.32	80
N↔E	PM ₁₀	65.48	35.48	51.38	54.31	61.91	67.54	56.02	100
	PM _{2.5}	39.97	28.49	35.42	36.22	32.58	35.41	34.68	60
	SO _x	17.34	16.54	15.48	15.05	16.16	13.03	15.60	80
	NO _x	26.29	24.31	25.98	26.47	20.49	22.24	24.30	80
Analyzed by  Arti Singh		Verified by  Sunil Kumar Choudhary							

MEGHALAYA CEMENTS LIMITED

Six Monthly Report (CPP): Water Consumption Report, 2019-20

Location: CPP	<u>Water Consumption(Monthly) :M³</u>							
	April' 2019	May' 2019	June' 2019	July' 2019	Aug' 2019	Sep' 2019	Avg. (m ³ /Day Cons.)	Water Consumpti on not exceed
	28550	24950	31374	22883	39889	34486	995.257	2000 m ³ /Day

Analyzed by


Arti Singh

Verified by


Sunil Kumar Choudhary

MEGHALAYA CEMENTS LIMITED

Location		Meteorological Data(Monthly Avg.)					
		April' 2019	May' 2019	June' 2019	July' 2019	Aug' 2019	Sep' 2019
Temperature	Min	11.75	9.51	14.06	15.46	10.96	17.35
	Max	30.95	28.91	31.97	30.76	33.70	33.55
	Avg.	22.60	21.01	21.77	20.48	24.06	23.13
Humidity	Min	20.37	20.37	33.28	35.41	48.59	34.40
	Max	91.29	91.32	91.48	91.37	91.37	91.35
	Avg.	54.40	80.20	86.73	87.93	86.68	84.30
Rain Fall	MTD	427.5	1156.5	1412	1639.5	475.5	658
	YTD	454.50	1611.0	3023	4662.5	5138	5796



MEGHALAYA CEMENTS LIMITED

Six Monthly Report: Noise Intensity From April'2019 to Sep'2019

Location		Noise Intensity: dB (A) Leq							
		April 2019	May 2019	June 2019	July 2019	Aug 2019	Sep 2019	Avg.	Noise Level not to exceed, in dB (A) Leq
TG Area	Day	71	70	69	70	69	70	69.83	75
	Night	67	68	67	66	67	65	66.67	70
Boiler Area	Day	70	71	69	68	70	69	69.5	75
	Night	62	64	61	64	67	61	63.17	70
Coal Crusher Area	Day	71	69	68	69	70	68	69.17	75
	Night	62	64	65	63	67	64	64.17	70
NOTE : Day Time (6:00AM to 9:00PM), Night Time (9:00PM to 6:00AM)									

Analyzed by


 Arti Singh

Verified By


 Sunil Kumar Choudhary

Annex - III

MEGHALAYA CEMENTS LIMITED

CAPTIVE POWER PLANT - 10 MW

WATER ANALYSIS REPORT

Date: 13.09.2019



SL NO	PARAMETER	UNIT	DM WATER		FEED WATER		CBD		SAT. STEAM		S.H. STEAM		CONDENSER		RAW WATER		COOLING WATER	
			NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	MEASURED (SHR A)	MEASURED (SHR B)
1	pH		8.5 - 8.8		8.8 - 9.2		9.8-10.2	11.07	8.8-9.2		8.8-9.2		8.8-9.2					
2	Conductivity	µs/cm	5		10		200	28	5		5		5					
3	TDS	ppm	3		5		100	16.8	3		3		3					
4	Total hardness	ppm						111										
5	Ca Hardness	ppm						11										
6	Mg Hardness	ppm						11										
7	P- Alkalinity	ppm						7										
8	M- Alkalinity	ppm						12										
9	Silica	ppm	<0.02		<0.02		<5	0.15	<0.02		<0.02		<0.02					
10	Phosphate	ppm					<10	5.28										
11	Iron	ppm																
12	Hydrazine	ppm			<0.1													
13	Chloride	ppm																
14	FRC	ppm																
15	Turbidity	NTU																
16	Cr ⁶⁺							0.018										



Signature

MEGHALAYA CEMENTS LIMITED

CAPTIVE POWER PLANT - 10 MW

WATER ANALYSIS REPORT



Date: 10-08-2019

SL NO	PARAMETER	UNIT	DM WATER		FEED WATER		CBD		SAT. STEAM		S.H. STEAM		CONDENSER		RAW WATER		COOLING WATER	
			NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	MEAS URED	NCRM.	MEASURED (SHR A)	MEAS URED (SHR B)
1	pH		8.5 - 8.8		8.8 - 9.2		9.8-10.2	10.08	8.8-9.2		8.8-9.2		8.8-9.2					
2	Conductivity	µs/cm	5		10		200	34	5		5		5					
3	TDS	ppm	3		5		100	204	3		3		3					
4	Total hardness	ppm						1212										
5	Ca Hardness	ppm						11										
6	Mg Hardness	ppm						7										
7	P. Alkalinity	ppm						12										
8	M. Alkalinity	ppm						0.16	<0.02		<0.02		<0.02					
9	Silica	ppm	<0.02		<0.02		<5	0.16										
10	Phosphate	ppm					<10	5.25										
11	Iron	ppm																
12	Hydrazine	ppm			<0.1													
13	Chloride	ppm																
14	FRC	ppm																
15	Turbidity	NTU																
16	Cr ⁶							0.016										



Signature

MEGHALAYA CEMENTS LIMITED

CAPTIVE POWER PLANT - 10 MW

WATER ANALYSIS REPORT

Date: 12.12.2019



NO	PARAMETER	UNIT	DM WATER		FEED WATER		CBD		SAT. STEAM		S.H. STEAM		CONDENSER		RAW WATER		COOLING WATER	
			NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	MEAS URED (Shift A)	MEAS URED (Shift B)
1	pH		8.5 - 8.8		8.8 - 9.2		9.8-10.2	10.2	8.8-9.2		8.8-9.2		8.8-9.2					
2	Conductivity	µs/cm	5		10		200	32	5		5		5					
3	TDS	ppm	3		5		100	10.2	3		3		3					
4	Total hardness	ppm						NUL										
5	Ca Hardness	ppm						"										
6	Mg Hardness	ppm						"										
7	P- Alkalinity	ppm						7										
8	M- Alkalinity	ppm						12										
9	Silica	ppm	<0.02		<0.02		<5	0.15	<0.02		<0.02		<0.02					
0	Phosphate	ppm					<10	5.24										
1	Iron	ppm																
2	Hydrazine	ppm			<0.1													
3	Chloride	ppm																
4	FRC	ppm																
5	Turbidity	NTU																
6	Cr ⁺⁶							0.020										

[Signature]

MEGHALAYA CEMENTS LIMITED

CAPTIVE POWER PLANT - 10 MW
WATER ANALYSIS REPORT

Date:- 10.06.2019

SLNO	PARAMETER	UNIT	DM WATER		FEED WATER		CBD		SAT. STEAM		S.H. STEAM		CONDENSER		RAW WATER		COOLING WATER	
			NORM.	MEAS URED	NORM	MEAS URED	NORM.	MEAS URED	NORM	MEAS URED	NORM	MEAS URED	NORM	MEAS URED	NORM	MEAS URED	NORM	MEAS URED (Shift B)
1	pH		8.5 - 8.8		8.6 - 9.2		9.8-10.2	10.14	8.8-9.2		8.8-9.2		8.8-9.2					
2	Conductivity	µs/cm	5		10		200	31	5		5		5					
3	TDS	ppm	3		5		100	18.6	3		3		3					
4	Total hardness	ppm						112										
5	Ca Hardness	ppm						11										
6	Mg Hardness	ppm						11										
7	P. Alkalinity	ppm						7										
8	M. Alkalinity	ppm						12										
9	Silica	ppm	<0.02		<0.02		<5	0.14	<0.02		<0.02		<0.02					
10	Phosphate	ppm					<10	5.16										
11	Iron	ppm,																
12	Hydrazine	ppm			<0.1													
13	Chloride	ppm																
14	FRC	ppm																
15	Turbidity	NTU																
16	Cr ⁺⁶							0.019										



MEGHALAYA CEMENTS LIMITED

CAPTIVE POWER PLANT - 10 MW

WATER ANALYSIS REPORT

Date: 13.11.2019



S.L NO	PARAMETER	UNIT	DM WATER		FEED WATER		CBD		SAT. STEAM		S.H. STEAM		CONDENSER		RAW WATER		COOLING WATER	
			NORM.	MEAS URED	NORM	MEAS URED	NORM	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM	MEAS URED (Shift A)	MEAS URED (Shift B)	
1	pH		8.5 - 8.8		8.8 - 9.2		9.8-10.2	11.04	8.8-9.2		8.8-9.2		8.8-9.2					
2	Conductivity	µs/cm	5		10		200	30	5		5		5					
3	TDS	ppm	3		5		100	18	3		3		3					
4	Total Hardness	ppm						122										
5	Ca Hardness	ppm						11										
6	Mg Hardness	ppm						11										
7	P. Alkalinity	ppm						9										
8	M. Alkalinity	ppm						12										
9	Silica	ppm	<0.02		<0.02		<5	0.18	<0.02		<0.02		<0.02					
10	Phosphate	ppm					<10	4.52										
11	Iron	ppm																
12	Hydrazine	ppm			<0.1													
13	Chloride	ppm																
14	FRC	ppm																
15	Turbidity	NTU																
16	Cr ⁺⁶							0.018										

MEGHALAYA CEMENTS LIMITED

CAPTIVE POWER PLANT - 10 MW

WATER ANALYSIS REPORT

Date: 12.11.2019



SL NO	PARAMETER	UNIT	DM WATER		FEED WATER		CBD		SAT STEAM		S.H. STEAM		CONDENSER		RAW WATER		COOLING WATER	
			NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED	NORM.	MEASURED
1	pH		8.5 - 8.8		8.8 - 9.2		9.8 - 10.2	10.0	8.8 - 9.2		8.8 - 9.2		8.8 - 9.2					
2	Conductivity	µs/cm	5		10		200	28	5		5		5					
3	TDS	ppm	3		5		100	14.8	3		3		3					
4	Total hardness	ppm						1112										
5	Ca Hardness	ppm						11										
6	Mg Hardness	ppm						11										
7	P. Alkalinity	ppm						57										
8	M. Alkalinity	ppm						12										
9	Silica	ppm	<0.02		<0.02		<5	0.18	<0.02		<0.02		<0.02					
10	Phosphate	ppm					<10	4.96										
11	Iron	ppm																
12	Hydrazine	ppm			<0.1													
13	Chloride	ppm																
14	FRC	ppm																
15	Turbidity	NTU																
16	Cr ⁺⁺⁶							0.116										



Annexure: - 10

YEAR WISE PLANTATION DETAILS
MEGHALAYA CEMENTS LIMITED

Date: - 09-10-2019

Year	Saplings planted (Nos.)	Area covered (Ha.)	Saplings Survive (Nos.)	Survival Rate	Remarks
2009-10	10630	1.063	6909	65.00%	Planted near Office Campus, Residential Blocks, Children Park, Guest House, Temple and Road side.
2010-11	4485	0.4485	3304	73.67%	CPP Campus,
2011-12	1425	0.1425	1271	89.19%	CPP Campus.
2012-13	1725	0.1725	1609	93.28%	CPP Campus, Lawn of residential blocks & Dispensary.
2013-14	1793	0.1293	1365	76.12%	Planted in the Topcem Public School Campus, Children Park & Approach Road side.
2014-15	7904	0.8	5532	69.99%	CPP Campus, Along Plant Boundary & Crusher Road side.
2015-16	12905	1.7	9290	71.99%	Approach Road side, CPP Campus, Along Plant Boundary & Dispensary Campus.
2016-17	52700	1.79	42149	79.98%	Along Plant Boundary & Behind Scrap Yard near Civil Office by 'Akira Miyawaki' Method.
2017-18	3820	0.545	3094	80.99%	Planted in the Topcem Public School Campus and CPP Campus & Interspaces in plant boundary and road side. Residential colonies,
2018-19	4750	0.27	3620	76.21%	Planted near crusher side & Interspaces in plant boundary and road side.
2019-20	1200	0.21	1026	85.50%	Planted near HSD pump side, DG House site & Interspaces in plant boundary and road side.
Total	103337	7.2708	79169	76.61%	

Note: - 1. We have naturally grown green belt area of 2.45 hectares and 10.5 hectares situated at north eastern and south-eastern part of the plant area and we are maintaining the said area regularly. Therefore, the total area under green belt is 20.22 hectares.

2. Another Three Blocks such as near main Gate no-1 (0.26 ha), behind Main Gate no-1 (1.33 ha) and in between Khliehjeri and South Khliehjeri mines (1.2 ha) = 2.79 Hectares.

Total Plantation as on 30.09.2019 = 23.01 hectares.



**Biodiversity inventorization and conservation through assisted regeneration of RET species
in limestone mining area of Meghalaya Cements Ltd.**

HALF YEARLY REPORT (May2019-September 2019)

Work Components:

1. Survey and inventorization of project area : An intensive survey of the project area will be conducted to create an inventory of the flora (tree species) and fauna (mammals).
2. Setting up of nursery for propagation of species as per TOR and recommendations of SEIAA.
3. Afforestation / regeneration / gap filling of the project area as allocated by MCL.
4. Planting and conservation of bird and mammal food plant species (grasses wild fruit trees etc.) based on assessment of camera trap data

Formulation of Eco Development Plan and recommendations for medium/ long term upkeep of project area.

Reporting period : February,2017 to July,2017.

Work component 1 : In continuation of the Survey and inventorization of the plants of the project area, some more species were added to the list of earlier identified plants and is detailed in Tables listed below :-



Table .1. Tree species in and around the project site

Sl.no	Name	Family	Vernacular name
1	<i>Actinodaphne obovata</i> (Nees) Blume	Lauraceae	Dieng-lakrao (K)*
2	<i>Aesculus assamica</i> Griff.	Sapindaceae	Dieng-ola (K)
3	<i>Alchornea nilifolia</i> (Benth.) Müll. Arg.	Euphorbiaceae	
4	<i>Asplenium phyllitidis</i> D. Don	Aspleniaceae	
5	<i>Bauhinia khasiana</i> Baker	Leguminosae	
6	<i>Callicarpa arborea</i> Roxb.	Verbanaceae	Dein-lakhait (J)**
7	<i>Caryota urens</i> L.	Arecaceae	
8	<i>Casaria</i> sp.		
9	<i>Castanopsis echinocarpa</i> Mig.	Fagaceae	Dien-sning (J)
10	<i>Castanopsis indica</i> (Roxb. ex Lindl.)	Fagaceae	
11	<i>Castanopsis purpurella</i>	Fagaceae	Dein-sohtap (J)
12	<i>Castanopsis tribuloides</i> (Sm.) ADC	Fagaceae	Dien-sa-ut (J)
13	<i>Cinnamomum bejolghota</i> (Buch.-Ham.) Sweet	Lauraceae	Dieng-pathi (K)
14	<i>Dioscorea grandiflora</i> (DC.) Walp.	Lythraceae	Dieng-bai (K)
15	<i>Elaeagnus pyrifolia</i> Hook. f.	Elaeagnaceae	Sashang
16	<i>Eurya acuminate</i> DC.	Theaceae	Dienpyrchin (J)
17	<i>Ficus hirta</i> subsp. <i>roxburghii</i> (King) C.C. Berg	Moraceae	Spunae (J)
18	<i>Ficus semicordata</i> Buch.-Ham. ex Sm.	Moraceae	
19	<i>Lithocarpus elegans</i> (Blume) Hatus. ex Soepadmo	Fagaceae	Sarangkhlo (J)
20	<i>Lithocarpus fenestratus</i> (Roxb.) Rehder.	Fagaceae	
21	<i>Litsea citrata</i> Blume.	Lauraceae	Soh-sying (J)
22	<i>Litsea lueta</i> Wall. ex Nees.	Lauraceae	
23	<i>Litsea lancifolia</i> (Roxb. ex Nees.)	Lauraceae	
24	<i>Litsea monopetala</i> (Roxb.) Pers.	Lauraceae	
25	<i>Litsea thomsonii</i> Hook. f.	Lauraceae	
26	<i>Macaranga</i> sp.		Lakhar (J)
27	<i>Macropanax disperma</i> (Bl.) O.	Analiaceae	Dieng-ia-rasi
28	<i>Mallotus nepalensis</i> Müll. Arg.	Euphorbiaceae	Sia-lakhar khian (J)
29	<i>Melastoma nepalensis</i> Lodd.	Melastomaceae	Dien-slidong (J)
30	<i>Micromelum integrum</i> (Roxb.) Wight & Arn.	Rutaceae	Dieng-tyrpe (J)
31	<i>Morinda angustifolia</i> Roxb.	Rubiaceae	
32	<i>Ostodes paniculata</i> Blume	Euphorbiaceae	Dein-lashit hlow (J)
33	<i>Persea kingii</i> Hook. f.	Lauraceae	
34	<i>Phyllanthus glauus</i> Wall.		Samtar (J)
35	<i>Pithecellobium montanum</i> Benth.	Mimosaceae	
36	<i>Pterospermum lancifolium</i> Roxb.	Sterculiaceae	Dieng-khoi (K)
37	<i>Quercus serrata</i> Roxb.	Fagaceae	
38	<i>Rhus javanica</i> (L.) Merr.	Anacardiaceae	Dien-sama (J)
39	<i>Sapindus attenuate/erecta</i> Wall.	Sapindaceae	
40	<i>Sapium baccatum</i> Roxb.	Euphorbiaceae	Dieng-jalongh (K)
41	<i>Sarcosperma griffithii</i> Hook. f. ex C.B. Clarke	Sapotaceae	Dein-pai (K)
42	<i>Schima wallichii</i> (DC.) Korth.	Theaceae	Shyrngan (J)
43	<i>Solanum melongena</i> Linn.	Solanaceae	
44	<i>Solanum torvum</i> Sw.	Solanaceae	
45	<i>Styrax serrulatum</i> Linn.	Styracaceae	Dieng-jalatpai (K)
46	<i>Symplocos glomerata</i> King ex Cl.	Symplocaceae	Tiewdiengpetiong (K)
47	<i>Symplocos</i> sp.	Symplocaceae	
48	<i>Syzygium formosum</i> (Wall.) Mas.	Myrtaceae	Soh-slidong (J)
49	<i>Syzygium macrocarpum</i> (Roxb.) Balak.	Myrtaceae	
50	<i>Syzygium cumini</i> (L.) Skeels.	Myrtaceae	
51	<i>Syzygium tetragonum</i> (W.) Kurz.	Myrtaceae	Dien-sohsyrie (J)
52	<i>Trevesia palmate</i> (Roxb.) Vis.	Analiaceae	Dienglakor (K)
53	<i>Vernonia volkamerifolia</i> DC.	Asteraceae	
54	<i>Wendlandia tinctoria</i> (Roxb.) DC.	Rubiaceae	Chamot (J)

*K=Khasi, **J=Jaintia

JH

Table.2. Shrubs, Herbs, and climbers in and around the project site

Sl no	Name	Family	Vernacular name	Habit
1.	<i>Acacia oxyphylla</i> Graham ex Craib.	Leguminosae	Mei-suai(K)	Climber
2.	<i>Acacia pennata</i> (Linn.) Willd.	Leguminosae	Jernai-sheih-lyngkshiah (K)	Climber
3.	<i>Ageratina adenophora</i> (Spreng.) R.M. King & H. Rob.	Compositae	Sla-barma(J)	Shrub
4.	<i>Ageratina riparia</i> (Regel) R.M. King & H. Rob.	Compositae		Shrub
5.	<i>Amorphophallus</i>			
6.	<i>Ardisia nerifolia</i> DC.	Myrsinaceae		Shrub
7.	<i>Artemisia nilagirica</i> (Cl.) Pamp.	Compositae		Shrub
8.	<i>Asplenium phyllitides</i> D. Don.	Aspleniaceae		
9.	<i>Boehmeria glomerulifera</i> Mig.	Urticaceae	Diengsolhklar (K)	Shrub
10.	<i>Boehmeria macrophylla</i> D. Don.	Urticaceae		Shrub
11.	<i>Beaumontia grandiflora</i> Wall.	Apocynaceae		Climber
12.	<i>Calamus erectus</i> Roxb.	Arecaceae		Shrub
13.	<i>Caryota urens</i> Linn.	Arecaceae		
14.	<i>Citrus maxima</i> (Blume) Merr.	Rutaceae	Soh-syrman (J)	
15.	<i>Derris thysiflora</i>	Fabaceae		Climber
16.	<i>Desmodium trifolium</i> (L.) DC	Fabaceae		
17.	<i>Desmos longiflorus</i> (Roxb.) Safford	Annonaceae		Shrub
18.	<i>Dicranopteris linearis</i> var. <i>alternans</i> (Mett.) Holttum	Gleicheniaceae	Tyrkhang (J)	
19.	<i>Dioscorea</i>	Dioscoreaceae		Climber
20.	<i>Fissistigma verrucosum</i> (Hook. f. & Th.) Merr.	Annonaceae	Jyrmí soh-ram khlaw (K)	Liana
21.	<i>Gourpandra tetrandra</i> (Wall.) Sleumer	Stemonuraceae		
22.	<i>Jasminium</i>	Oleaceae		
23.	<i>Lantana camara</i> Linn.			
24.	<i>Leea alata</i> Edgew.	Leeaceae		Under shrubs
25.	<i>Leea indica</i> (Burm. f.) Merr.	Leeaceae	Riu-khongpieng (K)	Shrub
26.	<i>Lycopodium paniculatum</i> Desv. ex Poir.	Lycopodiaceae	Tmain-khla (J)	
27.	<i>Lycopodium hexuosum</i> (L.) SW	Lygodiaceae		
28.	<i>Melastoma nepalensis</i> Lodd.	Melastomaceae	Dien-slidong (J)	Shrub
29.	<i>Maesa indica</i> (Roxb.) Wall.	Myrsinaceae	Dien-pyllein dacha(J)	Shrub
30.	<i>Paedera foetida</i> L.	Rubiaceae	Rme-sma ait(J)	Climber
31.	<i>Pandanus odoratissimus</i> (Lamk.) Linn.	Pandanaceae	Chlain (J)	Screw pine
32.	<i>Pericampylus incanus</i> (Colebr.) Miers.	Menispermaceae		Climber
33.	<i>Phlogacanthus thyrsoiflorus</i> (Roxb.) Nees.	Acanthaceae		Shrub
34.	<i>Pothos scandens</i> L.	Araceae		
35.	<i>Phrynium pubinaria</i> Blume	Marantaceae	Sla-met(K)	
36.	<i>Pittosporum</i>	Pittosporaceae		
37.	<i>Prinsepia utilis</i> Royle.	Rosaceae		Shrub
38.	<i>Pteris</i>	Pteridaceae	Tyrkhang (J)	
39.	<i>Rhaphidophora calophylla</i> Scott.	Araceae		
40.	<i>Rourea minor</i> (Gaertn.) Leenh.	Connaraceae		Shrub
41.	<i>Sarcanda glabra</i> (Thunb.) Nakai.	Chloranthaceae	Soh-kristmas(J)	Shrub
42.	<i>Smilax roxburghiana</i> Wall. Ex A. DC.	Smilacaceae	Soh-krot (J)	Shrub
43.	<i>Stemona tuberosa</i> Lour.	Stemonaceae		Climber
44.	<i>Tabernaemontana diversicata</i> (Linn.) R. Br.	Apocynaceae		Shrub
45.	<i>Tetragium obovatum</i> (Lawa.) Gagnep.	Vitaceae	Soh-sarpung (J)	Climber
46.	<i>Tetragium bractatum</i>	Vitaceae		Climber
47.	<i>Thysanolaena maxima</i>	Poaceae	Saro (J)	Grass
48.	<i>Triumfetta pilosa</i> Roth.	Liliaceae	Soh-byrlhid (K)	Shrub
49.	<i>Uncaria sessilifructus</i> Roxb.	Rubiaceae		Climber
50.	<i>Urena lobata</i> L.	Malvaceae	Sohbyrlhit (J)	Shrub

(K- Khasi and J - Jaintia)

Work component 2 : The nursery which was damaged during the monsoons has been repaired. The soil preparation in the nursery is also in progress.

The selection of species as per the TOR and recommendations of SEIAA was initiated. The Meghalaya Biodiversity Board was approached for permission to collect *Nepenthes khasiana* but the same was denied. Therefore natural populations of other selected species in accordance to the list provided in TOR is being undertaken. One species has been selected and collected samples are being kept in the nursery for further propagation.

Specimens of *Fimbristylis nigrobrunnae* were collected from Dainthlen, Sohra, East Khasi Hills after detailed reference from the herbarium of Botanical Survey of India, Shillong. The species was then transferred to TOPCEM for plantation and rejuvenation and the specimens are being nursed by the concerned Department of Meghalaya Cement limited for acclimatization, before transplanting in the designated area in the project site. A second lot was again collected in August and is being raised in the nursery.

Orchids species were collected from Moopun falls, Mukhaialong, East Jaintia Hills, Meghalaya and Mawsawa, Sohra, Meghalaya. The collected species were then brought to TOPCEM for re-plantation in green house.

Jack fruit seedlings for plantation were also collected from Umsning, Ribhoi, Meghalaya but failed to survive.

***Phyllanthus emblica* seeds extraction.**

Material and methods.

Amla fruits were collected from local market. The seeds are extracted by alternate boiling and drying.

The amla fruits were thoroughly cleaned under tap water to remove dust, it was then boiled for about 15 min for easy removal of fleshy parts.

After removing the fleshy pulp of amla/gooseberry fruits, the seeds were then sun dried for 2-3 days. When the seed coat broke along the ridges, seed coat and seeds were separated out manually.

Seeds were then collected and stored for planting.

A Survey was carried out in Nongwet village, Pynursla and Nonthymmai, Tyrna village East Khasi Hills for locating natural populations of two of the listed rare and endangered species i.e

Argostemma khasianum and *Begonia rubrovenia*. *Begonia rubrovenia* was spotted in both the surveyed sites and specimens have been collected for replantation in the project area (TOPCEM).

Work Component 3. The following species (Table 3) are recommended for plantation and gap filling in the project area. Seedlings are being procured and gap filling process is being carried out.

Table.3 Some of the tree species that are proposed for planting in the project area.

Sl.no	Scientific name
1.	<i>Alnus nepalensis</i>
2.	<i>Syzygium cumini</i>
3.	<i>Rhus javanica</i>
4.	<i>Schima wallichii</i>
5.	<i>Syzygium formosum</i>
6.	<i>Grevillia robusta</i>
7.	<i>Dauhanga grandiflora</i>
8.	<i>Phyllanthus emblica</i>
9.	<i>Sapium baccatum</i>
10.	<i>Actinodaphne obovata</i>
11.	<i>Lithocarpus fenestratus</i>
12.	<i>Castonopsis tribuloides</i>



Work Component 4.

A questionnaire survey was carried out in the villages around the project area to identify the fauna inhabiting the area. The scientific and local names of the fauna are listed in Table 4

Table.4

Sl.no	Scientific name	Vernacular name	
1	<i>Bambusicola fytchii hokinsoni</i>	Chyng-Kiar	Bird
2	Black drongo	Larwat	Bird
3	<i>Bubo flavipes</i>	Dhoh	Bird
4	<i>Bufoides meghalayana</i>	Khroh Chyrtob	Amphibian
5	<i>Calotes versicolor</i>	Chieh Cherko	Reptile
6	<i>Cannomys badius</i>	Khnae Piahlang	Mammal
7	<i>Chinese pangolin</i>	Rbae	
8	<i>Collosciurus erythraeus</i>	Rasang	Mammal
9	<i>Herpestes edwardsii</i>	Mongoose	Mammal
10	Himalayan black bear	Dngiem	Mammal
28	<i>Hoolock gibbon</i>	Hulu	Mammal
11	<i>Indian muntjac</i>	Skae	Mammal
12	<i>Kalij pheasant</i>	Syar Khloo	Birds
29	Malayan Giant Squirrel	Rasang stem kpoh.	Mammals
13	<i>Mus booduga</i>	Khne Lum	Mammals
14	<i>Opheodrys vernalis</i>	Psain Rngam	Reptiles
15	<i>Panthera pardus</i>	Krong	Mammal
16	<i>Passer domesticus</i>	Chyrkia	Birds
17	<i>Porcupine sp.</i>	Ynkhet	Mammal
18	<i>Presbytis pileatus</i>	Chrieh	Mammals
19	<i>Psarisomus dalhousiae</i>	Purong	Birds
20	<i>Rana clamitans</i>	Khroh Rngam	Amphibians
21	<i>Rana danieli</i>	Khroh	Amphibians
22	<i>Rattus rattus</i>	Khne iung	Mammals
23	Red-vented bulbul	Riah Blong	Birds
24	<i>Rhinolopus pearsoni</i>	Labit	Mammals
25	<i>Suncus murinus griffithi</i>	Khnae Jit	Mammals
26	<i>Sus scrofa</i>	Sniang Bri	Mammal
27	<i>Varanus bengalensis</i>	Tyrpit	Reptiles
28	<i>Milvus migrans lineatus</i>	Khlein	Birds

Installation of camera traps: Camera traps were installed in different locations in the project area but failed to document movement and visitation of any wild animals. It is advised that the camera traps are kept installed and the data monitored regularly.



Formulation of Eco Development Plan and recommendations for medium/ long term upkeep of project area :**Management and use of mine spoils:**

Overburden generated during mining should be properly managed and stacked to discourage erosive losses. Topsoil and/or subsoil should be evenly spread out in areas where plantation activity can be undertaken. Mulches should be provided so as to ensure enrichment of soil fertility, insulates of soil against extreme temperature fluctuations and erosive losses due to impact of rainfall. Mulches also ensures accelerated growth of micro organisms and reduce evaporative losses. Spoils of larger size dimensions should be crushed so as to generate soil.

Reforestation of barren/open areas:

The listed native species should be propagated in the greenhouse and used for reforesting open areas and/or those affected by mining. Roads used more movement of mining equipment/ heavy vehicles should be subjected to avenue plantations/shelter breaks so as to reduce the movement of dust.

It is also advised to plant more fruit bearing species in the project area so as to encourage the increase visitation and roosting of avian species. Open/ sparsely vegetated locations within the project area should be subjected to gap filling with fodder and fruit bearing plants and grasses to encourage visitation of mammals for grazing. The greenhouse should be used for generating more seedlings/saplings on a continuous basis for future plantation programs in the project area. Cultural operations should be undertaken intermittently in the locations where new plantations have been made so as to ensure survival and proper growth of the seedlings/saplings.

Shillong

10th November, 2019



A handwritten signature in blue ink, appearing to be 'D. Paul'.

D. Paul, PI

MEGHALAYA CEMENTS LIMITED

Village –Thangskai, P.O.-Lumshnong, District- East Jaintia Hills,
Meghalaya, PIN – 793210.


The capital expenditure & revenue expenditure incurred on an environmental protection equipments / Machineries.

From 01st April' 2019 to 30th September'2019.

Sl.No	Type	Heading	Amount in Rs.
1.	Capital	Bag Filter	86,073.49
2.		Rain Water Harvesting	44,254.59
3.		SOx	83,209.95
Gross Total			Rs. 213,538.03

Sl.No	Type	Heading	Amount in Rs.
1.	Revenue	Bag Filters (Cement mill, Raw mill, Coal mill & Crusher)	659274.70
2.		ESP	979652.20
3.		RABH	525243.40
4.		Sewage Treatment Plant & Neutralization Pit	33185.66
5.		SOX Reduction System	132635.61
6.		Rain Water Harvesting	17701.85
Gross Total			Rs. 2,347,693.42

For MEGHALA CEMENTS LIMITED


R.K. Pareek
(President)





MEGHALAYA CEMENTS LIMITED

Village –Thangskai, P.O.-Lumshnong, District- East Jaintia Hills,
Meghalaya, PIN – 793210.

Expenditure Incurred for Socio-Economic Development under CSR activities
From 01st April' 2019 to 30th Sep'2019.

Sl.No	Heading	Amount in Rs.
1.	Emphasis on Education	132,000.000
2.	Encouraging/Felicitation program for Students.	00.000
3.	Polio Immunization Camps, family planning, etc.	725,345.00
4.	Infrastructure development of Hospitals / Schools	1,006,576.00
5.	Cement Distribution Programme.	3,369,385.00
6.	Plant Distribution programme	132,375.00
7.	Donation to Churches, Road & House Repairing etc.	44,000.00
8.	Drinking water supplying scheme.	122,457.00
9.	Village development funds.	375,000.00
Gross Total		5,907,138.00

For MEGHALA CEMENTS LIMITED



R.K. Pareek
(President)




S.N.	NMAE	CODE	SEX	D.O.J.	GRADE	DEPT	DESIG	SALARY
1	DISWONLANG BAREH	2260	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	12899
2	EDEN LALOO	3323	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	12155
3	PRAS BAREH	2261	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	15006
4	SABINA SYIH	2262	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	11010
5	KHALMISS SUTING	2263	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	12654
6	PHINIAL DHAR	2264	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	10849
7	TNGENMON SYIH	2266	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	12513
8	IBASHISHA KHARSATI	2267	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	11748
9	ESTAR PUSIEN	2268	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	11516
10	DIL PHAWA	2270	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9769
11	PHIMAI SUTNGA	2271	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	12374
12	HILDIS SYRTI	2272	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9052
13	LILY POHBAN	2273	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9316
14	KYRSOI SYIH	2275	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	11644
15	PHYRNAI SYRTI	2276	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9296
16	RIDAMON SUCHEN	2277	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9416
17	JUBLI LAPASAM	2307	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9583
18	METHILDA SYIEMLEH	2315	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
19	SPELBHA SUCHIANG	2322	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9193
20	WONDERFUL PALE	2330	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
21	RANCHI PUSSEIN	2343	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
22	SAPHA SIANGSHAI	2344	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
23	EMLI DHAR	2345	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
24	MARGRED KHONGLAM	2348	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
25	TALITHA RYMBAI	2349	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
26	SHANIAHLANG SHYLLA	2352	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
27	PRIN SALAHE	2354	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	9000
28	CHEBARIMA BAREH	2362	FEMALE	02.06.2011	Workmen	HR & A	CLEANER	9734
29	MINU RAI	2269	FEMALE	01.04.2011	Workmen	HR & A	CLEANER	10569
30	NILDIS KHLUNG	3288	FEMALE	07.08.2012	Workmen	HR & A	CLEANER	9000
31	LUTMON LAMARE	3030	FEMALE	03.08.2012	Workmen	HR & A	CLEANER	9000
32	SHIBA SUMER	3249	FEMALE	01.05.2013	Workmen	HR & A	CLEANER	9000
33	SHIDA SUTNGA	3316	FEMALE	01.07.2013	Workmen	HR & A	CLEANER	9000
34	HEL PAJAT	3244	FEMALE	03.08.2013	Workmen	HR & A	CLEANER	9000
35	PALDIS SUTING	3247	FEMALE	01.08.2013	Workmen	HR & A	CLEANER	9000
36	SABITRI PUSEIN	3248	FEMALE	03.10.2013	Workmen	HR & A	CLEANER	9000
37	RIMAIA SHADAP	4014	FEMALE	01.12.2014	Workmen	HR & A	CLEANER	9000
38	KEEPHIM SYMPLI	5436	FEMALE	13.08.2018	Workmen	HR&A	CLEANER	9000



M/s MEGHALAYA CEMENTS LIMITED

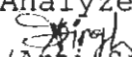
AMBIENT AIR QUALITY SURVEY

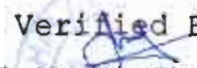
MCL/ENV/PB-AAQM/2019-20/40

Location of sampling	Forest Area (Near by plant boundry)
Date duration of sampling	19.06.2019 to 20.06.2019
Time Duration of sampling	48 hours
Weather	Clear
Total Rain Fall, mm (On Date)	1.50 mm
Ambient Temperature (°C) :	Max. - 29.00°C, Min. - 20.15°C
Relative Humidity (%) :	Max. - 91.29%, Min. - 61.17%
Wind direction	→SW(152.22°)

Pollutants	Analysis Results			Permissible Limits for Rural Areas (By MSPCB 24 hrs Monitoring)
	Village Name & Air Quality Survey No.			
	A1. Near Wahiajer Village V/01/19-20	A2. Near Shiehrvphi Village V/02/19-20	A3.Near Thangskai Village V/03/19-20	
	48 hrs.	48 hrs	48 hrs	
Particulate Matters PM10 (µg/m³)	43.12	39.49	31.26	100
Particulate Matters PM2.5 (µg/m³)	31.78	26.94	22.18	60

Remarks : The Parameters analysed were found to be within the permissible Limits of Ambient Air Quality Standards (National) for Rural Areas as per EPA Notification GSR 176, April 1996.

Analyzed by

 (Arti Singh)

Verified By

 (Sunil Kumar Choudhary)

M/s MEGHALAYA CEMENTS LIMITED

AMBIENT AIR QUALITY SURVEY


MCL/ENV/PB-AAQM/2019-20/40

Location of sampling	Forest Area (Near by plant boundry)
Date duration of sampling	26.09.2019 to 27.09.2019
Time Duration of sampling	48 hours
Weather	Clear
Total Rain Fall, mm (On Date)	0.00 mm
Ambient Temperature (°C) :	Max. - 25.98°C, Min. - 21.43°C
Relative Humidity (%) :	Max. - 91.29%, Min. - 73.18%
Wind direction	→SW(244.05°)


Pollutants	Analysis Results			Permissible Limits for Rural Areas (By MSPCB 24 hrs Monitoring)
	Village Name & Air Quality Survey No.			
	A1. Near Wahiajer Village V/04/19-20	A2. Near Shiehrvphi Village V/05/19-20	A3.Near Thangskai Village V/06/19-20	
	48 hrs.	48 hrs	48 hrs	
Particulate Matters PM10 (µg/m³)	44.28	41.97	33.21	100
Particulate Matters PM2.5 (µg/m³)	30.09	25.19	23.48	60

Remarks : The Parameters analysed were found to be within the permissible Limits of Ambient Air Quality Standards (National) for Rural Areas as per EPA Notification GSR 176, April 1996.

Analyzed by


(Arty Singh)

Verified By


(Sunil Kumar Choudhary)