MEGHALAYA CEMENTS LIMITED

CIN- U26942ML2003PLC007125

TOPCEM CEMENT
Mazbooti ka bharosa...hamesha

Ref: MCL/ENV/MoEF&CC/Compliance-II/2023-24/13 Date: 26/06/2023

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 2600 TPD cements plant for the period of October'2022 to March'2023.

Dear Sir,

We are hereby furnishing the half yearly compliance report (hard copy and soft copy) for the period from **October'2022 to March'2023** on Environmental Stipulation 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 Environment 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
(Sr. President)

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY ★ MEGHALAYA, SHILLONG ★ 26/06/2023

MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, REGIONAL OFFICE, SHILLONG GOVT. OF INDIA

30/6/23

MEGHALAYA STATE POLLUTION CONTROL BOARD ★ SHILLONG ★ 30/6/23

Encl: As stated above

Copy to:

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

Half yearly Compliance Report (for the period October'2022 to March'2023) 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.

<table>
<tr><th colspan="2">Sl. No. as per letter dated 25.03.2009 of State Environment Impact Assessment Authority</th><th>Compliance Status</th></tr>
<tr><td colspan="3">A. SPECIFIC CONDITIONS</td></tr>
<tr><td>(i)</td><td>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.</td><td>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. Also Monthly report for the Analysis of PM, Sox, Nox and Hg being submitted to MsPCB. Captive Power Plant is stopped as per management decision in the monitoring period Oct'22 to Mar'23.
<table>
<tr><th></th><th>Oct' 2022</th><th>Nov' 2022</th><th>Dec' 2022</th><th>Jan' 2023</th><th>Feb' 2023</th><th>Mar' 2023</th><th>Avg.</th></tr>
<tr><td>PM</td><td colspan="6" rowspan="4">Plant Stopped as per Management decision.</td><td>-</td></tr>
<tr><td>SO_2</td><td>-</td></tr>
<tr><td>NOx</td><td>-</td></tr>
<tr><td>Hg</td><td>-</td></tr>
</table></td></tr>
<tr><td>(ii)</td><td>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}</td><td>Complied with.
ESP is provided for thermal power plant to control the emission from Captive power plant and it is working effectively. Monthly report for the Analysis of PM is being submitted to MsPCB. Captive Power Plant is stopped as per management decision in the monitoring period Oct'22 to Mar'23.
<table>
<tr><th></th><th>Oct' 2022</th><th>Nov' 2022</th><th>Dec' 2022</th><th>Jan' 2023</th><th>Feb' 2023</th><th>Mar' 2023</th><th>Avg.</th></tr>
<tr><td>PM</td><td colspan="6">Plant Stopped as per Management decision.</td><td>-</td></tr>
</table></td></tr>
<tr><td>(iii)</td><td>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.</td><td>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 and it helps neutralize the impact of sulphur in coal. Monthly report for the Analysis of Sox is being submitted to MsPCB. Captive Power Plant is stopped as per management decision in the monitoring period Oct'22 to Mar'23.</td></tr>
</table>

MEGHALAYA CEMENT LTD THANGSKAI

		<table><tr><th></th><th>Oct' 2022</th><th>Nov' 2022</th><th>Dec' 2022</th><th>Jan' 2023</th><th>Feb' 2023</th><th>Mar' 2023</th><th>Avg.</th></tr><tr><td>Sox</td><td colspan="6">Plant Stopped as per Management decision.</td><td>-</td></tr></table>
(iv)	Space provision shall be made for Flue Gas De-sulphurisation [FGD] unit of requisite efficiency for removal of SO2 when required at a later stage.	**Complied with.** Space provided for Flue Gas De-sulphurisation [FGD] unit of requisite efficiency for removal of SO2 when required at a later stage. The Project proponents are using CIL Auction & Linkage CIL coal in Captive power plant. The Company has maintaining SO2 in flue gas within the prescribed range. Also provision for lime feeding in boiler through over bed feeding system has been made to reduce the formation of SO2. Monthly report for the Analysis of Sox is being submitted to MsPCB. Captive Power Plant is stopped as per management decision in the monitoring period Oct'22 to Mar'23. <table><tr><th></th><th>Oct' 2022</th><th>Nov' 2022</th><th>Dec' 2022</th><th>Jan' 2023</th><th>Feb' 2023</th><th>Mar' 2023</th><th>Avg.</th></tr><tr><td>Sox</td><td colspan="6">Plant Stopped as per Management decision.</td><td>-</td></tr></table>
(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 and also on internal roads through Mobile tanker fitted with sprinklers. Installation work for Permanent Water Sprinklers has been completed along the haul road in the CPP and raw material yard to reduce the fugitive emission.
(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.** Water requirement for the Thermal Power Plant is meeting from Chynryntong-Umparti River. During rainy season PP is using Seepage Rain water for operation of Captive Power Plant. No extraction of ground water is being done by the PP for any activities. Captive Power Plant is stopped as per management decision in the monitoring period Oct'22 to Mar'23. <table><tr><th>Oct' 2022</th><th>Nov'2 022</th><th>Dec' 2022</th><th>Jan' 2023</th><th>Feb' 2023</th><th>Mar' 2023</th><th>Avg. (m^3/ Day</th></tr><tr><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td></tr></table>

MEGHALAYA CEMENT LTD THANGSKAI

(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. Induced draft cooling towers are a type of mechanical draft tower that features with fans. These fans will be located atop the tower, drawing air upwards against the downward flow of water. The water is passed through it and system is working efficiently.
(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.** 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. Also Fire Hydrants has installed at coal stock yard and other vulnerable areas of the Captive Power Plant. Regular safety training is being provided to the workers. The fire protection equipments and machineries are being tested periodically and kept in operation mode. Mock drills are being conducted on regular basis by our Safety & Vigilance Department. Details of Mock drills and trainings are attached as an **Annexure-I** Also Summary sheet of periodic testing for Fire protection equipment and machinery is attached as an **Annexure-II**
(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. The Project proponents are using CIL Auction coal in Captive 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 PP has installed Sewage Treatment Plant with capacity 100 KLD for treatment of domestic effluents and Effluents Treatment Plant with capacity 25 KLD for treatment of Effluents water generated from Automobile workshop. 100% treatment is being done and treated water is being utilized in Dust suppression, Green belt development and Vehicle washing in or around the plant and colony. No waste water is discharge outside the plant boundary.
(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 of Rain water harvesting. Scheme for rain water recharging pit has been made, The rain water collection and reuse also being practiced to fulfill the requirement of cooling water as well as drinking purpose during monsoon period. Rainwater Harvesting Scheme and plan has submitted to Central Ground Water Board, Guwahati vide Letter

MEGHALAYA CEMENT LTD THANGSKAI

		No. - MCL/ENV/CGWB/Comm./2022-23/31, dated: 07.11.2022. Thereafter Scientist-D from SUO-Shillong has inspected Rain Water harvesting Scheme at our site on dated 25th April 2023. She has forwarded inspection report to The Regional Director, CGWB, North-Easter Region, Guwahati and recommended for approval of the said RWHS. After vetting/approval by the Board for efficiency/adequacy, status will be submitted to the Region Office (MoEF). The copy of recommendation letter by Scientist-D is attached as an **Annexure-III.**
(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 Division Jowai; vide letter no.AID (J) 223/2007-2008/4456, Dated Jowai 24th March 2008 for the required quantity 0.04 Cumecs from Chynryntong-Umparti river. Also PP has obtained NOC from Office of the Deputy Commissioner Jaintia Hills District vide letter no. GEN/MCL-4/81/140-A, dated 21st Nov 2007, Office of the Dolloi Elaka Narpuh, Jaintia Hills District, dated 03 Sept 2007 and Office of the Jaintia Hills Autonomous District Council, Jowai vide letter no. JHADC/FOR/22/04/1318, dated 05th June 2007. Copy of the all NOC are attached as **Annexure- IV**
(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 analyzed periodically and it is being maintained under limit. Necessary PPEs like earplugs /ear muffs, etc. are being provided to those employees who engaged in noisy areas such as turbine area, air compressors, etc. We have fully automated system for operation of turbine, so the exposure of employee to the high noise is very less. The PP has provided an acoustic covered screw air compressor to maintain the noise level within the permissible limit i.e 75 dB. The regular routine testing of the machinery is been carried out as per the manufacturers' manuals Periodically examination of employees are being done to maintain audiometric record and for treatment for any hearing loss apart from exercising option of shifting to non noisy/less noisy areas. Analysis report for Noise level attached as **Annexure-V** List of the employees who have examined audiometric record are mentioned as an **Annexure-VI**

MEGHALAYA CEMENT LTD THANGSKAI

<table>
<tr><td>(xiii)</td><td>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.</td><td>Complied with.
The project proponent has provided acoustic hoods in the Thermal Power Plant. Also Earmuff/Ear Plug has been provided to the workers who engaged in highly noisy area and regularly observed by Safety Officer. Noise pollution has regularly monitored by Environment department and Detailed report attached as Annexure-V</td></tr>
<tr><td>(xiv)</td><td>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.</td><td>Complied with.
Fly ash generated in Captive Power Plant is completely collects in 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.</td></tr>
<tr><td>(xv)</td><td>The stack emission from various sources shall not exceed 50 mg/Nm3</td><td>Complied with.
The stack emission from various sources has monitored regularly for PM, Sox and Nox.
Total 13 stack are exists in plant including Captive Power Plant. Monitoring of Hg being done on regular basis. All the parameters are maintained within permissible limits. Details of the Stacks as mentioned below:-

<table>
<tr><th>Chimney</th><th>Avg. of Oct'22 to Mar'23</th><th>Permissible Limits (mg/Nm3)</th></tr>
<tr><td>Pr. Crusher</td><td>14.71</td><td>30</td></tr>
<tr><td>Sec. Crusher</td><td>12.85</td><td>30</td></tr>
<tr><td>Coal mill 1</td><td>19.58</td><td>30</td></tr>
<tr><td>Coal mill 2</td><td>20.77</td><td>30</td></tr>
<tr><td>RABH-1 (PM)</td><td>10.82</td><td>30</td></tr>
<tr><td>RABH-1 (Sox)</td><td>717.79</td><td>1000</td></tr>
<tr><td>RABH-1 (Nox)</td><td>232.49</td><td>600</td></tr>
<tr><td>RABH-2 (PM)</td><td>12.18</td><td>30</td></tr>
<tr><td>RABH-2 (Sox)</td><td>729.41</td><td>1000</td></tr>
<tr><td>RABH-2 (Nox)</td><td>225.78</td><td>600</td></tr>
<tr><td>ESP 1</td><td>27.45</td><td>30</td></tr>
<tr><td>ESP 2</td><td>27.21</td><td>30</td></tr>
<tr><td>Cement Mill No-1</td><td>18.73</td><td>30</td></tr>
<tr><td>Cement Mill No-2</td><td>19.53</td><td>30</td></tr>
<tr><td>Packing House-1</td><td>12.94</td><td>30</td></tr>
<tr><td>Packing House-2</td><td>12.30</td><td>30</td></tr>
<tr><td>CPP (PM)</td><td rowspan="4">CPP Stopper as per Management decision</td><td>50</td></tr>
<tr><td>CPP (Sox)</td><td>600</td></tr>
<tr><td>CPP (Nox)</td><td>300</td></tr>
<tr><td>CPP (Hg)</td><td>0.03</td></tr>
</table>

Reports are attached as Annexure-V</td></tr>
</table>

MEGHALAYA CEMENT LTD THANGSKAI

<table>
<tr><td>(xvi)</td><td>The project proponent shall get the optimum functioning of the environmental protection equipment certified by a technical institution of repute.</td><td>Complied with.
Performance assessment has been conducted as per as the norms by the NCCBM, New Delhi. The test results are submitted earlier for environmental protection equipment. Further the project proponent is continuously maintaining the pollution control devices to maintain the efficiency. Regular maintenance of Pollution Control Device has taken by PP.</td></tr>
<tr><td>(xvii)</td><td>Bag House/Filters shall be provided to control the fugitive emission during loading and unloading of raw materials/intermediate and finished products.</td><td>Complied with.
Nuisance bag filters, Bag House and ESP has been provided to control fugitive emission at Crusher, Raw Mill, Coal Mill, Kiln, Cement mill & Packing Plant. Regular maintenance is being done to maintain the efficiency of the Bag House/Filters and other Pollution control device. Fugitive emission are being monitored regularly:-
<table>
<tr><th>Location</th><th>Oct'22 to Mar'23 Avg.</th><th>As per standard limit (µg/m^3)</th></tr>
<tr><td>Lime stone Storage Area</td><td>2204.00</td><td>5000</td></tr>
<tr><td>Coal Storage Area</td><td>1009.5</td><td>2000</td></tr>
<tr><td>Clinker Loading Area</td><td>2297.83</td><td>5000</td></tr>
<tr><td>Cement Loading Area</td><td>2382.50</td><td>5000</td></tr>
<tr><td>Coal Storage Area (CPP)</td><td>1307.67</td><td>2000</td></tr>
<tr><td>Fly Ash Silo Area (CPP)</td><td>1125.17</td><td>2000</td></tr>
</table>
Detailed report are attached as Annexure-VII</td></tr>
<tr><td>(xviii)</td><td>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.</td><td>Complied with.
All the raw materials except limestone are being stored in covered shed. Additional shed are under construction phase and it will be completed by Nov-23. Installation of Permanent water sprinklers has been completed in coal storage facility to arrest fire hazard. Permanent shed layout plan is attached as an Annexure- VIII</td></tr>
<tr><td>(xviii) (a)</td><td>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).</td><td>Agreed for compliance.
Permanent shed with impervious flooring and water sprinkling facility for storage of Coal has been started. Almost erection work completed. After completion of work, cemented flooring will be done. Remaining work is under progress. Layout for Permanent Storage Shed along with Neutralizing Pit and Drains attached as an Annexure-VIII.</td></tr>
</table>

MEGHALAYA CEMENT LTD THANGSKAI

<table>
<tr><td>(xviii) (b)</td><td>The project proponent shall construct garland drains along with Acid Mine Drains Neutralization tanks, in consultation with and approved by the state pollution control board.</td><td>Agreed for compliance.
Plan for Neutralizing Tank has made & submitted to the State Pollution Control Board for approval vides Letter no. - MCL/ENV/MsPCB/Comm./ 2022-23/25, dated: 26.09.2022. Once we get the approval copy form SPCB, will be submitted to the Region Office (MoEF). Also provision of garland drain and Neutralizing Tank in the coal offloading and on loading area will be made to reduce the impact of coal leachate on the natural stream/water bodies in the area. The will be completed by March-2023. The acknowledged copy of the Neutralizing Tank Plan which is submitted to the State Pollution Control Board for approval is attached as an Annexure-IX.</td></tr>
<tr><td>(xviii) (c)</td><td>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 Neutralization Tank before releasing the water to the drain/natural drain, which shall be duly approved by the Meghalaya State Pollution Control Board.</td><td>Agreed for compliance.
Plan for Neutralizing Tank has made & submitted to the State Pollution Control Board for approval vides Letter no. - MCL/ENV/MsPCB/Comm./ 2022-23/25, dated: 26.09.2022. Once we get the approval copy form SPCB, will be submitted to the Region Office (MoEF). Also provision of garland drain and Neutralizing Tank in the coal offloading and on loading area will be made to reduce the impact of coal leachate on the natural stream/water bodies in the area. The will be completed by March-2023. The acknowledged copy of the Neutralizing Tank Plan which is submitted to the State Pollution Control Board for approval is attached as an Annexure-IX.</td></tr>
<tr><td>(xix)</td><td>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.</td><td>Complied with.
The testing of ambient air quality is being done at four location including downwind direction and where maximum ground level concentrations are anticipated. The testing parameters are PM $_{10}$, PM $_{2.5}$, SO2, NOx. One online ambient air quality monitoring station installed near Plant entrance gate in consultation with the Meghalaya State Pollution Control Board.
<table>
<tr><th>Location</th><th>Parameters</th><th>Oct'22-Mar'23 Avg.</th><th>Permissible limits</th></tr>
<tr><td rowspan="4">Near CCR Building</td><td>PM $_{10}$</td><td>46.28</td><td>100</td></tr>
<tr><td>PM 2.5</td><td>33.66</td><td>60</td></tr>
<tr><td>SO2</td><td>16.84</td><td>80</td></tr>
<tr><td>NOx</td><td>10.53</td><td>80</td></tr>
<tr><td rowspan="4">Guest House</td><td>PM 10</td><td>44.69</td><td>100</td></tr>
<tr><td>PM 2.5</td><td>25.41</td><td>60</td></tr>
<tr><td>SO2</td><td>13.92</td><td>80</td></tr>
<tr><td>NOx</td><td>8.57</td><td>80</td></tr>
<tr><td rowspan="4">Crusher</td><td>PM 10</td><td>44.72</td><td>100</td></tr>
<tr><td>PM 2.5</td><td>29.42</td><td>60</td></tr>
<tr><td>SO2</td><td>17.07</td><td>80</td></tr>
<tr><td>NOx</td><td>10.49</td><td>80</td></tr>
<tr><td>DG House</td><td>PM 10</td><td>50.87</td><td>100</td></tr>
</table></td></tr>
</table>

MEGHALAYA CEMENT LTD THANGSKAI

<table>
<tr><td></td><td></td><td>
<table>
<tr><td rowspan="3">(Downwind direction)</td><td>PM 2.5</td><td>35.81</td><td>60</td></tr>
<tr><td>SO2</td><td>14.88</td><td>80</td></tr>
<tr><td>NOx</td><td>10.16</td><td>80</td></tr>
</table>
Detailed report attached as an Annexure-V
</td></tr>
<tr><td>(xx)</td><td>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.</td><td>Complied.
Report on emission levels are being submitted to Meghalaya State Pollution Control Board. Report attached as Annexure-V
Chromium (VI) level in nearby surface water bodies flowing in the eastern site of the Plant (i.e Umparti River) are is being monitored on monthly basis and submitted to MSPCB with Half yearly compliance. The results of Chromium (VI) for average of the Oct'22-Mar'23 are 0.029 mg/t for Upstream & 0.026 for Downstream.
Detailed report of Chromium (VI) for Surface water is attached as an Annexure-X.</td></tr>
<tr><td>(xxi)</td><td>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.</td><td>Complied.
Total water requirement will not exceed 2000 cum/day including TPP. The PP has installed the Sewage Treatment Plant to treat the domestic sewage water with the help of suitable and appropriate technology. 100% treated water is being utilized for green belt development and dust suppression. Also Effluent Treatment Plant (ETP) has installed to treat the effluent water generated from Automobile workshop. 100% treated water is being utilized for washing of HEMM vehicle. No waste water is being discharged outside the premises and zero discharge is maintained by the company. There is no surface runoff from the factory premises either reach/contaminate Um-lunar River or any other stream flowing near the industrial location. Water consumption details mentioned here:-
<table>
<tr><th>Location</th><th>Avg. of Oct'22 to Oct'23 (m^3/Day)</th><th>Water Consumption not exceed</th></tr>
<tr><td>Domestic consumption</td><td>217.92</td><td rowspan="3">2000 m^3/Day</td></tr>
<tr><td>Cement Plant Industrial consumption</td><td>412.14</td></tr>
<tr><td>Captive Power Plant consumption</td><td>Nil (CPP stopped)</td></tr>
</table>
Details of Water consumption attached as Annexure-V</td></tr>
</table>

MEGHALAYA CEMENT LTD THANGSKAI

(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 an Automated mechanical arrangement for feeding of high calorific value hazardous waste in the kiln in Tertiary Air Duct (TAD) at pre- heater and using the waste as alternative fuel on availability basis. NOC for utilization of high calorific waste has been obtained from MsPCB vide letter no. MPCB/TB-86(2016)/2019-2022/35, dated 17th Dec 2019 for Plastic waste, Scrap Tyre and Wood chips.
(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 be approved by the project proponent from the DFO (Territorial) of Jaintia Hills District.	**Complied with.** Development of Green belt had been started in the Year 2009 and 100% of the project area **(i.e. 20.22 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. As per amendment of EC vide letter no. SEIAA/PROJECT-2/2007/8/1818 dated Shillong, the 30th September, 2020 (Area 59.269 to 52.949). Total plantation including project area and around the project area is 19.9253ha. Details of the Plantation is attached as an **Annexure-XII**
(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. With all emergency medicine and ambulance to meet up the emergency. **Complied with.** Proponent has appointed Competent Occupational Health Specialist including Medical Officer, Dentist, Nurse, Compounder, Lab Technician & Dresser for the medical examination of the workers engaged in the project. Occupational Health check-ups schedule is being followed as per the guideline and necessary remedial/ preventive measures are taken. The following equipments has setup in Occupational Health for regular examination of workers or any emergency :- ECG Machine, Audiometry, Spirometry (PFT), Cardiac Monitor, Oxygen Cylinder, Suction Machine,

MEGHALAYA CEMENT LTD. THANGSKAI

		Nebulizer machine, Semi auto Analyzer, Micro Scope, Incubator, Centrifuge machine, Haemometer, Accu chek machine, Blood cell counter, Homocyto Meter etc. Company has 02 (Two) Ambulance in which one is Advanced life support with Cardiac monitor & Defibrillator and another one is only with Oxygen support. The prevention measures for burns, material, and provision of anti-snake venom including all other paramedical safeguards are already implemented to the workers for mining activities. Occupational health surveillance of the workers is being carried out on a regular basis and records are being maintained. Equipments and testing facilities and Medical Checkup reports are attached as an **Annexure-VI & Annexure-XII.**
(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. Total 53 Cleaners are working and details of salary is attached as **Annexure- XIII**
(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.** An air quality dispersion modelling study has been carried out to assess the contribution by the existing stacks of the cement plant in the present ambient air quality of the area within 10 km radius of the project. The storage areas of the various raw materials and fuels are covered and hence, the fugitive airborne dust due to wind erosion has not been considered. This air quality dispersion modeling study has been carried out by M/s Min Mec Consultancy Pvt. Ltd., New Delhi (Accredited by NABET, QCI vide letter no. NABET/EIA/2225/IA 0095 valid till 29.03.2025). The conclusion of the report speaks that the maximum Ground Level Concentration does not have a significant impact on environment/ ambient air quality on sensitive receptors. Copy of the report has already submitted to IRO-Shillong vide letter no. - MCL/ENV/MoEF&CC/Compliance-I/2022-23/35, dated 10th Dec'2022.
(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. The best mining practices are being adopted by the Project Proponent for extraction of limestone. Systematic opencast mechanized mining method being implemented to win the limestone minerals which have involved deep hole drilling and blasting, excavator and blasting by slurry explosive. Loading

MEGHALAYA CEMENT LTD THANGSKAI

		and hauling from the mine face being done mechanically by excavators and tipper combination. The method involves the removal of huge quantities of overburden, dumping, and backfilling of the excavated area. In the mining area adequate number of check dams, retaining walls / structures, garland drains and settling ponds are provided to arrest the wash-off with rain water in catchment area. All necessary approval taken from the Authority and NOC from nearby villagers. The mining is being done in day light time only and necessary measures are being maintained to mitigate the impact of Air, water, Noise Pollution. Also Plantation is being done by the mining employee to maintain the ecology. Regular water sprinkling are being done to avoid fugitive emission. Also transportation of limestone is being done through covered vehicle.
(xxix)	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: i) *Pteracanthus griffithianus,* Acanthaceae ii) *Nepenthes Khasiana*, Nepenthaceae iii) *Argostemma khasianum,* Rubiaceae iv) *Fimbristylish nigrobrunnea,* Cyperaceae v) *Trivalvaria kanjilali,* Annonaceae vi) *Begonia rubrovenia,* Begoniaceae vii) *Ceologyne ovalis,* Orchidceae 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.	**Complied with.** The company has already doing work on Biodiversity Conservation of Schedule-I species in co-ordination with Environment Department of North Eastern Hill University (NEHU), Shillong since 05 (five) years. The NEHU, officials have already appointed a Project fellow for the Project and they are working at our site on Biodiversity Conservation Plan with focus on conservation of the schedule – I species in the area. The green house already developed with mist chamber and conservation of three flora species namely: Orchidceae, Cattelya Orchidceae, Cymbidium Orchidcear, Gladiolus, Anthurium and Begonia rubrovenia has been initiated.  *Ceologyne ovalis,* Orchidceae  *Begonia rubrovenia,* Begoniaceae

MEGHALAYA CEMENT LTD THANGSKAI

		Project report on Biodiversity Inventrorization and Conservation through Assisted Regeneration of RET Species has already submitted to IRO-Shillong vide letter no. - MCL/ENV/MoEF&CC/Compliance-I/2022-23/35, dated 10th Dec'2022. Photographs are attached as an **Annexure-XIV**
(xxx)	The project proponent shall sponsor research and development for conservation of threatened category of species occurring locally such Hedychium dekianum, [Zingiberaceae], Cymbidium eburneum (Orchidceae), or Dendrobium denonianum (Orchidceae) which would be carried out by an appropriate research or academic institution located in 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.	**Complied with.** The company has already doing work on Biodiversity Conservation of Schedule-I species in co-ordination with Environment Department of North Eastern Hill University (NEHU), Shillong since 05 (five) years. The NEHU, officials have already appointed a Project fellow for the Project and they are working at our site on Biodiversity Conservation Plan with focus on conservation of the schedule – I species in the area. The green house already developed with mist chamber and conservation of three flora species namely: Orchidceae, Cattelya Orchidceae, Cymbidium Orchidcear, Gladiolus, Anthurium and Begonia rubrovenia has been initiated. Photographs are attached as **Annexure-XIV**
(xxxi)	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.** Conservation plan for the conservation of wild fauna has prepared by North Eastern Hill University (NEHU), Shillong against the Work Order no. MCL/WO/NEHU/22-23/287, dated: 03.11.2022. The title of the Work is "Preparation of Wildlife Conservation Plan". Report is attached as an **Annexure-XV.** Also Company is ready to contribute funds for implementation of Regional conservation plan as discussed in the meeting held on DT: 05.03.2021 at Integrated Regional Office (IRO), MoEF&CC, Shillong with Ref. No. RO-NE/E/WLC/2021-SHI/65-77, Dt: 01.04.2021. Copy of the MOM is attached as an **Annexure-XVI.**
(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.** The Company has installed Pollution Control Device to control the air, water & noise pollution from the process. Regular maintenance of PDC is being carried out by the company. The revenue expenditure incurred on an environmental protection equipments / Machineries (from Oct-Mar'2023) are mentioned below:-

		<table><tr><th>Heading</th><th>Amount in Rs.</th></tr><tr><td>Plant Bag Filters (Crusher, Raw Mills, Cement mill, Coal mill, Kiln & Packing Plant)</td><td>409873.31</td></tr><tr><td>ESP</td><td>55368.85</td></tr><tr><td>RABH</td><td>260379.07</td></tr><tr><td>Sewage Treatment Plant, Effluent Treatment Plant & Neutralization Pit</td><td>104261.21</td></tr><tr><td>RO Treatment Plant</td><td>2461.07</td></tr><tr><td>Green Belt Development</td><td>44248.71</td></tr><tr><td>Environment Miscellaneous</td><td>771835.62</td></tr><tr><td>Total</td><td>1648428.84</td></tr></table>
(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 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.	**Complied with.** Implementation of socio-economic/eco-development activities has been done towards distribution of free medicines, malaria eradication program etc. in the nearby villages. Company has also spent funds annually towards creation of employees' welfare fund. The company has spent **Rs. 4,506,077.00** funds on the following activities under Socio-Economic Development under CSR activities (duration Oct'22-Mar'23):- 1. Emphasis on Education 2. Sports Activity 3. Encouraging/Felicitation program for Students 4. Polio Immunization Camps, family planning, etc 5. Infrastructure development of Hospitals / Schools 6. Cement Distribution Programme 7. Plant Distribution programme 8. Donation to Churches, Road & House Repairing etc 9. Community Feast 10. Drinking water supplying scheme 11. Village development funds Detailed report is attached as an **Annexure-XVII** Further, a comprehensive long term eco-development plan shall be prepared by the project proponent with the help of NEHU Shillong. Report is already submitted vide letter no. MCL/Env/MOEF&CC/2021-22/05; Dt:19.05.2021

B. GENERAL CONDITIONS

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

MEGHALAYA CEMENT LTD THANGSKAI

<table>
<tr><td>(i)</td><td>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.</td><td>Complied.
The company has following the stipulation of MSPCB State Government or any other statutory body as framed/modified from time to time and complies accordingly.</td></tr>
<tr><td>(i)-a</td><td>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.</td><td>Agreed for compliance.
The Project Proponent is not violating 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. The PP has following all applicable provisions of any Acts, Rules Orders of the Government and judicial orders issued by the Hon'ble Supreme Court/High Courts/NGT.</td></tr>
<tr><td>(ii)</td><td>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.</td><td>Agreed for compliance.
As per EC Amendment (Ref. Letter No. - ML/SEIAA/PROJECT-2/2007/937; Dated, Shillong, 24th November 2021) company can produce Annual production of 8, 58,000 MTPA and 330 day working for both Cement and Clinker. Therefore company has maintaining the Annual production of 8, 58,000 MTPA both Cement and Clinker bases on 330 days working. The detail of Cement & Clinker Production as mentioned below:-
<table>
<tr><th>FY</th><th>Clinker</th><th>Cement (OPC)</th><th>Cement (PPC)</th><th>Cement (PSC)</th></tr>
<tr><td>2022-23</td><td>857995</td><td>135365.15</td><td>397419.0</td><td>55987.0</td></tr>
<tr><td>2021-22</td><td>770834</td><td>216855.75</td><td>327100.50</td><td>68854.40</td></tr>
<tr><td>2020-21</td><td>813817</td><td>203767.08</td><td>279232.97</td><td>92071.25</td></tr>
</table></td></tr>
<tr><td>(iii)</td><td>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 imposed and to add additional environmental protection measures required, if any.</td><td>Agreed for compliance.
No further expansion or modification will be carried out by the company without prior approval of the Ministry of Environment & Forests or their nominated authority. The Company will inform to the authority and take prior approval and the same status or information will be share to SEAC through SEIAA to assess the adequacy of conditions imposed and to add additional environmental protection measures.</td></tr>
</table>

MEGHALAYA CEMENT LTD THANGSKAI

<table>
<tr>
<td>(iv)</td>
<td>The gaseous emissions (SO_2, NO_x) and particulate matter levels from various process units shall conform to the standards prescribed by the concerned authorities from 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.</td>
<td>Complied.
The gaseous emissions (SO_2, NO_x) and particulate matter levels from various process units are being maintained within prescribed limit. Data is continuously transmitted to SPCB/CPCB.
ABB make SCADA based Interlocking is in system to control SO_2, NO_x levels in case of failure and working effectively and at no point of time the emission will exceed the prescribed limit. Monitoring results are mentioned below:-
<table>
<tr><th>Chimney</th><th>Avg. of Oct'22 to Mar'23</th><th>Permissible Limits (mg/Nm3)</th></tr>
<tr><td>Pr. Crusher</td><td>14.71</td><td>30</td></tr>
<tr><td>Sec. Crusher</td><td>12.85</td><td>30</td></tr>
<tr><td>Coal mill 1</td><td>19.58</td><td>30</td></tr>
<tr><td>Coal mill 2</td><td>20.77</td><td>30</td></tr>
<tr><td>RABH-1 (PM)</td><td>10.82</td><td>30</td></tr>
<tr><td>RABH-1 (Sox)</td><td>717.79</td><td>1000</td></tr>
<tr><td>RABH-1 (Nox)</td><td>232.49</td><td>600</td></tr>
<tr><td>RABH-2 (PM)</td><td>12.18</td><td>30</td></tr>
<tr><td>RABH-2 (Sox)</td><td>729.41</td><td>1000</td></tr>
<tr><td>RABH-2 (Nox)</td><td>225.78</td><td>600</td></tr>
<tr><td>ESP 1</td><td>27.45</td><td>30</td></tr>
<tr><td>ESP 2</td><td>27.21</td><td>30</td></tr>
<tr><td>Cement Mill No-1</td><td>18.73</td><td>30</td></tr>
<tr><td>Cement Mill No-2</td><td>19.53</td><td>30</td></tr>
<tr><td>Packing House-1</td><td>12.94</td><td>30</td></tr>
<tr><td>Packing House-2</td><td>12.30</td><td>30</td></tr>
<tr><td>CPP (PM)</td><td rowspan="4">CPP Stopper as per Management decision</td><td>50</td></tr>
<tr><td>CPP (Sox)</td><td>600</td></tr>
<tr><td>CPP (Nox)</td><td>300</td></tr>
<tr><td>CPP (Hg)</td><td>0.03</td></tr>
</table>
The gaseous emission report in detailed are attached as Annexure-V</td>
</tr>
<tr>
<td>(v)</td>
<td>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.</td>
<td>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 flyash generated from the Captive Power Plant is being utilized in making of Cement.</td>
</tr>
<tr>
<td>(vi)</td>
<td>The industry shall undertake the following waste minimization measures:
• 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 particulate arresting equipments.</td>
<td>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.</td>
</tr>
</table>

MEGHALAYA CEMENT LTD THANGSKAI

<table>
<tr><td></td><td>• Dust/particulate matter collected in pollution control equipments shall be reused.</td><td></td></tr>
<tr><td>(vii)</td><td>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.</td><td>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. Results of monitoring of Fugitive emissions in the work zone environment, product and raw materials storage area is mentioned below:-
<table>
<tr><th>Location</th><th>Oct'22 to Mar'23 Avg.</th><th>As per standard limit (µg/m^3)</th></tr>
<tr><td>Lime stone Storage Area</td><td>2204.00</td><td>5000</td></tr>
<tr><td>Coal Storage Area</td><td>1009.5</td><td>2000</td></tr>
<tr><td>Clinker Loading Area</td><td>2297.83</td><td>5000</td></tr>
<tr><td>Cement Loading Area</td><td>2382.50</td><td>5000</td></tr>
<tr><td>Coal Storage Area (CPP)</td><td>1307.67</td><td>2000</td></tr>
<tr><td>Fly Ash Silo Area (CPP)</td><td>1125.17</td><td>2000</td></tr>
</table>
Detailed report is attached as an Annexure-VII</td></tr>
<tr><td>(viii)</td><td>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.</td><td>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.</td></tr>
<tr><td>(ix)</td><td>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.</td><td>Complied with.
Authorization letter No. MPCB/ATH-27/2007/2021-2022/20; dated 11th FEB 2022.
Authorization letter No. MPCB/ATH-27/2007/2021-2022/19; dated 11th FEB 2022 for 2600 TPD cement manufacturing plant, valid up to 30th November, 2025.

Authorization letter No. MPCB/ATH-46/2017/2023-2024/08; dated 15th MAY 2023 for Captive Power Plant, valid up to 31st August 2027.

Copy of the Authorization is attached as an Annexure-XVIII</td></tr>
</table>

MEGHALAYA CEMENT LTD THANGSKAI

(x)	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.	**Complied with.** Dedicated environmental Management Cell is functioning and Environmental quality functions like Ambient Air Quality Monitoring, Stack Monitoring Emission, and Drinking Water Quality and Waste Water quality are being regularly monitored. Chromium testing kit maintained in laboratory and testing of for Surface water is also being carried out regularly. Testing report attached as **Annexure-X.** Also detail of Environmental Management Cell and testing equipments details are attached an **Annexure-XIX.**
(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.	**Complied with.** 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. Drainage system and STP, ETP and NPT map are submitted earlier. All pollution control equipment in STP being operated by trained personnel.
(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.	**Complied with.** Half yearly compliance reports along with monitoring data are being submitted to concerned officials SEIAA/SEAC and Regional Office, Ministry of Environment & Forests, Govt. of India, Shillong on the regular basis and posting the same data on the website https://topcem.in/ also.
(xiii)	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. The Regulatory Authority may revoke or suspend the clearance on the recommendation of the SEAC, if implementation of any of the above conditions is not satisfactory. The Regulatory Authority may on the recommendation of SEAC reserve the right	**Agreed for compliance.**

MEGHALAYA CEMENT LTD. THANGSKAI

	to stipulate additional conditions, if found necessary. The Project proponent in a time bound manner shall implement these conditions too. 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.	

C. ADDITIONAL CONDITIONS

(i)	The project proponent to create a good and successful plantation in the green belt area of approximately 18 hectares by using indigenous plant species like *Michelia Chanmpacca, Castanopsis sp, Schima wallichi, Mesua ferrea, Artocarpus hetero-phylla* preceded by establishing well stocked nurseries of above species in the different plots. The project proponent must accord importance & seriousness to undertake the plantation on mission mode. The plantation so create act as a model for all the industrial units located within the district.	**Complied with** Company has established a Nursery in which indigenous plant species like Michelia Champaka, Mesua ferrea, Artocarpus heterophyllus has planted in different plots inside the nursery. The planted quantity of the indigenous plant species as mentioned below:- **SL. No. / Name of the Species / Quantity Planted** 1 – Michelia Champaka – 100 2 – Mesua ferrea – 100 3 – Artocarpus heterophyllus – 125 However, for Castanopsis sp & Schima wallichi, we have approached to different Government Botanical Center. Once we get the species, it will be planted in the Nursery & status will be submitted to the Region Office (MoEF). Photographs of the indigenous plant species attached as an **Annexure-XX.**

MEGHALAYA CEMENT LTD THANGSKAI

Annex - I

FIRE FIGHTING TRAINING REPORT

Date: 07/10/2022

Objectives of this training:
The purpose of this firefighting training is to give participants skills, knowledge and expertise that will enable them to identify the conditions capable of causing fire, know how to use a fire extinguisher, respond appropriately to fire emergencies and follow the fire evacuation plan, adequately implement fire emergency procedures.

Fire fighting training conducted for knowledge of employees & Fire responders team along with other employees of various departments that how can fight with fire extinguish and control during fire emergency. Topic based on studies of Emergency preparedness & its activation, Sirens code of practice distinguish the type of fire & fire extinguishers using process etc.

- TRAINER's NAME: - Prajjal Rajkumar – Dy. Mgr-Safety & Ganesh Quila- Asst. Fire officer
- VENUE: - Vocational Training Center.
- DATE:- 06/10/2022
- TIME: - 4:00 PM TO 6:00 PM
- DURATION: - 02:00 Hours
- NUMBER OF PARTCIPANTS: - (42) Forty two participants were attended.

On 6th October' 2022 from 4:00 PM to 6:00 PM at Vocational Training Center we have conducted "FIRE FIGHTING TRAINING" along with studied emergency preparedness function and accident indicator Siren alarming procedure" i.e accident indicator siren alarming procedure also taught the classification of fire & using of different extinguishers. Total 42 persons were participated in the training. Our Motto is about to educate all & knowing about using procedures of fire extinguishers during any fire emergency.

Methods of Fire extinguish: Following methods are used for extinguishing the fire according to fire Triangle.

1) Starvation: In this method we discussed & shown how to remove un-burnt materials from surrounding of fire occurrence area & to control the fire.
2) Blanketing: In this method we discussed & shown how to cut oxygen from the fire by using of extinguishers & wet blanket to stop the fire by blanketing process:
   - Foam, ABC, DCP extinguishers are used for blanketing.
3) Cooling: In this method we bring down temperature of fire below auto ignition temperature of fuel & fire extinguishers.
   - Foam, Water, CO2 extinguishers are used for cooling.

MEGHALAYA CEMENT LTD
THANGSKAI

Annex - I

Classification of Fire: Fire is five [5] types.

- **A class Fire**: Fire involving combustible materials of Organic nature.
- **B class Fire**: Fire involving Flammable liquids.
- **C class Fire**: Fire involving flammable Gases.
- **D class fire**: Fire involving combustible metals.
- **E class Fire**: Fire involving on Electrical appliances.

- At the time of any fire emergency how to fight with fire & what precaution to be taken during that situation.
- Which type of Fire extinguishers can be use on what type of Fire.
- Classification of Fire and according to it explanation & types of fire.
- Communication procedure during emergency.
- During Fire what can do or not.
- Explanation of locations where Fire can catch at our factory premises & in vehicles.
- Introduction and function of Fire fighting tanker along with Fire equipments.
- During fire accident siren alarming procedure.
- Operating procedure of fire extinguishers & Fire fighting tanker if necessary.
- Practical Demonstration.

Finally we have conducted practical demo program on fire by use of fire fighting equipments like Fire extinguishers, Fire fighting tanker & given the training to all participants, observed each and every one can operate the extinguishers and understood fire fighting process. Finally we have seen most of the persons learnt well & satisfactory as practice training will be continued for further progress.

SAFETY OFFICER

DGM [SAFETY]

MEGHALAYA CEMENT LTD
THANGSKAI

Annex- I

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: 01.04.2016

Training Details : **"FIRE FIGHTING TRAINING".**

Agency : INTERNAL Loc:- V.T.C

Date : 06/10/2022

Time : 04:00 PM TO 6PM

Name of Trainers : **Dy. Mgr-Safety & Asst. Fire officer.**

Attendance Record:

Sl. No.	*Emp Code*	*Employee Name*	*Department*	*Designation*	*Signature*
1	3293	T Sabu Kumar	Dispatch	Sr. Asst.	
2	2855	Bikram Kr. Mahata	"	Sr. Sup.	
3	2430	Ringham Difoess	"	"	
4		Nikhil Raj	Instrument	Assit. Engineer	
5	2007	Badan Kardong	Mines	Sr. Supervisor	
6	2778	Naren Das	"	Hywa Operator	
7	2931	Maheswar Das	Q.C	~~Asst~~ Supervisor	
8	2259	A.M Laskar	Q.C	Granger	
9	5539	Dil bodhur chakary.	Pod	Partlar	
10	2887	Miraj Alom	Pod	Partlar	
11		Mukti Roshan		Partlar	

MEGHALAYA CEMENT LTD THANGSKAI

Annex-I

	E Code.	Employee Name	Department	Designation	Signature
12	2491	[illegible]	Mechanical	Foreman	[illegible]
13	5858	Kunal Dey	Instrument Electronics	Jun. Technician	Kunal Dey
14	2015	Ratneswar Das	Q.C	Supervisor	
15	5670	Lunit Sinha	Inst	Tech	
16	3080	Ranjan Sinha	mines	Hyva. opt	
17	3193	Baboram ranjang	mech	senior mech	
18	835	Pranab Sarkar	Geology & Mg	Sr. foreman	
19	2209	Ranjit Soansi	Geology & Mg	Supervisor	
20		Sudarshan Sonkar	mines	Opater	Sudarshan Sonkar
21		Bappa Biswas	min	Hyva opt	
22	2246	Rupam Bora	HR & A	Asst. Officer	
23		Niranjan Rabidas	"	Sweeper	N.R.
24	5844	Haroon Guha	"	Trainee	
25	3066	Diganta Dhaly	vigilance	vigilance Driver	
26	5561	Nazrul Islam	Mech	Foreman	
27	3195	Arun Singh	Mech	"	
28	5556	Rishabh Sukra	Accounts	Officer	
29	5853	Gaurav Kumar Shrivastava	Accounts	Officer	
30		Jay Prakash Pandit	HR&A	Peon	J.P.
31		Narayan Acharjee	HR&A	Jr. Asst.	

MEGHALAYA CEMENT LTD. THANGSKAI

	E. code num	Name	Dept.	Designation	Signature
35)	2294	Mantu Bora	HR&A	Security	Mbora
36)	2289	pradip Boro	"	"	P.Boro
37)	2287	Salah uddin Khan	"	"	
38)	2336	Tusheswar Nath	"	"	Nath
39)	2335	Arup Borah	"	"	Aborah
40)	2293	Amal Lahkar	"	"	
41)	2288	Bhaben Nath	"	"	B Nath
42)	5178	Nirmal Chanda	"	"	

(THANGSRA)

Annex-I

SILICOSIS AWARENESS REPORT

DATE: 10th Oct' 2022

- **THEME: Taught about Prevention of Silicosis, Elimination of Dust, Control Airborne dust, Medical Examination etc.**
- TRAINER'S NAME : Prajjal Rajkumar (Safety Officer)
- VENUE : VTC Vocational Training Centre.
- DATE : 10th Oct'2022
- TIME : 4:00 PM To 6:00 PM
- NUMBER OF PARTICIPANTS: 20 Persons were attended.

On 10th Oct'2022 at sharp 4:00 PM up to 6:00 PM at VTC we have conducted "SILICOSIS AWARENESS PROGRAMME" total 20 Persons were participated from various department workers, staff and officers. At the time of working in Mining area or in industry crusher area / packing area what precautions to be taken to avoid occupational hazards like "SILICOSIS" and its introduction etc.

SILICOSIS:

- Disease of lungs caused by breathing dust containing crystalline silica particles.
- Dust cause fibrosis (scar tissue) in the lungs which reduce the ability of the lung to extract oxygen from the air.

✓ Early stages of disease may go unnoticed, Continued exposure may result in-

- Shortage of breath, possibly fever.
- Occasionally blueing of skin at ear lobes and lips due to reduction in circulation.
- More susceptible to infectious disease (particularly tuberculosis).

✓ Progression of disease leads to-

- Fatigue, extreme shortness of breath.
- Loss of appetite.
- Pain in chest
- Respiratory failure which may cause death.

✓ Diagnosis of Silicosis-

- Normally detected in Periodic Medical Examination.
- Lung functions are or mild Restrictive or mixed pattern, till late stage.
- Chest X-ray shows typical fine granular opacities initially and large shadows only in case of PMF.

✓ Broad based actions required to be taken for control-

- Early diagnosis of Chest ailments
- Periodic Medical Examination of all employees once in every three years for employees above 45 years, once in five for employees below 45 years. (Mines Rule 29 B of 1955 & Recommendation of Tenth Safety Conference)
- PME once in every year for employees of all categories above 60 years of age. (Cir Tech 7/2011).

MEGHALAYA CEMENT LTD THANGSKAI

- More emphasis to be given on Pulmonary Function Test & ILO Classification of Chest X-rays in Medical Surveillance of Mines employees as per the modified Statutory Form 'O' used for PME. (Cir Tech 5/2011)

✓ Specific actions taken by the Directorate on NHRC recommendations-

- DG's Tech Circular been issued to all Managers, Agents and Owners of Mines in regards to Respairable Dust Measurements and Control to Prevent Pneumoconiosis in Mines which specified:
- Exposure limits
- Sampling and analysis of respirable dust.
- Dust control Measures in Mines.
- Occupational Health survey and Monitoring.

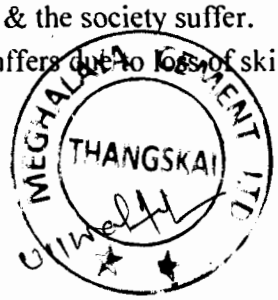
✓ WHY THE AWARENESS PROGRAMME? –

- The persons working therein are liable to be affected by an incurable lung disease called silicosis.
- Silicosis is caused by inhaling silica dust over a period of time.
- Silica (sio2) dust is generated during mining, crushing and grinding of minerals such as sand stone, slate, granite, limestone and quartzite are and also during construction activity involving concrete and clay bricks, glass manufacturing and sand blasting.
- The disease often has fatal consequence.
- There is lack of awareness amongst the people in general about the cause, consequence and preventive measures of the diseases.
- Minerals containing free silica are being mined in every state of our country.
- These mines are largely in unorganized sectors.
- Most of the mining/crushing/grinding is done without effective dust control.
- No advanced technology is adopted.
- Mine/plant operators are either unaware of their statutory obligations or deliberately ignore health care issues of their workers.
- Medical examination of workers is not done periodically.
- There is death of doctors trained in diagnosing silicosis/dust pneumoconiosis.
- Very few states have constituted dust pneumoconiosis boards to check and monitor this disease.
- Hence the disease go undetected and to the extent of fatality.
- There is an urgent to focus on this issue.

HENCE THE AWARENESS PROGRAMME IS NECESSARY.

✓ **SOCIO ECONOMIC ASPECTS-**

- In unorganized sectors, proper record of employment is seldom maintained.
- As such, affected work –persons do not get medical aid, compensation etc.
- Due to reduced lung capacity and continued ailment the work-person is rendered jobless.
- Ultimately a family & the society suffer.
- The industry also suffers due to loss of skill.



✓ PREVENTION OF SILICOSIS

- Elimination of Dust, Dust suppression by water sprinkling and water spraying to be strictly ensured in Haul roads, man ways as well as working phases.
- Dry Drilling in mines to be completely stopped.
- Dust suppression by approved wetting agent.

✓ Control of dust during drilling- Dust control can be done by: -

- By using sharp bits.
- Wet drilling by using water.
- By using dust extractors.
- By providing air tight enclosed cabins on drills rig and mobile equipment.
- By using personal protective equipments like respirators as the last resort.

✓ **DUST CONTROL AT LOADING AND DUMPING POINTS:**

- Jack hammers are most common in small and medium quarries/industry.
- Drill steels have central annuals for water flow to the bit.
- The cuttings flush out as sludge through the gap between wall of holes and steel.
- Apart from wet drilling use of dust mask is a must, as:
  -Small amount of air leaks piston and collects dust which comes out with sludge.
  -collaring, drillers avoid to open water.

✓ **DUST CONTROL AT LOADING AND DUMPING POINTS:**

- Blasted muck prior to loading to be completely drenched with water. Spray loaded vehicles with water.
- No overloading of Vehicles to prevent spillage and crushing on haul road, adequate water spraying at all dumping points.
- The height of fall at tipping or transfer points must be optimized.
- Enclose the transfer point tightly to exhaust the dust -laden air.
- Inactive top and slopes of all dumps to be planted.

. Conclusion: As a civilized society, it is the duty of all stake holders be it the state, regulatory bodies, mine/plant operators, workers, local administration, media, society and NGos to protect and preserve our valuable human resources.

SAFETY OFFICER

DGM [SAFETY]

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-I

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/0109
Rev No.:01
Date: 01.04.2016

Training Details: Occupational safety & health training on "SILICOSIS"

Agency : INTERNAL
Date : 10th Oct' 2022
Time : 4:00 P.M to 6:00 P.M

Name of Trainers : **DGM-S&V & Dy. Mgr- Safety**

Attendance Record:

Sl. No.	Emp Code	Employee Name	Department	Designation	Signature
1	2590	Braolal Kumar	Mines	Sr. Supervisor	
2	3292	Hiralal Giri	"	Supervisor.	
3	2745	Nar Bh. Darai	"	Hyva opt.	
4	2547	Sujay kr. Sinha	"	Mechanic (P/L)	
5	25	Kishori Yadav	"	LDT opt.	
6	2438	Jaswinder Kr Singh	Logistics	Supervisor	
7	2855	Bikram Kr Mahato	Logistics	Sr. Supervisor	Bikram
8	2434	Brijesh Kr Upadhaya	Logistics	Sr. Asst.	
9	3123	Shashikant Kumar	Mines	P/L opt.	
10	2631	Lallu Pal	"	P/L opt.	

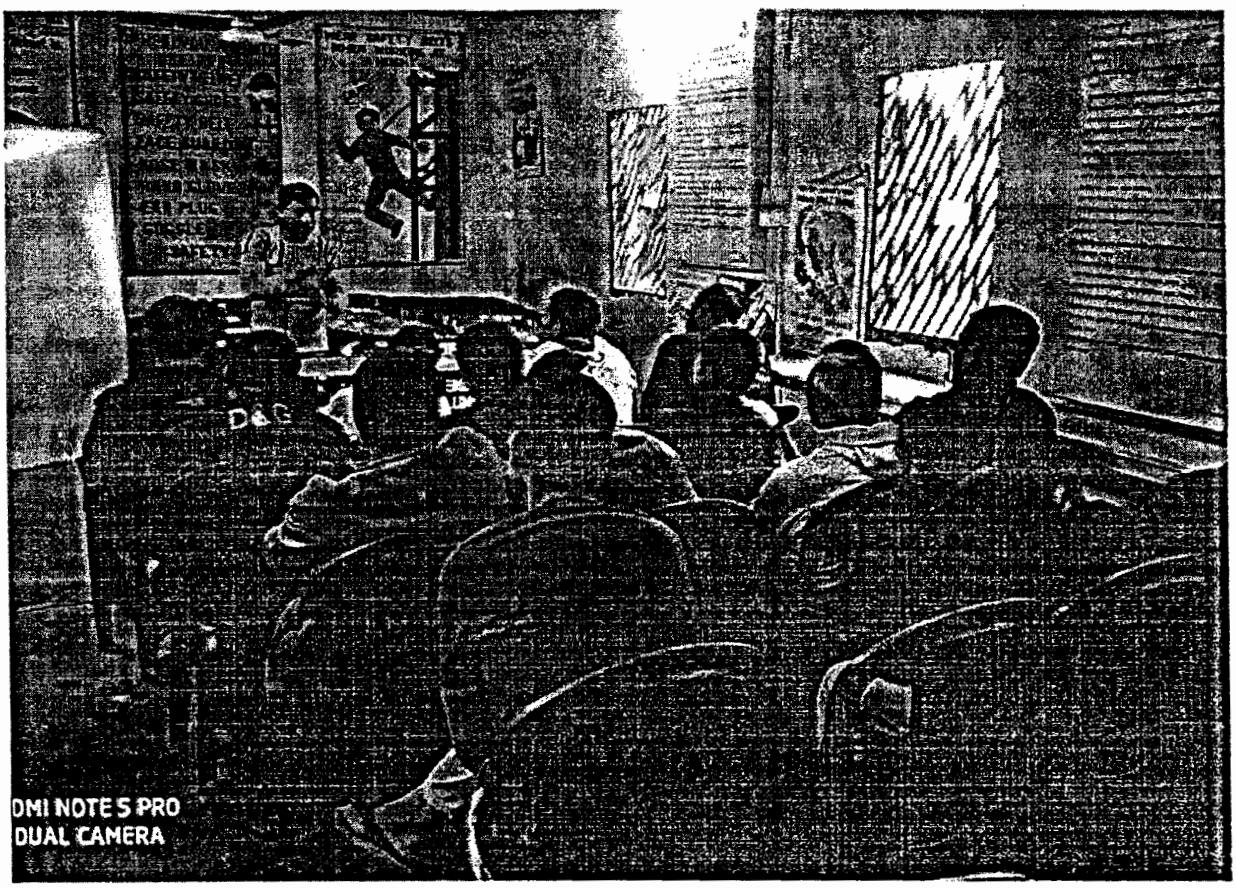
MEGHALAYA CEMENT LTD. THANGSKAI

Sl. No.	Emp Code	Employee Name	Department	Designation	Signature
11	2712	Nabo Kr. Singh	Mines	Dy. OE.	
12	2296	Rupam Bora	HR	Asst. Officer	
13	5863	Narayan Acharya	HR	Jr. Asstt.	
14	5844	Priyam Suting	HR	Trainee	
15	2793	Chandra Dev Roy	Mines	Hyva Optr.	
16	5828	Ritik kumar Jha	Logistics	Assistant	
17	5197	Nabo Sarkar	mines	Asst. mech	
18	2956	Rajesh Kanu.	Safety & Vigl.	Supervisor.	
19	2736	Dilip Singh	Mines	HYVA Optr.	
20		Nirupal Das	Cat-B.J.Ed.	Helper	
21					
22					
23					
24					
25					

HOD

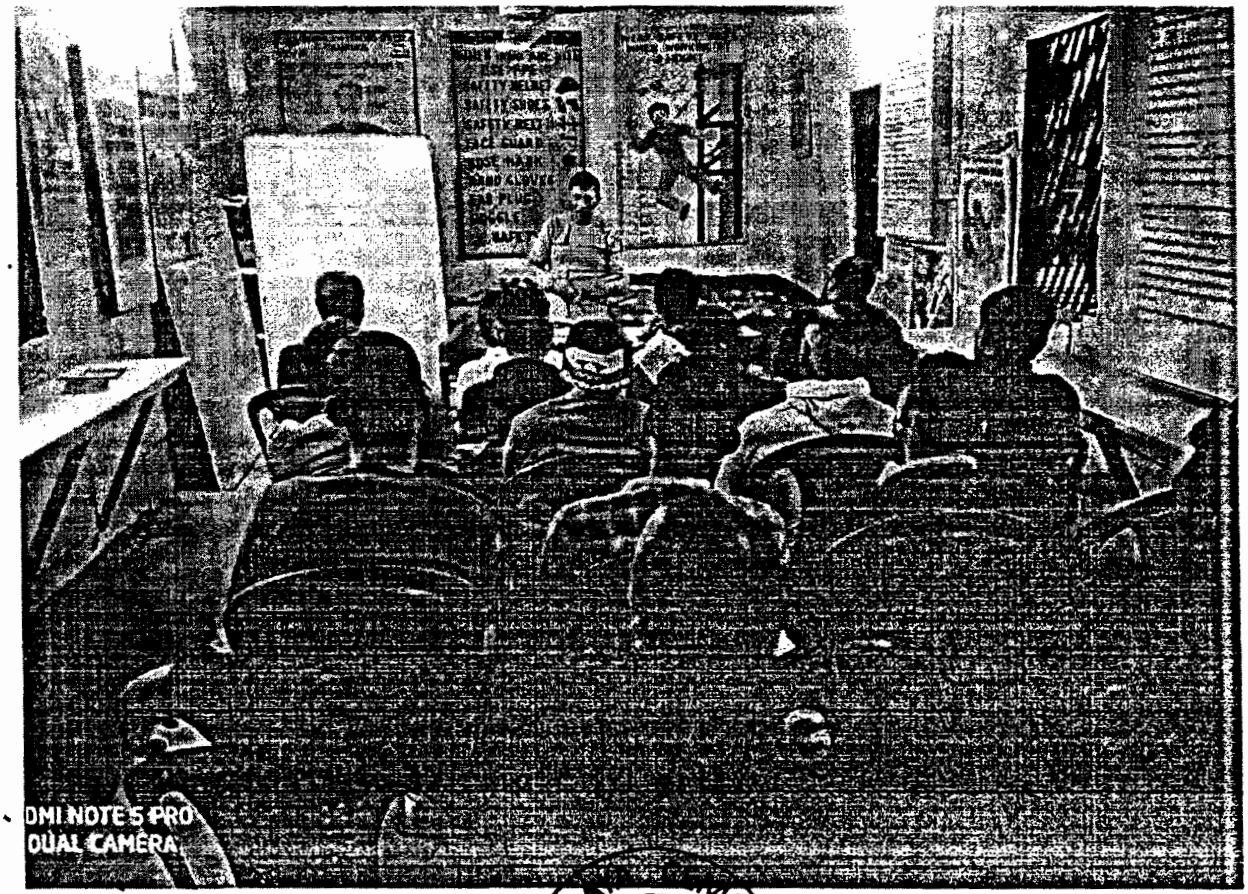
MEGHALAYA CEMENT LTD THANGSKAI

Annex-I



THANGSKAI

Annex-I



MEGHALAYA ... MENT LTD
THANGSKAI

Annex-I

SAFE OPERATION OF LPG & FIRE FIGHTING

DATE: 10th March'2023

- **THEME: LPG GAS cylinder Safety awareness & practical demonstration.**
- TRAINERS NAME : Mr. Prajjal Rajkumar (Safety Officer)
- VENUE : Community Hall
- DATE : 07.03.2023
- TIME : 5:00 PM. To 7:00 PM
- NUMBER OF PARTICIPANTS: 27 participants from residential colonies.

On 7th March'2023 at sharp 5:00 PM up to 7:00 PM at Community Hall we have conducted "LPG CYLINDER" Safety Training, total 27 Persons were participated they are from different Blocks of Residential colonies.

During Training it was discussed & practically shown to participants that how to use the LPG safely.

WHILE RECEIVING LPG CYLINDER:

1) Check that the cylinder has the company seal & safety cap intact.
2) If you are not sure about safe use of LPG, ask the delivery person for demonstration.

BEFORE USE:

1) Check the Cylinder valve to ensure that the rubber 'O' ring is present inside.
2) Use only soap solution to check gas leaks; never use lighted match- sticks for checking leaks.

AFTER USE:

1) Turn "off" the regulator knob and then the stove knob before retiring to bed.
2) Always keep the regulator knob in "off" position when the cylinder is not in use.
3) Empty cylinders must be stored in a cool and well ventilated place with the safety cap put on.

WHILE IN USE:

1) Never leave vessels unattended on burners in operation- the contents may overflow, extinguishing the flame and causing gas leakage.
2) Don't keep electrical appliances like refrigerators inside the kitchen, power fluctuations in them can be act as a source of fire in case of leakage.

SERVICING:

1) Always keep rubber tube uncovered and visible.
2) Check rubber tube regularly for cracks; change rubber tube at least once in two years.

MEGHALAYA CEMENT LTD
THANGSKAI

INCASE OF LEAK:

1) Call your distributor or emergency service cell for help.
2) LPG being behavior than air tends to settle at the ground level on leakage. If LPG leakage is noticed, use all available ventilation to disperse the gate.

SAFETY INSTRUCTIONS TO USE LPG

i) Always keep the cylinder upright position.
ii) Keep the Gas stove minimum 6 inches above the cylinder on a suitable surface also always cook while standing.
iii) Don't place the gas stove where there is strong wind flow.
iv) Don't use any inflammable items in the kitchen other than the gas cylinder.
v) Always light the match stick before turning on the gas stove.
vi) Avoid other work while cooking and always be present near the stove. Always use a cotton apron while cooking.
vii) Always use tongs to hold hot vessel used to cook and avoid using cloth.
viii) Always keep the regulator switch off while sleeping and going out.
ix) If you smell LPG in air, avoid switching on electric switches, lighter and matches. Open windows doors immediately.

STEP TO FOLLOW IN CASE YOU SMELL GAS IN THE AIR

i) In case of any gas leakage put on the safety cap, leave it in open place, contact the distributor immediately or call help line.
ii) Always replace the safety hose every 5 years & avoid trying to repair the gas stove on your own.

During fire of LPG cylinder in emergency how to fight with fire & what precautions to be taken during that situation those were discussed as well as explained about extinguishing media.

Generally LPG fire is coming under C Class Fire: Fire involving flammable Gases. To extinguish the fire we should close down the supply of gas by closing the valve and simultaneously for cooling CO2, DCP & ABC type Extinguisher can be used.

Finally we shown a demo on Fire how to use Fire Extinguisher for extinguish of fire also if fire caught at regulator outlet of LPG cylinder the easily can extinguish by wet cloth through cut of oxygen. So safely each and every one operated the extinguishers also extinguished through used wet cloth and understood fire fighting process. Finally we have seen most of families done the practice very well for enhance of awareness & practice periodic training can be conducted.

SAFETY OFFICER

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : Liquid Petroleum Gas (LPG) operation Safety.
Agency : Safety Dept. Loc- Community Hall.
Duration : 02 Hrs.
(a) Date/s From: 07.03.2023 To: —
(b) Time From 5:00PM To: 7:00PM
Names of Trainers :
1. Pranjal Rajkumar 2.
Attendance Record: Safety officer.

Sl. No	Employee Name	Department	Designation	Signature
01	Bh Sudha Rani	Mechanical		Bh Sudha R.
02.	Bindu Prasad	Prodaction		Bindu
03.	Savita Singh	Mech		Savita
04.	Dimaris Synri	QC		
05.	Soma Dutta	Accounts		SD
06.	Khushboo Jirath	Accounts		K. Soma
07.				Sonisingh
08.	Sunita Verma	C.P.P		Sunita
09.	Saraswati Devi	mines		Saraswati
10.	Sweta Verma	CPP		
11.	Gauri Singh	Accounts		Gauri
12.	Avishka singh	store		Avishka
13.	Ramjana Singh	store		
14.				
15.	Rupam Singh	Mins		
16.	प्रियंका देवी	Mech.		✓ प्रियंका देवी
17.	रवींद्र	Mech.		✓ रवींद्र
18.	Nikimani Das	Q.C		✓ Nikumani
19.	Joba Satnami	Mis Kanaisatnami		✓ Joba Satnami
20.	Rinky Kanoo	Safety Officer		✓ Rinky Kanoo

HOD

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : Liquid Petroleum Gas operation Safety.
Agency : Safety Dept. Loc- Community Hall.
Duration :
(a) Date/s From: 7/03/23 To:
(b) Time From 5:00 PM To: 7:00 PM
Names of Trainers :
1. Prajjal Rajkumar. 2. Safety officer.
Attendance Record:

Sl. No	Employee Name	Department	Designation	Signature
21	Mina Kumari Singh	Production	Dep Mngr.	M.K.Singh
22	Sukalpa Basugupta	C.C	Asst Mgr	
23	Dipika Baishya	C.P.P	Dm operator	
24	Gita Rani Mazumder	Mine	HYVA operator	G.M
25.	M. Kalavathi Rao	M.Kotta	Fitter	
26	Mamata Khataa	C.P.P	Bg House Operator	Mamata
27	Madhusmita Bora	HR & A	Asst. officer	Rupam Bora

MEGHALAYA CEMENT LTD THANGSKAI

Annex-I

SAFE OPERATION OF FIRE EXTINGUISHER AS WELL AS PPE DEMONSTRATION

Date: 09/03/2023

- TRAINER's NAME: - Prajjal Rajkumar – (Dy. Mgr-Safety)
- VENUE : Community Hall
- DATE:- 09/03/2023
- TIME: - 5:30 PM TO 7:00 PM
- DURATION: - 02:30 Hours
- NUMBER OF PARTCIPANTS: - [31] Thirty one participants were attended.

The safe operation of portable Fire extinguishers is our first line of defense in protecting our people & property in the event of a Fire.

The main objective of our Fire extinguishers training is to inform, demonstrate & provide confidence to employees for safe and effective use of Fire extinguishers at work places.

Fires start small & may be extinguished by well-trained knowledgeable employees using the proper equipments.

- Identification of the benefits of training from an employee.
- Knowledge of the three elements of fire is essential.
- Recognition of the classification of fires.
- Review portable Fire Extinguishers rating uses & methods of operation.
- Understand the pass method.
- Review the portable fire extinguisher maintenance & its inspection processes.

KEY POINTS OF FIRE EXTINGUISHER

- Fire Extinguisher are divided into two types base fluid/ Chemical they dispense.
- Any one working with Fire extinguishers needs to understand each class of fire.
- All Fire extinguishers are not effective on different classes of fires.
- Fire extinguishers must be inspected monthly by a trained 7 competent individual.

These are four basic steps for suing modern portable Fire Extinguishers.

The acronym PASS is used to describe these four basic steps.

1) Pull Pin: Pull pin at the top of Fire extinguishers, breaking the seal.
2) AIM: Approach the Fire standing at a safe distance. Aim the nozzle or outlet towards the base of the fire.
3) Squeeze: Squeeze the handles together to discharge the extinguishing agent inside. To stop discharge, release the handles.

MEGHALAYA CEMENT LTD
THANGSKAI

4) Sweep: Sweep the nozzle from side to side as you approach the Fire.

PPE-Demonstration & using benefits: Personal protective Equipments is a safety Gears/Safety device which help us to perform the works safely without any harm. Inside the Plant Premises area wise lot of works day to day going on. In this regards as per task safety Gears i.e PPE will applicable. Here elaborated area wise PPE's are necessary to use which practically demonstrated & explained the using benefits & harm if not in use.

Area	Source / hazard	Safety Gears/PPE's
Mines area (Quarrying)	Stone Dust / Darkness	Nose Mask, Goggles, Reflective Jacket
	Noise	Ear Protector/Ear muff.
Crushing & storage of materials.	Dust	Nose Mask, Goggles, Uniforms
	Falling material	Safety Helmet & Safety shoes
	Noise	Ear Protector/Ear muff.
	Light	Portable Light 24 Volts
Maintenance in any section		
	Falling material	Safety Helmet & Safety shoes
	Dust	Nose Mask, Goggles,
	High Temperature	Heat protection gloves
	Welding	Welding mask, welding apron
Packing & Preparation for delivery	Dust	Mask, Goggles,
	Falling material	Safety Helmet & Safety shoes
	Noise	Ear Protector/80db
	Light	Portable Light 24 Volts
Milling area	Dust	P1 Mask, Goggles, Uniforms
	Falling material	Safety Helmet & Safety shoes
	Noise	Ear Protector/80db
	Light	Portable light 24v in confined area
	Hot Material	Heat resisting gloves
Clinker Production	Hot Environment	◦ Heat resisting • Masks for protection against ultraviolet radiation. ▪Heat resisting gloves

MEGHALAYA CEMENT LTD THANGSKAI

Annex-I

		•Aluminized proximity suit / Kevlar suit
	Falling material	Safety Helmet & Safety shoes
Cements Mill	Dust	Mask, Goggles, Uniforms
	Falling material	Safety Helmet & Safety shoes
	Noise	Ear Protector/80db
	Light	Portable Light 24 Volts
	Hot Materials	Heat resisting gloves
Height works in construction area	Falling Hazards	Safety Harness, Safety helmet & Safety shoe

SAFETY OFFICER

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : Safety awareness on Extinguishing operation & PPE Demonstration using benefits & hazards if not use
Agency : Safety Dept.
Duration :
(a) Date/s From: 09.03.2023. To: —
(b) Time From 05:30pm To: 07:00 pm
Names of Trainers :
1. L. Rajkumar (Safety officer) —
Attendance Record:

Sl. No	Employee Name	Department	Designation	Signature
1.	Upendra kumar Singh	HEMM	welder	
2.	Sanjay Kumar Baitha	Production	Supervisor	Sanjay
3	Manoj Ks. Barman	Civil	SR. supervisor	
4	Ravi Ranjan	Civil	1st class B.A	Ravi
5	Swapan Dey	Production	Pet Helper	
6	Suman Dey	Production	Petroleum	
7	MOHIT Kumar Singh.	Logistics.	Supervisor	
8	Abdul Hamid	Logistics	jn. Asst	
9.	MD KASHIM.	HEMM	Tyre mechanic	MD KASIM
10	Amirul Eslam	"	Helper	
11	Hiralal Pandit	Electrical	Technician	
12	Pawnesh tiwari	Electrical	Technician	
13	Rahis Ali Choudhury	Instl	Tec	
14	Shri Lujit kr Mandal	Mechanical (cont-A10)	K Rahi	
15.	SANJAY RAI	mechanical (Tapish-cont)	welder - A	SANJAY RAI
16.	T.K GHOSH	Electrical	Electrician	
17.	Rajata Das	Vigilance	Painter	
18.	KAIRUSH MARAK	cont - A10	Labour	Kairush
19.	DAVID TIRO	Mines	R.O.C operator	
20	UPENDRA PRASAD	Mines	R.O.C peraton	

MEGHALAYA CEMENT LTD. THANGSKAI

HOD

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : Safety Awareness on ~~Belt grinder~~ operation & PPE's Demonstration
Agency : PPE Using benefits & Hazard if not use.
Duration :
(a) Date/s From: 09/03/2023 To: —
(b) Time From 5:30 Pm To: 7:00 Pm
Names of Trainers :
1. P. Rajkumar (Safety officer) 2.

Attendance Record:

Sl. No	Employee Name	Department	Designation	Signature
21.	RAM KALESH PAL	mines	R.O C Operator	R.K.Pal
22.	PRITU DAS	Q.C	Asst - Gauger	
23.	GOPAL SINHA	A10 cont	painter	GOPAL
24.	BIBRAT ADHIKARI	CONT - A10	Painter	
25.	BISAL SARKAR	cont - A10	painter	BISHAL
26.	GAJIAR RAHMAN	Sub cont - A10	Painter	Gajiar Rahman
27.	UPEN SINHA	cont - A10	painter	UPEN SINHA
28.	NAZRUL ALI	cont - A10	Painter	
29.	CHINAKANTA BISWAS	cont - A10	painter	CHINAKANTA BISWAS
30.	PRAKASH MISHRA	Q.C		
31.	RAMHLUNSANG	cont - Talcin	Fitter	Ramhlunsang

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-I

IN PLANT TRAINING CUM AWARENESS PROGRAMME ON OCCUPATIONAL SAFETY & HEALTH IN HAZARDOUS INDUSTRIES.

Date: 06/04/2023

THEME: "In Plant Training Cum Awareness programme on occupational Safety & health in Hazardous Industries".

TRAINER's NAME: - (1) Shri. P. L Nongbet – (Chief Inspector Boiler of Factories) &
(2) Shri. A.V Jambhe-Asst. Director Safety (DGFASIL) Govt. of India

- **VENUE: - At Community Hall.**
- **DATE:- 06/04/2023**
- **TIME: - 2:30 PM TO 4:30 PM**
- **DURATION: - 2:00 Hours**
- **NUMBER OF PARTCIPANTS:** - [107] One hundred seven participants were attended.

Training objectives:

1. To understand hazard & risk at work place
2. To understand unsafe conditions & unsafe act.
3. To understand responsibilities & duty at work places.

Need of OSH Awareness:

1) Safety is essential for all.
2) For better society & moral responsibilities.
3) For legislation provision.
4) To avoid accident & incident and to lost property equipments & environment.
5) To understand the risk & hazards of work.

What is Safety?

Being safe freedom from risk or danger/freedom of unrespectable risk of Harm.

What is Hazard?

Any potential condition Act can cause illness or death, damage of equipment/property/environment.
Source, situation or act having potential to cause injury, illness or death.

What is Risk?

-Hazard, Peril, Jeopardy
-An expression of the impact & possibility of a mishap/accident in terms of potential mishap severity & probability of occurrences.
-Probability of an event (P) x Consequences (C)

Terminology - Injury – Damage– Loss

Injury includes all personal physical harm including both traumatic injury and diseases.
Damage covers all types of property damage including fires.
Severity of losses involve physical and property damage by application of certain counter measures.

MEGHALAYA CEMENT LTD
THANGSKAI

Effect of Accident:

Effect on the management of factory- Cost of Accident – The monetary losses associated with an accident or incident. Direct cost and Indirect cost

Direct Cost: - Medical expenses & hospitalization charges, Compensation cost, Reduce of capacity/ability, Charges for transportation and attendant & Production loss & Cost for Repair of equipment/machinery.

COST EFFECTS:

Lost production time, Opportunity losses, Legal liabilities, Present income losses, Loss of potential future earnings & Expenses not covered

Indirect Cost: Investigation time. Wages paid for lost time. Cost of hiring and/or training replacements. Overtime, Extra supervisory time, Decreased output of injured worker. Loss of business and goodwill as well as Cost for Repair or replace materials or any equipments.

Effect of accident on Worker:

- The industrial workers may get temporary or permanent disability.
- If the industrial worker dies, his family loses the earner and the compensation never equals to his earnings.
- Accident also affects the morale of the employees working in the manufacturing environment.

Why to Prevent Accidents: Legal responsibility, Moral responsibility, Loss of production, Economic losses & Humanitarian consideration.

- **Safety Philosophy**: All injuries are preventable. Management has the responsibility for preventing personal injuries. It is possible to safeguard all operating exposures that may result in injuries. It is necessary to train all to work safely. It is necessary to train all to work safely.

Causes of Accidents: Human Cause- e.g. unsafe working, Environmental Causes, Mechanical Causes, IS:3786 gives following factors for causation of accidents:

Agency, Unsafe Mechanical or physical condition, Unsafe Act, Unsafe personal factor, Type of accident, Nature of injury and Location of injury

ACCIDENT PREVENTION: Basic Requirements, Strong commitment from top management, Good safety program, Established safety culture & Safety accountability in place.

- BENEFITS: Reduced injury claims, improved employee job satisfaction, Lower insurance premiums, improved quality & improved productivity.
- ACCIDENT PREVENTION: Three basic steps
  - Hazard identification, Elimination of unsafe act, Elimination of unsafe condition

HAZARD IDENTIFICATION: It is essential through Checklist, Employee observation and Safety audit.

- **ELIMINATE UNSAFE ACT/ Conditions** - Personal adjustments, Education and Training Supervision & Discipline

MEGHALAYA CEMENT LTD THANGSKAI

Annex-I

ROLE/RESPONSIBILITY OF OCCUPIER/MANAGER:

- Every occupier shall ensure health, safety and welfare of all workers.
- Maintenance of plant and systems of works for safe , should be carried out.
- Arrangements for ensuring safety and health in connection with the use, handling, storage and transport of articles and substances;
- The provisions of information, instruction, training and supervision to ensure the health and safety at work should be carried out.
- The maintenance/ monitoring of all places/environment of work in the factory for safety of workers should be carried out.

ROLE AND RESPONSIBILITIES OF ENGINEER/SUPERVISOR:

- Enforce safety rules, safety work permit system, exercise close supervision on workmen, ensure competence and discipline
- take immediate corrective action on any unsafe acts and/or unsafe conditions are noticed/reported
- Explain in detail the specific hazard and safety measures in case of jobs being assigned to workmen and ensure safety
- Venforce safety rules, safety work permit system, exercise close supervision on workmen, ensure competence and discipline
- Take immediate corrective action on any unsafe acts and/or unsafe conditions are noticed/reported
- Explain in detail the specific hazard and safety measures in case of jobs being assigned to workmen and ensure safety.
- Ensure that all hazards are eliminated, all passages, stairways, entrances and exits are clear and safe in all respects
- Inspect regularly and ensure that all tools, equipment and machinery are in sound and safe condition
- Take immediate corrective measure on any lapse on the observance of safety measures.

Controlling of Hazards: Whenever possible, hazards should be eliminated. If not possible, hazards must be controlled. Controls, in order of preference, include:

- Engineering Controls
- Administrative Controls
- Personal Protective Equipment (PPE)

Hazards in Cement Industry: Explained the following mentioned all Hazards how can take appropriate safety measures to eliminate the risk and control measures for perform of day to day works safely.

MEGHALAYA CEMENT LTD
THANGSKAI

- Fire Hazards, Explosion hazards, Environmental Hazards, Housekeeping, Safety Signage, Posters, Labeling, Quarrying – HAZARDS, *Crushing* –HAZARDS, Clinker Production HAZARDS & Measures, Material transport HAZARDS, Storage HAZARDS, Handling of hazardous material – HAZARDS, Handling of hazardous material – HAZARDS, Dust HAZARDS, Noise and Vibration HAZARDS, Emergency Response, Electrical energy Hazards and Control as well as General safety measures etc.

Explained Working at Height Safety & Control measures for fall Accidents

Hazards of manual handling, Hazards of mechanical handling, Machine Guarding, Illumination, Hand tools, Potential hazards and preventive actions in a cement manufacturing plant etc.

- **Introduction of Factories Act- Legislative Provisions.**
- **Salient Future of Statutory Provisions.**
- **Introduction- Factories Act- Legislative Provisions.**
- **Penalties for Contravention of the Provisions of the Act or Rules.**
- Information of Form/Register under **MFR 1980.**

Finally elaborated the all potential hazards safety measures and procedures that how to make safe and healthy Environment also to perform and to maintain of all parameters what is the rule of Management and for employees duties & responsibilities as well as explained about Factories Act mandatory rules and regulations of MFR 1980 & others safety terminology then can become a risk free Plant as mandatory.

SAFETY OFFICER

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : In-Short Training Cum Awareness Programme On "occupational Safety & Health in Hazardous Industries"
Agency : External.
Duration :
(a) Date/s From: 05.04.2023 To: -
(b) Time From 2:30 PM To: 4:30 PM 8/4/23

Names of Trainers :
1. Shree P.L. Nongbet (CIBF) 2. Shri. A.B. Jamboh - Asst Director - Safety (DGFASLI, Govt of India)
Govt of Meghalaya

Attendance Record:

Sl. No	Employee Name	Department	Designation	Signature
1)	Jitendra Prasad	Prod	Sr Mgr	
2)	Shivam Kuma.	INST	Asst. Engg.	
3)	Sourick Mondal	Mech	Asst. Engg.	
4)	Anirban Chillerjee	Civil	Dy. Mgr	
5)	Sourik Mukherjee	Civil	Asst. Engg.	
6)	Akash Anand	Civil	GET-Civil	
7.	Anil Sharma	Stores	Junior Officer	
8	Uday Kumare Jha	Mines	Asst Engineer	
9.	A. Sravan Kumar	Mines	Asst. manager	
10	K. Aravind	Mines	Asst. Manager	
11	Rakesh Kr Sharma	mines	A-E mines	
12	Hanuman Sharma	Logistics	Dy. Manager	
13	Srivas Dutta	Logistic's	Asst. Officer	
14	Jaykishan mahto	Logistics	Officer	
15	Anand Kumar	STORES	Officer	
16.	Dipendu Nath	Stores	Officer	
17.	Sanjay Kr singh	Electrical	Foreman	
18	Nand Kr Singh	MEMS	MCLFR	
19	Satyendra Nathji	mines	Supervisor	
20	Sribash ch Sharma	Mechanical	Supervisor	

HOD

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : In-plant training cum Awareness programme on occupational safety & Health in Hazardous Industries".
Agency : External.
Duration :
(a) Date/s From: 06.04.2023 To:
(b) Time From 2:30 PM To: 4:30 PM
Names of Trainers :
1. Shree. P.L. Nongbet (CIBF) Govt of Meghalaya 2. Shri. A.B. Jambhe (Asst Director) - Safety (DGFASLI) Govt of India
Attendance Record:

Sl. No	Employee Name	Department	Designation	Signature
21	Mukesh Sahu	Production	Engg S. Trainee	Mukesh Sahu
(22)	Dilip Singh	I.T opr	Vehicle	Dilip
(23)	Kadam Das.	Logistics	Officer	Das
(24)	Hariom Kumar	F.C	office Asst	HD
(25)	Manoj Sharma	Q.C	Sr. officer	
(26)	Rafeer Kr Singh	Q.C	Jr. officer	
(27)	Mahmood Mondal	Q.C	Ass. officer	Mahmood
(28)	Bishu Das	Mines	Ass - mechanic	Bishu
(29)	S.B. B.	Mines	Opr.	
30	Santosh Singh	Mines	LST Opr.	Santosh
(31)	SAURABH KUMAR	Production	Asst. Engg.	Saurabh Kumar
(32)	INDRAJEET BARNAK	Production	Engg. Trainee	Indrajeet Barnak
(33)	Nabo Sarkar	Mines	HSST mech	Nabo
(24)	Shashibhushan Kumar	Mines	J.C.B. OPPT	
25)	Ajay Kr. Thakur	Mines	Blaster	
(26)	Sante Kr. Singh	Mines	Y. Loader opt	
27.	Y. Abhishek Singh	CPP	Sr. Engineer	
28	N. Khaming Mizo	Inst	Sr Eng	
39.	Ullwaf Ahmed.	Env & Iso Cell	Dy. Manager	Ullwaf
40	Kilangskar Bathsheja	Electrical	Engineer	

HOD

MEGHALAYA CEMENT LTD THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : On plant training cum Awareness programme on occupational
Agency : safety & Health in Hazardous Industries"
Duration : External.
(a) Date/s From: 06.04.2023 To: –
(b) Time From 2:30 PM To: 4:30 PM

Names of Trainers :
1. Shree P.L. Nongbet (CTSE) Govt. of Meghalaya 2. Shri. A.B Jambhe (Asst. Director) Safety (DGFASLI) Govt. of India

Attendance Record:

Sl. No	Employee Name	Department	Designation	Signature
41	Ashok Kumar	Mines	A.E	
42	Uttam Baselwidar	Mech	Sr fitter	
43	Fancy Barik	Production	Asst Production	F.Barik
44	Jemiki Rymbai	Production	Asst production	
45	Rahul Pariyar	Vigilance	Mentor	
46	Simon Pakyntein	Vigilance	Khasi	
47	Ryanan Bhattacharya	vigilance	Supervisor	
48	G.N. Rai	H.R/A		
49	Narayan Debnath	HR/A	Jr. Asst.	
50	Girish Ku	HR/A	Helper	
51	Amit Kr sinha	HR&A	Driver	Amit
52	Deepak Lex	Engg	staff.	
53	Biman Manne	EPP	staff	
54	Sujeet Kumar	Mechanical	GET.	
55	Sachin Rai	Mechanical	Asst. Engineer.	Rai
56	Navnit Kumar	Electrical	Engineer	
57	Narayan Debnath	Production	CCR Operator	
58	Diganta Chowdhury	Commercial	Officer	
59	Khiwraj Kr. Singh	Instrument	I.E	
60	Sandeep Singh	production	Asst. manager	

HOD

MEGHALAYA CEMENT LTD THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : In plant training cum Awareness programme on occupational
Agency : Safety & Health in Hazardous Industries"
Duration : External.
(a) Date/s From: 06.04.2023 To: -
(b) Time From 2:30 PM To: 4:30 PM
Names of Trainers :
1. Shree. P.T. Nongbet (CIBF) 2. Shri. A.B. Jambhe (Asst Director)
Attendance Record: Govt of Meghalaya. - Safety (DGFASLI) Govt of India.

Sl. No	Employee Name	Department	Designation	Signature
61	Bolondee	Mechanical	Rigger	Bolondee
62	Dipen Dadhera	Mechanical	Miller	Dipen
63	T. K. Kachari	Mechanical	Fitter	T. K. Kachari
64	Sanjay Borah	Mechanical	Supervisor	Sanjay Borah.
65				
66	Adhikari	Mechanical	Fitter	Adhikari
67	Govind Kumar	Mechanical	DET	Govind
68	Rahul Kumar	Electrical	Asst. Engg.	Rahul Kr
69	Rajeev Ranjan	Electrical	Asst. Engg.	Rajeev
70	Pritam Prasad Jaiswal	Electrical	Asst Engg	Pritam Prasad Jaiswal
71	Amrendra Sharma.	Electrical	Foreman	Amrendra Sharma.
72	Narayan Das	Inst	Sr. Tecine	Narayan Das
73	TARUN KU GHOSH	ELECTRICAL	TECH.	
74	Manish Kumar	Electrical	Workmen	Manish Kumar
75	Krishna Joshi	Electrical	Staff (Foreman)	Krishna Joshi
76	Om Prakash Mishra	Mech	Fitter	Om Prakash Mishra
77	Kashi Nath Sahu	Mech	Foreman.	Kashi Nath Sahu
78	Mridulal Mondal	ELECTRICAL	TEC	Mridulal Mondal
79	Mitu Ranjan Das.	Electrical	Jr. Tech	Mitu Ranjan Das
80	Hiranmoy Chandra Das	Instrumentation	Technician	Hiranmoy Chandra Das

HOD

MEGHALAYA CEMENT LTD THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : On plant training cum Awareness programme on occupational
Agency : Safety & Health in Hazardous Industries".
Duration : External.
(a) Date/s From: 06.04.2023 To: -
(b) Time From 2:30 pm To: 4:30 pm
Names of Trainers :
1. Shri. P.L. Nongbet (CIBF) 2. Shri. A.B. Jambhe (Asst. Director) Safety - (DGFASLI) Govt of India
Attendance Record: Govt. of Meghalaya.

Sl. No	Employee Name	Department	Designation	Signature
81	L. Khamdon Singh	Electrical	Electrician (Sr)	
82	Sumanta Deb	Mechanical	〃	
83	Rajesh Deb	Electrical	Electrician (Sr)	
84	Durgesh Rai	Electrical	Electrician	
85	Rangjan Sarmah	HR	Asst. Officer	
86	Naveenchi Gorai	vigilance	—	
87	Rawan Kumar Roy	Stores	office Asst.	
88	Tapan pathromon.	Stores	〃	
89	Tripurari Tiwari	Production	Supervisor	
90	Kadar Ali	HR&A	Labour	
91	Bikki Kumar	Mines	Sr. Supervisor	
92	Badri Bhandari	Mines	H/o Opr.	
93	Bharat Prasad Shrivastava	Logistic	Supervisor	
94	Kinghani Dkeka	Logistic	Jr. Asst.	
95	Sanjeev Kumar	Logistic	Supervisor	
96	Sumit Kumar	HR	Supervisor	
97	Swapan Dey.	O.C	Petroller	
98	Amit Kumar.	Logistic.	Supervisor	
99	Bikram Kr. Mahato	Logistics	Sr. Supervisor	
100	Jiten Roy	Mechanical	K.H	

HOD

MEGHALAYA CEMENTS LTD. THANGSKAI

Annex-I

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/MR/G10
Rev No.: 00
Date: 01-03-2016

Training Details : 5th plant training cum Awareness programme on occupational safety & Health in Hazardous Industries'
Agency : External.
Duration :
(a) Date/s From: 06.04.2023 To: —
(c) Time From 2:30 PM To: 4:30 PM

Names of Trainers :
1. Shree. P.L. Nongbet (CIBF) 2. Shri. A.B. Jambhe (Asst Director - safety (DGFASLI) Govt of India)

Attendance Record: Govt of Meghalaya

Sl. No	Employee Name	Department	Designation	Signature
101	Rishi mohan nayak	HR	Helper	
102	Bishu Sinha	H.E	Helper	
103	Tushaswa Nath	HR		
104	Basanth Das	B.S.S	Security	
105	Kamal Das	B.S.S	Security	
106	Tejendra Chutia	H.R	"	
107	Hiemon Gutiny	H.R	Trainee	
108	Rupam Bora	HR	Asst. Office	

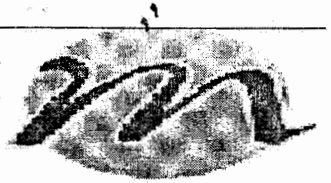
HOD

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-II

MEGHALAYA CEMENTS LIMITED

LOCATION & DETAILS OF FIRE EXTINGUISHERS



DOC NO: MCL/SA/FE/2014-15

LOCATION: T.G BUILDING

REVIEWED ON: 31.05.2023

SL.NO	AREA NAME	DEPARTMENT	EXTING. SL. NO	LOCATION	CYLINDER TYPE	PRESSURE REGULATOR	TARE WEIGHT	CAPACITY/NET WEIGHT	GROSS WEIGHT	PHYSICAL WEIGHT	DATE OF REFILLING	NEXT DUE DATE OF REFILING	REMARKS
1	CHP	CPP	MCL-47	CHP Building 2nd floor.	CO2	N/A	19.5 Kg	9 Kg	28.5 Kg	26.5 Kg	02.03.2023	01.03.2024	
2	Coal Yard	CPP	MCL-148	On the left side column.	CO2	N/A	Gas Cartridge 400 gm	9 Kg	Gas Cartridge 460 gm	Gas Cartridge 472 gm	03.03.2023	02.03.2024	
3	Bad material & Charcoal Godown	CPP	MCL-118	Outside on the sheet near entrance door 2.	Mechanical foam	N/A	Gas Cartridge 440 gm	9 Ltrs	Gas Cartridge 500 gm	Gas Cartridge 506 gm	03.03.2023	02.03.2024	
4	Compressor House	CPP	MCL-96	Inside the compressor room.	CO2	N/A	19.4 Kg	9 Kg	28.4 Kg	31 Kg	30.03.2023	29.03.2024	
5	Compressor House	CPP	MCL-88	MCC Room for Comp/Ash handling/ESP.	CO2	N/A	7.23 Kg	2.27 Kg	9.50 Kg	9.30 Kg	10.02.2023	09.02.2024	
6	Turbine House ground floor	CPP	MCL-85	Gound floor near Fire Sand bucket stand.	CO2	N/A	19.6 Kg	9 Kg	28.6 Kg	31.5 Kg	02.03.2023	01.03.2024	
7	Turbine House 1st floor in MCC panel room	CPP	MCL-87	On the wall beside entrance door.	CO2	N/A	6.35 Kg	2.27 Kg	8.62 Kg	8.81 Kg	10.02.2023	01.02.2024	
8	Turbine House 1st floor in MCC panel room	CPP	MCL-99	Inside the MCC Room door side of turbine.	CO2	N/A	19.5 Kg	9 Kg	28.5 Kg	30.4 Kg	01.09.2023	30.08.2024	
9	Turbine House 1st floor in MCC panel room	CPP	MCL-89	On the side wall near Exit side.	CO2	N/A	6.5 Kg	2.27 Kg	8.77 Kg	8.15 Kg	10.02.2023	09.02.2024	
10	Turbine House 1st floor	CPP	MCL-81	On the floor beside MOT	CO2	N/A	19.3 Kg	9 Kg	28.3 Kg	30 Kg	10.02.2023	09.02.2024	
11	Turbine House 1st floor	CPP	MCL-245	1st floor of T.G building near landing platform of staircase.	Mechanical foam	N/A	Gas cartridge 1160 gm	50 Ltrs	Gas cartridge 1460 gm	Gas cartridge 1581 gm	06.12.2023	05.12.2024	
12	Turbine House 1st floor	CPP	MCL-83	1st floor of T.G building near landing platform of staircase.	CO2	N/A	10 Kg	4.5 Kg	14.5 Kg	15.8 Kg	02.03.2023	01.03.2024	
13	Turbine House 2nd floor	CPP	MCL-21	Near Tea stall.	CO2	N/A	19.4 Kg	9 Kg	28.4 Kg	28.4 Kg	02.03.2023	01.03.2024	
14	Turbine House 2nd floor	CPP	MCL-120	Outside wall of CCR (Exit door side).	CO2	N/A	5.1 Kg	2.27 Kg	7.37 Kg	8.5 Kg	10.02.2023	09.02.2024	
15	CPP Office - 2nd floor	CPP	MCL-95	Office Gallery	CO2	N/A	6.25 Kg	2.27 Kg	8.52 Kg	7.8 Kg	02.03.2023	[illegible]	

MEGHALAYA CEMENT LTD

Dilimed 09

Annex-II

16	DCS Control Room- 2nd floor	CPP	MCL-79	Inside the CCR	CO2	N/A	11.85 Kg	4.5 Kg	16.35 Kg	17 Kg	03.01.2023	02.01.2024	
17	D.M PLANT		MCL-144	Beside the office	CO2	N/A	6.35 Kg	2.27 Kg	8.62 Kg	9.36 Kg	29.10.2022	28.10.2023	
18	CPP LABORATORY		MCL-LMV-25	Inside the CPP Laboratory, front side of partition wall.	ABC	√	N/A	1 Kg	N/A	N/A	24.10.2022	23.10.2023	
19	WATER TREATMENT MCC PANEL ROOM		MCL-113	Inside the panel room	CO2	N/A	6.35 Kg	2.27 Kg	8.62 Kg	8.76 Kg	02.03.2023	01.03.2024	
20	INSIDE CHEMICAL STORAGE ROOM		MCL-157	Beside entrance door inside the room.	CO2	N/A	20.65 Kg	9 Kg	29.65 Kg	35 Kg	02.04.2022	01.04.2024	
21	PUMP SHED		MCL-20	Entrance way of Pump shed.	CO2	N/A	19.8 Kg	9 Kg	28.8 Kg	32 Kg	30.07.2022	29.07.2023	

CHECKING CRITERIA

* CO2 Extinguisher and CO2 Gas cartridge which have weight less than 10% are to be rejected
* Extinguisher CO2 - to be checked through gross weight
* DCP Extinguisher - only gas cartridge weight
* Mechanical Foam - only Gas cartridge weight
* ABC Extinguisher - Check by only pressuer regulator, in the regulator needle shoul within green zone [if ok Mark √]
* If any Extinguisher found empty / Pressure low / Body corrossion then necessary to send refilling through checking cylinder condition.

Total Riser - 4 Nos
Total Fire Extinguisher - 21 Nos
Total Fire Hose - 4 Nos
Total Hose Box- 4 Nos.
Total Emergency Exit - 3 Nos

MONITORED BY

CHECKED BY

APPROVED BY

MEGHALAYA CEMENT LTD
THANGSKAI

Annex - II

MEGHALAYA CEMENTS LIMITED

LOCATION & DETAILS OF FIRE EXTINGUISHERS

DOC NO: MCL/SA/FE/2014-15

LOCATION: - COAL MILL-1 & 2

REVIEWED ON: 31.05.2023

SL. NO	AREA NAME	DEPARTMENT	EXTING. SL. NO	LOCATION	CYLINDER TYPE	PRESSURE REGULATOR	TARE WEIGHT	CAPACITY/NET WEIGHT	GROSS WEIGHT	PHYSICAL WEIGHT	DATE OF REFILLING	NEXT DUE DATE OF REFILING	REMARKS
1	Coal Mill 1 & 2	Production	MCL-32	Coal Mill -01 1st floor inside the Extinguishers frame.	Mechanical Foam	N/A	Gas Cartridge 370 gm	9 Ltr	Gas Cartridge 430 gm	Gas Cartridge 438 gm	02.03.2023	01.03.2024	
2			MCL-100	Same as above	Mechanical Foam	N/A	Gas Cartridge 480 gm	9 Ltr	Gas Cartridge 540 gm	Gas Cartridge 549 gm	02.03.2023	01.03.2024	
3			MCL-44	Same as above	Mechanical Foam	N/A	Gas Cartridge 370 gm	9 Ltr	Gas Catridge 430 gm	Gas Cartridge 434 gm	02.03.2023	01.03.2024	
4			MCL-176	Same as above	DCP	N/A	Gas Cartridge 1167 gm	10 Kg	Gas Catridge 1367 gm	Gas Catridge 1367 gm	30.11.2022	29.11.2023	
5			MCL-127	Same as above	CO2	N/A	11.88 Kg	4.5 Kg	16.38 Kg	15 Kg	24.11.2022	23.11.2023	
6			MCL-74	Same as above	CO2	N/A	19.2 Kg	9 Kg	28.2 Kg	29 Kg	30.03.2023	29.03.2024	
7			MCL-102	Same as above	CO2	N/A	19.1 Kg	9 Kg	28.1 Kg	28 Kg	16.06.2023	14.06.2024	
8			MCL-160	Same as above	DCP	N/A	Gas Cartridge 2111 gm	25 Kg	Gas Cartridge 2610 gm	Gas Cartridge 2610 gm	29.12.2022	28.12.2023	

CHECKING CRITERIA

* CO2 Extinguisher and CO2 Gas cartridge which have weight less than 10% are to be rejected
* Extinguisher CO2 - to be checked through gross weight
* DCP Extinguisher - only gas cartridge weight
* Mechanical Foam - only Gas cartridge weight
* ABC Extinguisher - Check by only pressuer regulator, in the regulator needle shoul within green zone [if ok Mark √]
* If any Extinguisher found empty / Pressure low / Body corrossion then necessary to send refilling through checking cylinder condition.

Emergency exit - 01 No
Total Fire Extinguisher - 8 Nos
Total Fire Hose - 3 Nos
Total Hose Box- 3 Nos.
Tota Riser line - 3 Nos

MONITORED BY

CHECKED BY

APPROVED BY

MEGHALAYA CEMENT LTD THANGSKAI

Annex-III

NO. T32/WA/CGWB/SUO/Shill/897
Central Ground Water Board
State Unit Office, Shillong
Lumsohphoh, Nongthymmai,
PIN-793 014
Date:13.06.2023

To
The Regional Director,
Central Ground Water Board,
North Eastern Region, Guwahartl
NH-37, Opp. ISBT
Betkuchi, PIN-781035

Recd on 14/6/23.

Sub: Inspection of Rain Water harvesting Project.
Ref: 1.Your email dated, 28/02/2023

Sir,

Kindly refer to your email dated, 28/02/2023regarding regarding inspection of Rainwater Harvesting Scheme (RWHS) of M/s Meghalaya Cements Limited located in East Jaintia Hills District, Meghalaya. The same was inspected on 25/04/2023 and observed that the authority has taken appropriate steps for Rainwater Harvesting. Hence, it is recommended for approval of the said RWHS. However, construction work of some structures are still in progress and a few recommendations are made which may be implemented by the concerned authority. .

The Inspection report is enclosed herewith for your perusal and necessary action.

Your faithfully,

13/06/23

(D. Rabha)
Scientist-D
SUO, Shillong

---

e-mail:cgwbshillong@gmail.com
oicshillong-cgwb@nic.in

Phone: 0364-2223348

MEGHALAYA CEMENT LTD
THANGSKAI

Annex - IV

GOVERNMENT OF MEGHALAYA
DEPARTMENT OF IRRIGATION
OFFICE OF THE EXECUTIVE ENGINEER (IRRIGATION)
JAINTIA HILLS DIVISION, JOWAI

No.AID(J)223/2007-2008/ Dated Jowai,the 24th March 2008.

NO OBJECTION CERTIFICATE.

The Executive Engineer Irrigation Jaintia Hills Jowai after due consideration of all formalities relating to the issue of N.O.C. to Meghalaya Cement Limited for drawal of water from the River Chynryntong – Umparti near Thangskai village for its Cement Plant with its Captive Power Plant at Thangskai village, subject to N.O.C. issued by District Administration of Jaintia Hills District, Jaintia Hills Autonomous District Council, Jowai, Durbar Elaka Narpuh, Durbar Shnong Thangskai, Narpuh, the undersigned is pleased to grant this NO OBJECTION CERTIFICATE to the Meghalaya Cement Limited for the drawal of water from Chynryntong – Umparti River to the proposed Cement Plant and Captive Power Plant of Meghalaya Cement Limited at Thangskai village subject to the following condition:-

1. The Company will not claim any right over the river nor shall refrain any other agency from utilizing the water from Chynryntong-Umparti River as and when required.

2. The Company is to draw only the required quantity of water of 0.04 Cumecs and extra requirement should be obtained prior permission from the undersigned before drawal of the water form Chynryntong – Umparti River.

3. To prevent pollution of river/streams, the company is to ensure that no liquid effluent should flow from the factory to any stream or river by construction of Treatment plants/ soak pits.

4. The company should pay royalty/Cess as and when required as per the rule and regulation laid by the Government.

5. Regular monitoring as to the observance of the terms and condition to be done by the representative of the Department and the company on half yearly basis.

Cont.... P/2

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-IV

6. The company should obtained No Objection Certificate for setting up plant from the Jaintia Hills Autonomous District Council including Trading Licence.

7. The company must follow the above terms and condition otherwise the legal action should be taken against the company.

Shri.K.D. Phawa
Executive Engineer(Irrigation)
Jaintia Hills Division, Jowai

Memo.No.AID(J)223/2007-2008/ 1456 Dated Jowai,the 24th March 2008.

Copy:

1. The Deputy Commissioner,Jaintia Hills District,Jowai – for favour of information.
2. The Chief Engineer(Irri), Meghalaya,Shillong – for favour of information as per technical approval vide letter no Agri/IRRI-1308/2007-08 /243 dt Shillong 20th March '08
3. The Superintending Engineer(I) Meghalaya, Shillong Circle for favour of information.
4. Shri. Gopal Sharma, Authorised Signatory of Meghalaya Cement Ltd. Thangskai for favour of information.

24/3/08

Shri.K.D. Phawa
Executive Engineer(Irrigation)
Jaintia Hills Division, Jowai

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-IV

GOVERNMENT OF MEGHALAYA
OFFICE OF THE DEPUTY COMMISSIONER JAINTIA HILLS DISTRICT
JOWAI

No. Gen/MCL-4/81/140 - This is to certify that there is NO Objection to Shri Gopal Sharma, Authorized Signatory of MEGHALAYA CEMENTS LIMITED for drawing water from Wah Shyrtong River to use of their Plant as well as for Power Plant. This certificate is issued on the basis of the N.O.Cs issued by the District Council/ Headman Mynkre/ Dollor of Elaka.

Deputy Commissioner,
Jaintia Hills District, Jowai.

No.GEN/MCL-4/81/140-A Dated Jowai the 21st November, 2007

Copy to:-

1. The Superintendent of Police, Jaintia Hills District Jowai for information.
2. The Secretary, Jaintia Hills Autonomous District Council Jowai for information and necessary action.
3. Shri Gopal Sharma, Authorized Signatory, Meghalaya Cements Limited for information and necessary action.

Deputy Commissioner,
Jaintia Hills District, Jowai

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-IV

OFFICE OF THE DOLLOI ELAKA NARPUH
Jaintia Hills District, Meghalaya

NO OBJECTION CERTIFICATE

I, Shri Manbha Kyndoh, Dolloi of Narpuh Elaka, Jaintia Hills District, Meghalaya, hereby certify that I have no objection in drawing water from Wah Shyrtong river by M/s Meghalaya Cements Limited for their use and for power plant purpose.

2/11/07.

Shri Manbha Kyndoh
Dolloi
Elaka Narpuh

Date: Thangskai.
Place: 3/9/07.

Shri Manbha Kyndoh
Dolloi of Narpuh Elaka

MEGHALAYA CEMENT LTD
THANGSKAI

12

Annex- IV

OFFICE OF THE JAINTIA HILLS AUTONOMOUS DISTRICT COUNCIL::JOWAI.

::::::

NO.JHADC/FOR/22/04/1318 Dated Jowai, the 5-6- 2007.

To,

M/S Meghalaya Cement Limited,
Thangskai, Jaintia Hills District.

Subject :- No-objection certificate.

Reference :- Your letter dt.03.05.07.

With reference to your petition above, I am directed to inform you that this Office have no -objection for your drawl of water from Wah Shynrymtong to the Cement Plant site on the following conditions.

1. This N.O.C is valid for drawl of water only.

2. The number and size of trees to be felled during the course of pipeline connection should be reported to this Office for necessary action.

3. The company shall have to reclaim out of its own cost any damage caused during the time of drawing of water from the river source.

4. It shall be the prime responsibility of the company that the nearby population crops, orchards etc. shall not be effected due to the drawl of water.

5. Non observance and violation of the above conditions this No-objection certificate is liable to be cancelled.

By.Chief Forest Officer,
Jaintia Hills Autonomous District Council,
Jowai.

MEGHALAYA CEMENT LTD
THANGSKAI

Annex -V

MEGHALAYA CEMENTS LIMITED

Six Monthly Reports: Stack Emission Report, 2022-2023

Chimney		Suspended Particulate Matter (PM):mg/Nm^3							
		Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023	Avg.	Concentration not to exceed, in mg/Nm^3
Pr. Crusher		18.59	12.31	11.68	09.15	15.18	21.33	14.71	30
Sec. Crusher		08.00	11.49	13.82	11.76	13.46	18.55	12.85	30
Coal mill 1		17.20	26.78	14.71	18.36	21.96	18.47	19.58	30
Coal mill 2		27.44	25.92	18.17	17.73	16.32	19.03	20.77	30
RABH 1	PM	09.13	10.82	11.90	10.35	08.47	14.23	10.82	30
	SO_2	684.46	721.69	756.93	699.71	745.72	698.23	717.79	1000 (Based on pyritic sulphur presence in limestone)
	NOx	231.91	243.58	283.71	271.78	186.41	177.56	232.49	600
RABH 2	PM	16.41	09.93	10.43	12.59	10.46	13.23	12.18	30
	SO_2	716.68	703.59	778.61	717.82	735.96	723.81	729.41	1000 (Based on pyritic sulphur presence in limestone)
	NOx	238.41	249.64	254.08	241.75	190.21	180.57	225.78	600
ESP 1		27.24	27.26	29.63	27.75	26.03	26.81	27.45	30
ESP 2		24.85	29.80	28.19	25.12	27.47	27.85	27.21	30
Cement Mill No-1		16.11	18.26	20.13	23.72	19.62	14.56	18.73	30
Cement Mill No-2		18.92	15.30	23.43	18.85	21.81	18.85	19.53	30
Packing House-1		10.68	13.04	14.21	10.55	13.37	15.81	12.94	30
Packing House-2		12.34	11.38	12.00	13.32	11.45	13.33	12.30	30

Prepared by

Arti Singh

Checked & Verified by

Utkarsh Anurag

MEGHALAYA CEMENTS LTD. JJANGSKAI

Regd. Office and Works: Village Thangskai, P.O. Lumshnong, Dist Jaintia Hills, Meghalaya Pin-793200 Ph.:03655-278324/263/364
Corporate Office: BE-77, Salt Lake City, Sector – 1, Kolkata – 700 064, Ph.:033 23340666/0004, Fax: 03655-278327

Annex-V

MEGHALAYA CEMENTS LIMITED

Six Monthly Report: Ambient Air Quality Report, 2022-2023

Location		Ambient Air Quality (AAQ): µg/m³							
		Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023	Avg.	MoEF notification G.S,R 826(E), dated 16.11.2009, Concentration not to exceed,
Near CCR Building	PM_{10}	42.18	46.07	42.64	49.55	52.03	45.20	46.28	100
	$PM_{2.5}$	30.84	32.28	36.89	32.85	35.71	33.36	33.66	60
	SO_2	14.43	16.41	09.72	20.15	21.87	18.46	16.84	80
	NOx	12.19	10.08	07.16	12.06	11.99	09.67	10.53	80
Guest House	PM_{10}	39.42	41.36	46.29	45.72	52.81	42.56	44.69	100
	$PM_{2.5}$	21.97	22.06	24.68	25.52	31.37	26.85	25.41	60
	SO_2	12.72	11.92	11.04	12.55	18.86	16.42	13.92	80
	NOx	08.39	06.12	06.27	10.02	10.75	09.84	8.57	80
Crusher	PM_{10}	40.06	43.84	49.57	41.37	47.55	45.95	44.72	100
	$PM_{2.5}$	25.48	27.81	29.63	29.71	33.99	29.91	29.42	60
	SO_2	13.29	14.73	15.63	16.51	23.99	18.24	17.07	80
	NOx	07.56	09.46	12.79	11.77	09.81	11.53	10.49	80
DG House (Downwind direction)	PM_{10}	51.73	54.95	58.15	51.72	50.85	37.81	50.87	100
	$PM_{2.5}$	33.19	36.47	39.41	42.37	38.46	24.95	35.81	60
	SO_2	13.56	12.51	14.38	12.71	18.75	17.38	14.88	80
	NOx	09.63	06.67	08.63	10.22	13.33	12.49	10.16	80

Prepared by
Arti Singh

Checked & Verified by
Ujjwal Anurag

Regd. Office and Works: Village Thangskai, P.O. Lumshnong, Dist Jaintia Hills, Meghalaya Pin-793200 Ph.:03655-278324/363364
Corporate Office: BE-77, Salt Lake City, Sector – 1, Kolkata – 700 064, Ph.:033 23340666/0004, Fax: 03655 278317

Annex-V

MEGHALAYA CEMENTS LIMITED

Six Monthly Reports: Noise Intensity and Water Consumption, From Oct'2022 to Mar'2023

Location		Noise Intensity: dB (A) Leq							
		Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023	Avg.	Noise Level not to exceed, in dB (A) Leq
Captive Power Plant	Day	Captive Power Plant Stopped						0.00	75
	Night							0.00	70
DG House	Day	67	64	71	69	71	65	67.83	75
	Night	56	54	63	55	58	56	57.00	70
Guest House	Day	52	50	53	51	54	53	52.17	75
	Night	40	39	41	42	39	41	40.33	70
Crusher	Day	72	68	71	69	70	70	70.00	75
	Night	50	51	59	59	52	61	55.33	70

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

Location	Water Consumption(Monthly) : M^3							
	Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023	Avg. (m^3/Day)	Water Consumption not exceed
Domestic (m^3)	7315	7380	7256	6313	5707	5690	217.92	1236 m^3/Day
Industrial (m^3)	12370	12507	11267	11540	12029	15296	412.14	

Prepared by
Arti Singh

Checked & Verified by
Ujjwal Anurag

MEGHALAYA CEMENTS LTD. THANGSKAI

Regd. Office and Works: Village Thangskai, P.O. Lumshnong, Dist Jaintia Hills, Meghalaya Pin-793200 Ph.:03655-278324/363/364
Corporate Office: BE-77, Salt Lake City, Sector – 1, Kolkata – 700 064, Ph.:033 23340666/0004, Fax: 03655 278327

Annex-V

MEGHALAYA CEMENTS LIMITED

Six Monthly Reports (CPP): PM & AAQ Report, 2022-2023

Chimney : CPP	Suspended Particulate Matter (PM) & Gaseous Emission: mg/Nm^3								
		Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023	Avg.	Concentration not to exceed, in mg/Nm^3
	PM	Plant Stopped due to Management decision.							50
	SO_2								600
	NOx								300
	Hg								0.03

Location: CPP		Ambient Air Quality (AAQ): µg/m^3							
		Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023	Avg.	MoEF notification G.S,R 826(E), dated 16.11.2009, Concentration not to exceed,
S↔E	PM_{10}	24.43	26.59	27.35	22.75	24.77	26.10	**25.33**	**100**
	$PM_{2.5}$	14.94	15.90	17.69	20.69	19.77	17.75	**17.79**	**60**
	SO_2	12.59	11.86	13.94	12.57	11.07	12.67	**12.45**	**80**
	NOx	08.13	07.51	10.67	09.73	09.65	16.34	**10.34**	**80**
S↔W	PM_{10}	19.37	20.64	22.61	28.95	26.91	27.96	**24.41**	**100**
	$PM_{2.5}$	11.06	12.28	14.08	18.85	21.02	19.90	**16.20**	**60**
	SO_2	13.51	10.93	14.48	12.07	09.48	14.69	**12.53**	**80**
	NOx	09.58	07.19	09.61	08.38	06.71	10.94	**08.74**	**80**
N↔E	PM_{10}	29.68	32.82	33.86	36.38	28.85	26.91	**31.42**	**100**
	$PM_{2.5}$	18.26	19.73	20.14	20.77	20.15	20.75	**19.97**	**60**
	SO_2	09.33	12.58	10.17	11.64	09.78	12.69	**11.03**	**80**
	NOx	06.38	08.07	07.84	09.29	06.04	08.27	**07.65**	**80**

Prepared by
Arti Singh

Checked & Verified by
Ujjwal Anurag

MEGHALAYA CEMENTS THANGSKAI

Regd. Office and Works: Village Thangskai, P.O. Lumshnong, Dist Jaintia Hills, Meghalaya Pin-793200 Ph.:03655-278324/363/364
Corporate Office: BE-77, Salt Lake City, Sector – 1, Kolkata – 700 064, Ph.:033 23340666/0004, Fax: 03655 278327

Annex – V

MEGHALAYA CEMENTS LIMITED

Location: CPP	Water Consumption(Monthly) :M^3							
	Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023	Avg. (m^3/Day Cons.)	Water Consumption not exceed
	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**2000 m^3/Day**

Prepared by

Arti Singh

Checked & Verified by

Ujjwal Anurag

MEGHALAYA CEMENT THANGSKAI

Annex-V

MEGHALAYA CEMENTS LIMITED

Location		Meteorological Data (Monthly Avg.)					
		Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023
Temperature	Min	14.13	12.05	7.63	6.63	9.81	11.11
	Max	30.69	29.78	27.19	26.51	26.03	27.98
	Avg.	20.60	19.53	16.21	14.84	16.72	18.46
Humidity	Min	42.81	27.16	37.50	23.02	20.67	22.75
	Max	104.95	90.15	103.85	93.41	105.31	105.57
	Avg.	83.73	65.64	71.90	60.97	62.58	66.66
Rain Fall	MTD	364	0.00	1.50	0.00	1.0	198.5
	YTD	8551	8551	8552.5	8552.5	8553.5	8752

MEGHALAYA CEMENT LTD THANGSKAI

Regd. Office and Works: Village Thangskai, P.O. Lumshnong, Dist Jaintia Hills, Meghalaya Pin-793200 Ph.:03655-278324/363/364
Corporate Office: BE-77, Salt Lake City, Sector – 1, Kolkata – 700 064, Ph.:033 23340666/0004, Fax: 03655 278327

Annex-VI

SECOND SCHEDULE

REPORT OF MEDICAL EXAMINATON

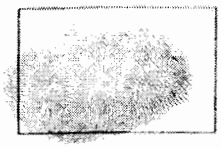
I do hereby certify that I have examined Parvesh Singh Rawat Certificate No. 2046
. He / She appear to be 35 years of age.

The identification marks of the Candidate.

(a) a mole on the Left Chest

(b) a mole on back of chest

Signature/Left thumb impression of the candidate:



The findings of the Examining Authority in respect the health of the candidate are as follows:-

1. General conformation — Good / Fair / Poor

2. Height 165 cms.

3. Weight 85- Kg.

4. Eyes

Visual Acuity: Distant Vision

Right Eye_____ Left Eye_____ (Uncorrected)

Right Eye 6/6 Left Eye 6/6 (Corrected)

5. Ears:

	Right Ear	Left Ear
Hearing	N a d	N a d
Any organic disease	N a d	N a d

6. Respiratory System:

Chest measurement

(i) after full expiration 103 cms.

(ii) after full inspiration 108 cms.

Auscultation finding: N a d

HALAYA CEMENT LTD
THANGSKAI
Umwelt

Annex-VI

Other Abnormalities Nad

7. Circulatory system:

Pulse 72 per minute

Blood Pressure 130/90 mm of Hg

Heart Sound- S1 Nad

S2

Murmur – present/absent

Any other Abnormalities Nad

8. Abdomen :

Tenderness about

Liver Nad

Spleen Nad

Tumour about

Other Abnormalities Nad

9. Nervous System:

History of fits or epilepsy about

Sensory function Nad

Motor function Nad

Planter Nad

Mental Health Nad

Any other Abnormafities Nad

10. Genito - Urinary System: Nad

11. Locomotor System Nad

12. Skin : Nad

13. Hydrocele : Present / Absent

14. Hernia : Present / Absent

15. Any other abnormality: Naid

16. Investigation

A. Chest Radiograph (PA view)

B. Electro cardiogram (ECG) Nad

C. Urine routine

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-VI

Reaction : Acidic
Albumin : Nil
Sugar : Nil

D. Blood Bio chemistry

i) Blood Sugar: Fasting 130mg/dl Postprandial 131.1 mg/dl
ii) Blood Urea 38.2mg/dl Serum Creatinine 1.08 mg/dl
iii) Lipid Profile TGl above normal, other normal

19. Any other investigation or opinion of specialist considered necessary by the Examining Authority:

NO

20. Remark if any: -

21. Opinion of the Examining Authority:

✓ a. I consider that he / She is fit to perform his/her statutory duties in mines for a period of one year.

b. I consider him / her unfit to perform statutory duties in mines because of _____ (mentioned disability).

c. He / She is suffering from _____ and is unfit to perform statutory duties in underground mines but may continue to perform statutory duties on the surface/opencast mines only.

Signature of the Examining Authority with date

Name (in Block Letter): NINGOMBAM RANJIT SINGH
Designation: CMO
Registration No. 5667 (AMC)

(Seal)

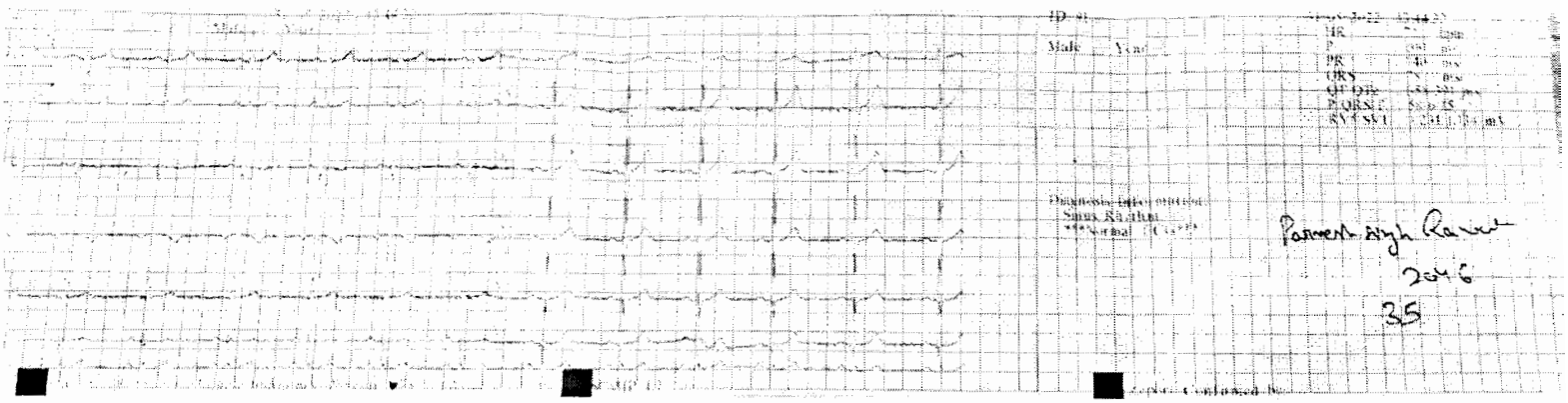
Medical Officer
Meghalaya Cements Ltd

Place : Thangskai MCL

Date : 31.05.22

MEGHALAYA CEMENT LTD
THANGSKAI

Annex – VI



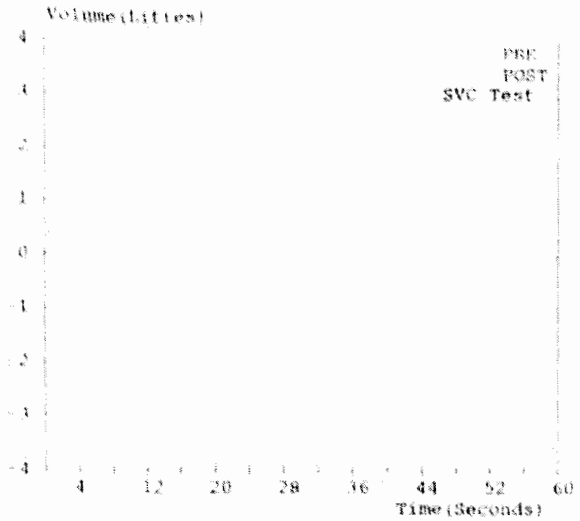
MEGHALAYA CEMENT LTD
THANGSKAI

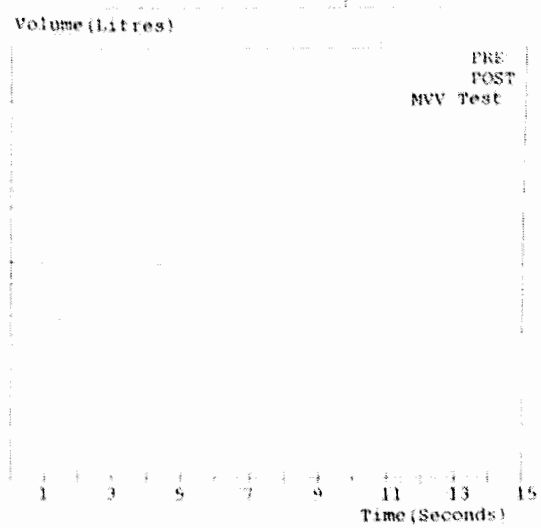
Annex-VI

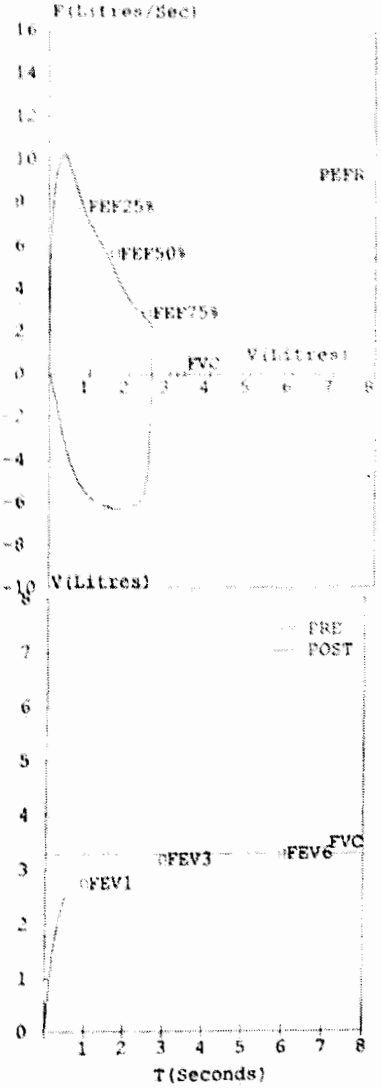
RECORDERS & MEDICARE SYSTEMS

Plot # 196,Industrial Area,Phase-1, Panchkula, Haryana INDIA - 134113

Patient:	PARVESH SINGH RAWAT	Age	: 42 Yrs	Gender	: Male
Refd.By:		Height	: 165 Cms	Smoker	: No
Pred.Eqns:	RECORDERS	Weight	: 85 Kgs	Eth. Corr:	100
Date	: 31-May-2022 12:17 PM	ID	: 2046	Temp	:







Spirometry Results

Parameter		Pred	M.Pre	%Pred	M.Post	%Pred	%Imp
FVC	(L)	03.27	02.55	078	-----	---	---
FEV1	(L)	02.74	02.55	093	-----	---	---
FEV1/FVC	(%)	83.79	100.00	119	-----	---	---
FEF25-75	(L/s)	04.07	05.72	141	-----	---	---
PEFR	(L/s)	08.67	10.20	118	-----	---	---
FIVC	(L)	-----	02.52	---	-----	---	---
FEV.5	(L)	-----	02.53	---	-----	---	---
FEV3	(L)	03.17	02.55	080	-----	---	---
PIFR	(L/s)	-----	06.28	---	-----	---	---
FEF75-85	(L/s)	-----	03.26	---	-----	---	---
FEF.2-1.2	(L/s)	06.98	08.15	117	-----	---	---
FEF 25%	(L/s)	07.80	08.88	114	-----	---	---
FEF 50%	(L/s)	05.64	06.05	107	-----	---	---
FEF 75%	(L/s)	02.86	03.66	128	-----	---	---
FEV.5/FVC	(%)	-----	99.22	---	-----	---	---
FEV3/FVC	(%)	96.94	100.00	103	-----	---	---
FET	(Sec)	-----	08.51	---	-----	---	---
ExpiTime	(Sec)	-----	00.02	---	-----	---	---
Lung Age	(Yrs)	035	037	106	-----	---	---
FEV6	(L)	03.27	-----	---	-----	---	---
FIF 25%	(L/s)	-----	06.23	----------		---	---
FIF 50%	(L/s)	-----	06.03	----------		---	
FIF 75%	(L/s)	-----	04.88	----------		---	---
SVC	(L)	-----	-----	---	-----	---	---
ERV	(L)	01.38	-----	---	-----	---	---
IRV	(L)	-----	-----	---	-----	---	---
VE	(L/min)	-----	-----	---	-----	---	---
Rf	(1/min)	-----	-----	---	-----	---	---
Ti	(sec)	-----	-----	---	-----	---	---
Te	(sec)	-----	-----	---	-----	---	---
VT	(L)	-----	-----	---	-----	---	---
VT/Ti		-----	-----	---	-----	---	---
Ti/Ttot		-----	-----	---	-----	---	---
IC	(L)	-----	-----	---	-----	---	---
MVV	(L/min)	131	-----	---	-----	---	---
MRf	(1/min)	-----	-----	---	-----	---	---
MVT	(L)	-----	-----	---	-----	---	---

MEGHALAYA CEMENT LTD
THANGSKAI

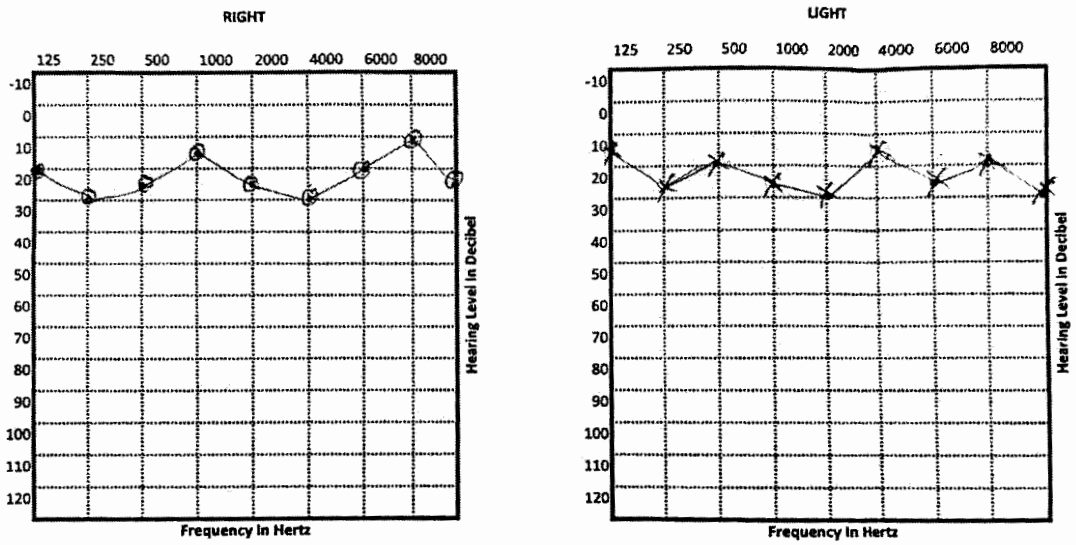
Annex- VI

OCCUPATIONAL HEALTH CENTER
Unit - Meghalaya Cements Limited

AUDIOGRAM

Name :- PARVESH SINGH RAWAT. Age :- 35. Sex :- M.

Department :- C.R.P. Employee code :- 2046. Date :- 31/05/22.



Complaints	Deafness/Otorrhoea/Tinnitus/ Nausea/_____
Past illness	TB/Typhoid/Mumos/measles/Jaundice/Meningtis_____
Ototoxic Drugs	STP/Gentamycin/Salyclates/Antimalaria_____
Noise Expoure	Source:_____/Duration:_____Years. Use PPE:Yes/no

	AC	BC
Right	O	>
Left	x	<

AC : Air Conduction
BC : Bone Conduction
AC : Red Colour
BC : Blue Colour

Remarks : _____

Place :

Date :

Signature

(Medical Officer)

MEGHALAYA CEMENT LTD THANGSKAI

Ullmal

Annexure VI

M.C.L. DISPENSARY
LABORATORY REPORT

Name Parvers Singh Rawat..... .....Sex....M..Age ..35.... Date 31 05 22
Refd b .....

SL NO	NAME OF TEST	NORMAL RANGE	
1	Blood glucose Fasting	70 - 110 mg /dl	130.0 mg/dl
2	Blood glucose pp	UPTO 140mg /dl	131.1 mg/dl
3	Serum Creatinine	0.50-1.50 mgm/dl	1.08 mgm/dl
4	Serum Urea	13-45 mgm/dl	38.2 mgm/dl
5	Serum bilirubin	0 -1.0 mg dl	
6	Serum Cholesterol	0-200 mgm/dl	182.3 mgm/dl
7	Serum HDL Cholesterol	35-80 mgm/dl	52.2 mgm/dl
8	Serum LDL Cholesterol	≤ 130 mgm/dl	128.5 mgm/dl
9	Seruam Triglycerides	≤ 200 mgm/ dl	254.1 mgm/dl
10	SGOT	0-46 Units/ml	
11	SGPT	0-49 Units/ml	
12	Albumin	3.50-5.50 gm/dl	
13	Total Protein	6.0-8.0 mg/dl	
14	Alkaline Phosphatase	110-310 lu/l	

31/5/22

Lab Technician

Medical Officer

MEGHALAYA CEMENT LTD
THANGSKAI

Annex- VI

EMPLOYEE CODE - 5301

SECOND SCHEDULE

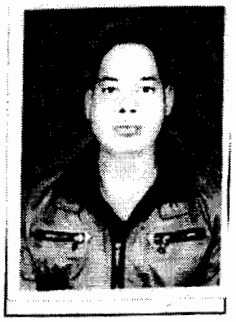
REPORT OF MEDICAL EXAMINATON

I do hereby certify that I have examined ~~I~~ HIRAJ KUMAR SINGH Certificate No. _____. He / She appear to be ~~_____~~ 27 years of age.

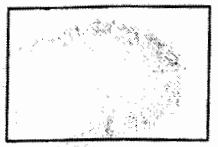
The identification marks of the Candidate.

(a) a mole on abdomen

(b) a scar on forehead right



Signature/Left thumb impression of the candidate:



The findings of the Examining Authority in respect the health of the candidate are as follows:-

1. General conformation — Good / Fair / Poor

2. Height 165 cms.

3. Weight 73 Kg.

4. Eyes

Visual Acuity: Distant Vision

Right Eye 6/6 Left Eye 6/6 (Uncorrected)

Right Eye 6/6 Left Eye 6/6 (Corrected)

5. Ears:

	Right Ear	Left Ear
Hearing	Nad	Nad
Any organic disease	Nad	Nad

6. Respiratory System:

Chest measurement

(i) after full expiration 95 cms.

(ii) after full inspiration 100 cms.

Auscultation finding: Nad

MEGHALAYA CEMENT LTD THANGSKAI

Annex-VI

Other Abnormalities Nad

7. Circulatory system:

Pulse 62 per minute

Blood Pressure 130/90 mm of Hg

Heart Sound- S1 Nad

S2

Murmur – present/absent

Any other Abnormalities Nad

8. Abdomen ;

Tenderness absent

Liver Nad

Spleen Nad

Tumour Nad

Other Abnormalities Nad

9. Nervous System:

History of fits or epilepsy absent

Sensory function Nad

Motor function Nad

Planter Nad

Mental Health Nad

Any other Abnormalities Nad

10. Genito – Urinary System: Nad

11. Locomotor System Nad

12. Skin : Nad

13. Hydrocele : Present / Absent

14. Hernia : Present / Absent

15. Any other abnormality: Nad

16. Investigation

A. Chest Radiograph (PA view)

B. Electro cardiogram (ECG) Nad

C. Urine routine

MEGHALAYA CEMENT LTD THANGSKAI

Annex-VI

Reaction : Acidic
Albumin : Nil
Sugar : Nil

D. Blood Bio chemistry

i) Blood Sugar: Fasting 84.4 mg/dl Postprandial 94.2 mg/dl

ii) Blood Urea 18.2 mg/dl Serum Creatinine 1.01 mg/dl

iii) Lipid Profile Normal

19. Any other investigation or opinion of specialist considered necessary by the Examining Authority:

Na

20. Remark if any: ←

21. Opinion of the Examining Authority:

✓ a. I consider that he / She is fit to perform his/her statutory duties in mines for a period of one year.

b. I consider him / her unfit to perform statutory duties in mines because of _____(mentioned disability).

c. He / She is suffering from_____and is unfit to perform statutory duties in underground mines but may continue to perform statutory duties on the surface/opencast mines only.

Signature of the Examining Authority with date

Name (in Block Letter): NINGOMBAM RANJIT SINGH

Designation: CMO

Registration No. 5667 (AMC)

(Seal)

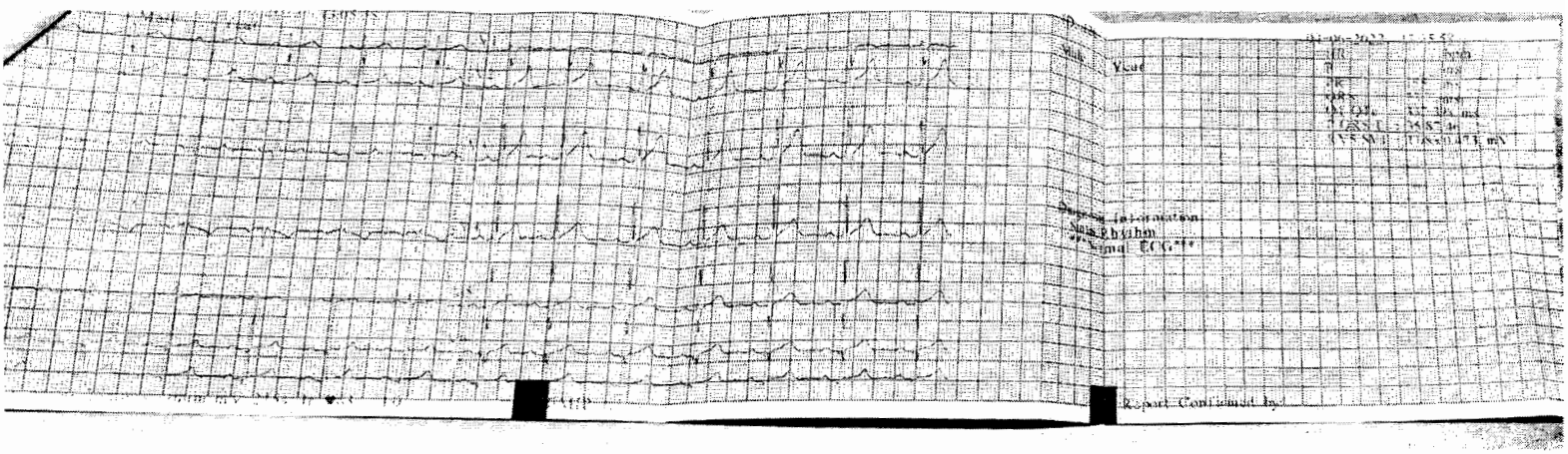
Medical Officer
Meghalaya Cements Ltd

Place : Thangskai MCL

Date : 04.06.21

MEGHALAYA CEMENT LTD THANGSKAI

Annex-VI



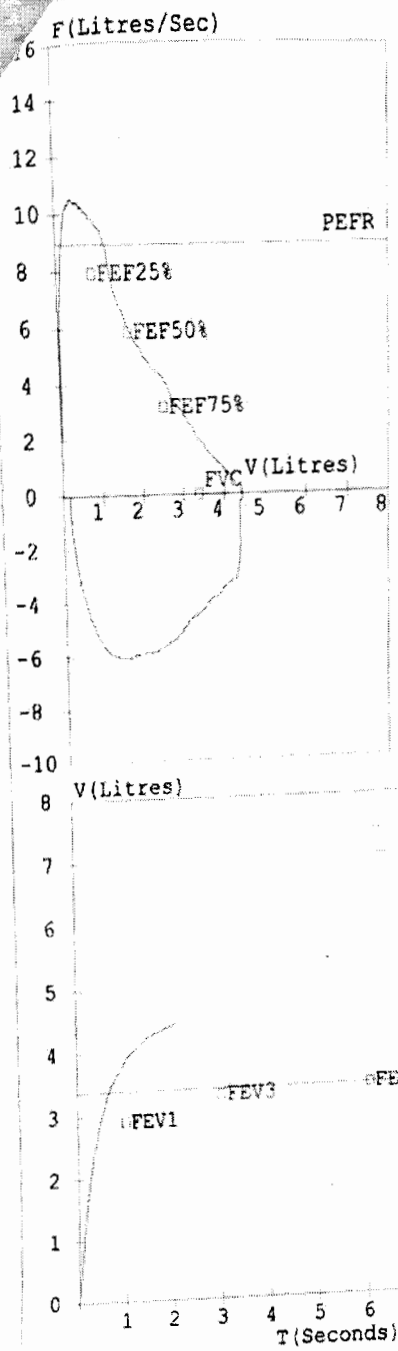
MEGHALAYA CEMENT LTD
THANGSKAI

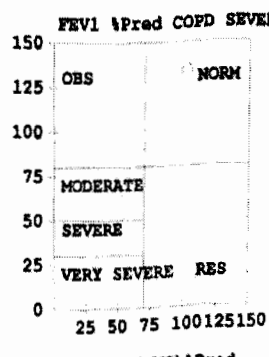
Annex-VI

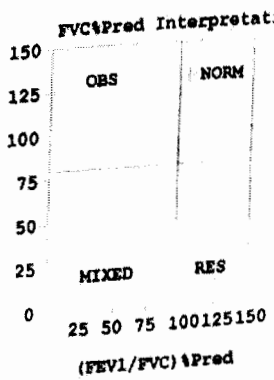
RECORDERS & MEDICARE SYSTEMS

Plot # 196,Industrial Area,Phase-1, Panchkula, Haryana INDIA - 134113

IRAJ KUMAR SINGH		Age	: 27 Yrs	Gender	: Male
		Height	: 165 Cms	Smoker	: No
s: RECORDERS		Weight	: 73 Kgs	Eth. Corr	: 100
: 04-Jun-2022 11:23 AM		ID	: 148	Temp	:







FVC Results

Parameter		Pred	M.Pre	%Pred	M.Post	%Pred	%Imp
FVC	(L)	03.38	04.42	131	-----	---	---
FEV1	(L)	02.90	03.88	134	-----	---	---
FEV1/FVC	(%)	85.80	87.78	102	-----	---	---
FEF25-75	(L/s)	04.43	04.26	096	-----	---	---
PEFR	(L/s)	08.95	10.53	118	-----	---	---
FIVC	(L)	-----	04.24	---	-----	---	---
FEV.5	(L)	-----	03.00	---	-----	---	---
FEV3	(L)	03.28	04.42	135	-----	---	---
PIFR	(L/s)	-----	06.04	---	-----	---	---
FEF75-85	(L/s)	-----	01.63	---	-----	---	---
FEF.2-1.2	(L/s)	07.52	09.77	130	-----	---	---
FEF 25%	(L/s)	07.96	09.18	115	-----	---	---
FEF 50%	(L/s)	05.88	04.65	079	-----	---	---
FEF 75%	(L/s)	03.18	02.11	066	-----	---	---
FEV.5/FVC	(%)	-----	67.87	---	-----	---	---
FEV3/FVC	(%)	97.04	100.00	103	-----	---	---
FET	(Sec)	-----	02.06	---	-----	---	
ExplTime	(Sec)	-----	00.02	---	-----	---	
Lung Age	(Yrs)	027	018	067	-----	---	---
FEV6	(L)	03.38	-----	---	-----	---	---
FIF25%	(L/s)	-----	04.08	---	-----	---	---
FIF50%	(L/s)	-----	05.58	---	-----	---	---
FIF75%	(L/s)	-----	06.03	---	-----	---	---

Pre Test COPD Severity

Test within normal limits

Pre Medication Report Indicates
Spirometry within normal limits as (FEV1/FVC) %Pred >95 and FVC%Pred >80

MEGHALAYA CEMENT LTD
THANGSKAI

Dr. N RANJIT

The contents of this report require clinical co-relation before any clinical action.

Annex- VI

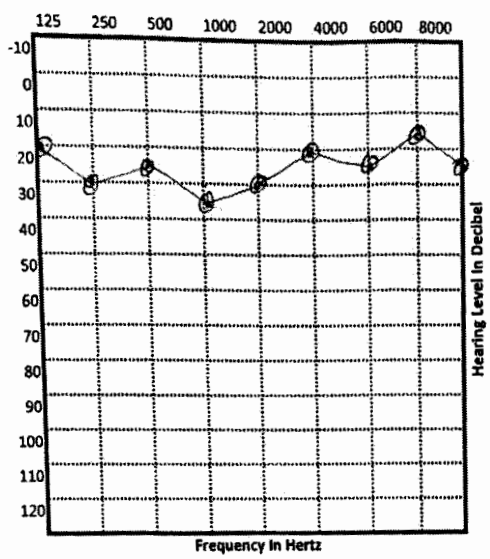
OCCUPATIONAL HEALTH CENTER
Unit - Meghalaya Cements Limited

AUDIOGRAM

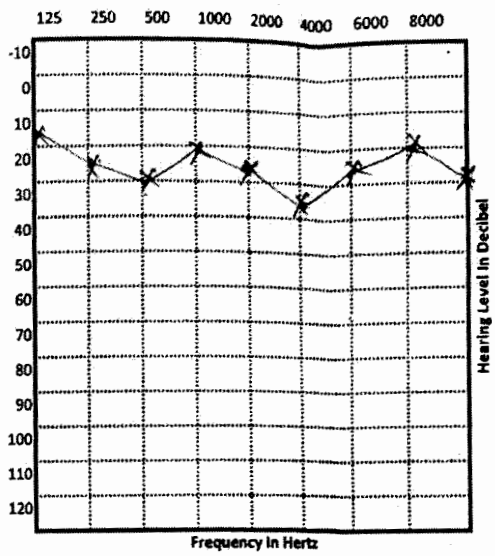
HIRAJ KUMAR SINGH Age :- 27 Sex :- Male

ent :- CPP Employee code :- 5301 Date :- 04/06/22

RIGHT



LIGHT



Complaints	Deafness/Otorrhoea/Tinnitus/ Nausea/_____
Past Illness	TB/Typhoid/Mumos/measies/Jaundice/Meningtis_____
Ototoxic Drugs	STP/Gentamycin/Salycilates/Antimalaria_____
Noise Expoure	Source:_____/Duration:_____Years. Use PPE:Yes/no

	AC	BC
Right	O	>
Left	x	<

AC : Air Conduction
BC : Bone Conduction
AC : Red Colour
BC : Blue Colour

Remarks : Nad

Place :

Date :

Signature

(Medical Officer)

MEGHALAYA CEMENT LTD
THANGSKAI

Annex- VI

M.C.L. DISPENSARY
LABORATORY REPORT

Name Dhiraj Singh..... .....Sex....M..Age ..27.... Date 04 06 22
Refd b .....

SL NO	NAME OF TEST	NORMAL RANGE	
1	Blood glucose Fasting	70 - 110 mg /dl	84.4 mg/dl
2	Blood glucose pp	UPTO 140mg /dl	94.2 mg/dl
3	Serum Creatinine	0.50-1.50 mgm/dl	1.01 mgm/dl
4	Serum Urea	13-45 mgm/dl	18.2 mgm/dl
5	Serum bilirubin	0 -1.0 mg dl	
6	Serum Cholesterol	0-200 mgm/dl	131.8 mgm/dl
7	Serum HDL Cholesterol	35-80 mgm/dl	36.2 mgm/dl
8	Serum LDL Cholesterol	≤ 130 mgm/dl	110.2 mgm/dl
9	Seruam Triglycerides	≤ 200 mgm/ dl	148.8 mgm/dl
10	SGOT	0-46 Units/ml	
11	SGPT	0-49 Units/ml	
12	Albumin	3.50-5.50 gm/dl	
13	Total Protein	6.0-8.0 mg/dl	
14	Alkaline Phosphatase	110-310 lu/l	

04/6/22

Lab Technician

Medical Officer

MEGHALAYA CE... THANGSKAI

Annex - VII

Six Monthly Reports:

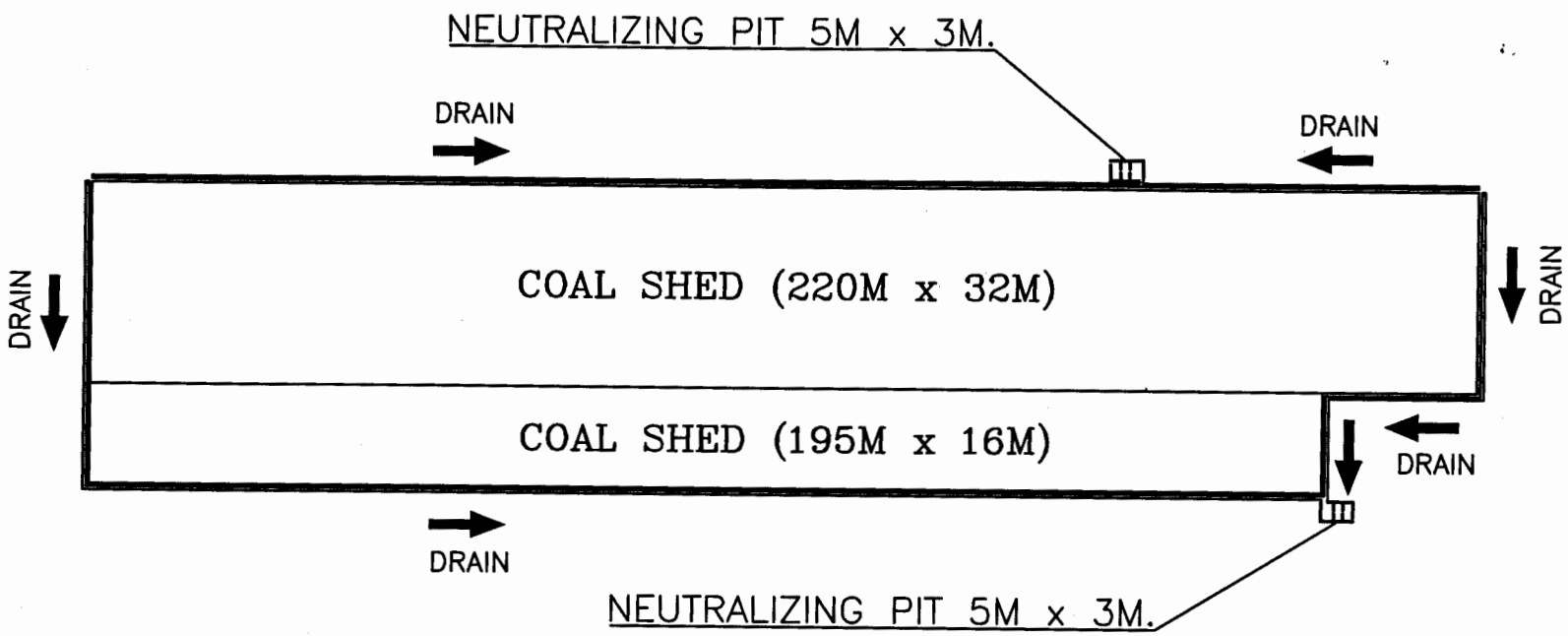
PROCESS FUGITIVE EMISSION TEST RESULTS

From Oct'2022 to Mar'2023

Location	Fugitive Emission Results for SPM (µg/m^3)							
	Oct' 2022	Nov' 2022	Dec' 2022	Jan' 2023	Feb' 2023	Mar' 2023	Avg.	As per standard limit (µg/m^3)
Lime stone Storage Area	2189	2064	2253	2850	2672	1330	**2226.33**	5000
Coal Storage Area	1029	1153	1209	1095	989	683	**1026.33**	2000
Clinker Loading Area	1753	1968	2163	2285	3481	2137	**2297.83**	5000
Cement Loading Area	1824	2149	2019	2765	3285	2571	**2435.50**	5000
Coal Storage Area (CPP)	1067	1128	1354	1576	1271	1450	**1307.67**	2000
Fly Ash Silo Area (CPP)	913	1034	1149	1387	1188	1080	**1125.17**	2000

MEGHALAYA CEMENT LTD
THANGSKAI

Annex- VIII



MEGHALAYA CEMENT LTD THANGSKAI

COAL STORAGE SHED WITH DRAIN AND NEUTRALIZING PIT.				
MEGHALAYA CEMENTS LIMITED				
SCALE NTS	DRAWN BY K.A.	DATE 08.11.22	CHKD. BY	APPD. BY
DRG. NO. MCL/LAY/MISC/003				REV 0

Annex - IX

MEGHALAYA CEMENTS LIMITED

CIN- U26942ML2003PLC007125

TOPCEM CEMENT
Mazbooti ka bharosa...hamesha

Ref.:- MCL/ENV/MSPCB/Comm./2022-23/25 Date: 26.09.2022

To,

The Member Secretary,
Meghalaya State Pollution Control Board,
ARDEN Lumpyngngad
Shillong, Meghalaya

29/9/22

Sub: - Submission of Detailed Plan for Neutralizing pit along with Garland drainage system at Coal storage area for approval.

Dear Sir,

With reference to subject cited above, we wish to inform you that we are complying the Environment Clearance compliance for the project of Expansion of Cement Plant (from 900-2600 TPD) along with 10 MW Captive Power Plant under MoEF North Eastern Regional Office, Shillong. As per our EC Stipulation XVIII (b) & XVIII(C) we interest to develop Garland drains along with Neutralizing Tank at Coal storage area at proper place for treatment of Acid Mine Drains (AMD) in our premises.
In this reference we shall be highly thankful to you for provide approval to make Neutralizing Tank along with Garland drains at Coal storage area to comply the Environmental clearance conditions. Therefore, we are enclosing herewith the detailed plan for Garland along with Neutralizing Tank for your kind approval.

This is for your kind information & needful action from your end.

Thanking You Sir,

MEGHALAYA STATE POLLUTION CONTROL BOARD * SHILLONG * 28/9/22

Yours Faithfully,

For Meghalaya Cements Limited

R.K. Pareek
(President)

Encl: Detailed Plan & Layout.

MEGHALAYA CEMENT THANGSKAI

ISO 9001:2000 & ISO 14001:2004 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-1, Kolkata - 700 064
Tel. : 033 2334 0666 / 0004
Fax : 033 2334 0505
E-mail : kolkata@topcem.in

Registered Office :
Village: Thangskai, P.O. & P.S. Lumshnong
District : East Jaintia Hills, Meghalaya, PIN: 793210
Tel. : 03655 278324 / 363 / 364
Fax : 03655 278327
E-mail : meghalaya@topcem.in

HELPLINE NO : 18001233666

Annex – IX

Coal Neutralizing Pit

Environmental norms require Coal contaminated water to be neutralized prior to disposal, which is normally carried out inside the concentrate neutralization pit where reaction done between an acid & a base. Coal stockpiles are a source of air and surface pollution, generating dust emissions and acid mine drainage (AMD), which may release heavy metals and toxic elements into the environment. The use of lime for the treatment of acidic mine water was implemented. The concept of acid mine drainage treatment by means of percolation (or trickle) neutralization, through a packed bed of coal discards has been demonstrated.

Limestone is an alkaline agent with the ability to neutralize, or partially neutralize strong acids. The neutralization process occurs when strong acids, in intimate contact with limestone chips, react with Calcium Carbonate (CaCO3, the primary constituent of limestone) to form water, carbon dioxide, and calcium salts. The following depicts the neutralization of hydrochloric acid by limestone.

$$CaCO_3 + 2HCl \rightarrow CaCl_2 + CO_2 + H_2O$$

The pH neutralization process occurs as strong acids react with the calcium carbonate in the limestone through intimate contact with small limestone chips. A high surface area is important as is sufficiently long contact time. The reaction is not instantaneous and requires sufficient time. Additionally the acidic solutions must be in intimate contact with the limestone. This leads to one of the biggest problems with the use of limestone as an effective treatment process, the coating of the available limestone surface area with precipitated debris.

One of the byproducts of the neutralization process is calcium salts. Calcium salts tend to be very insoluble in water. This results in the precipitation of salts that deposit on the limestone chips forming very effective coatings. Once coated with precipitated products, the limestone is rendered useless and must be replaced. Other solids and organic materials that are suspended in the waste stream will often come out as a result of mechanical filtration thereby contributing to the coating of the limestone chips.

MEGHALAYA CEMENT LTD. THANGSKAI

Annex- IX

About Neutralizing Pit

Neutralizing pit has three chambers. All three chambers are internally connected. The neutralization of acid mine drainage (AMD) with coal discards practiced as a potential precursor to lime neutralization. AMD solution obtained until the pH of the accumulated drainage solution measured approximately pH 7. An economic analysis was performed to compare neutralization with waste coal against lime neutralization in tanks. The analysis was based on a rate of AMD generation, a neutralizing capacity of AMD per ton coal for lime neutralization for coal neutralization.

Step 1:- Primary Sedimentation or Presedimentation chamber

In step 1, Coal contaminated water entered in chamber 1 through garland drains & presedimentation being done in this chamber. After primary sedimentation water enter in chamber 2.

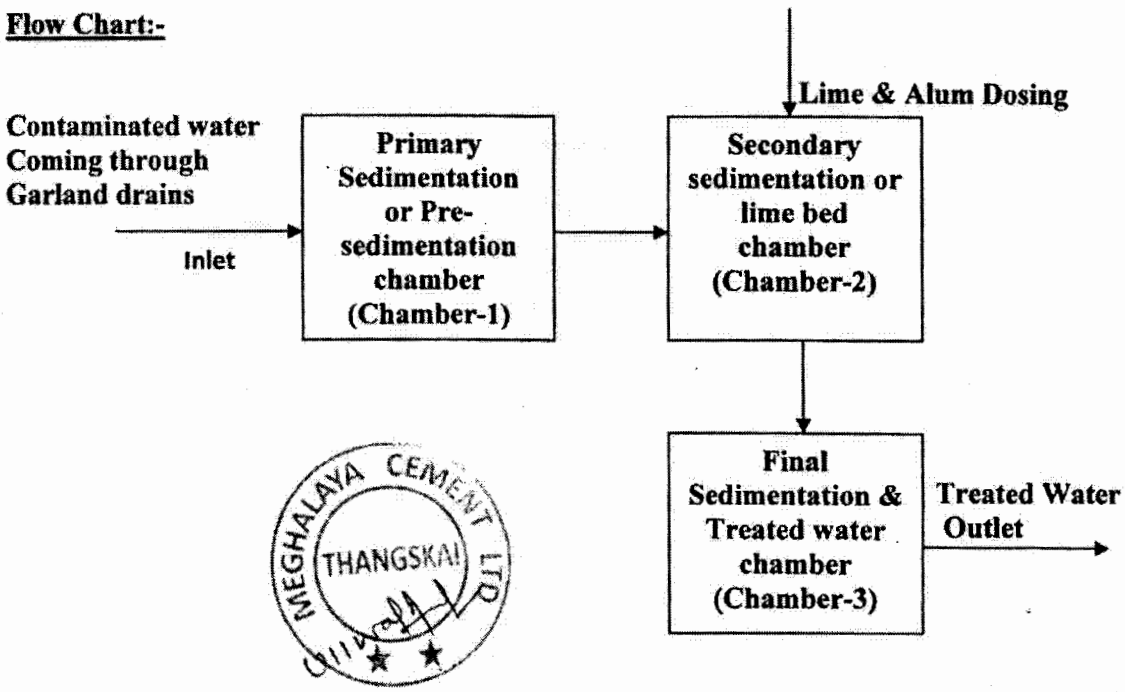
Chamber 2:- Secondary sedimentation or lime bed chamber

In step 2, water comes from chamber-1 and secondary sedimentation being done. Lime & alum dispersed into secondary chamber for treatment of Acid coal mine. After secondary sedimentation water enter in chamber 3.

Chamber 3:- Final Sedimentation & Treated water chamber

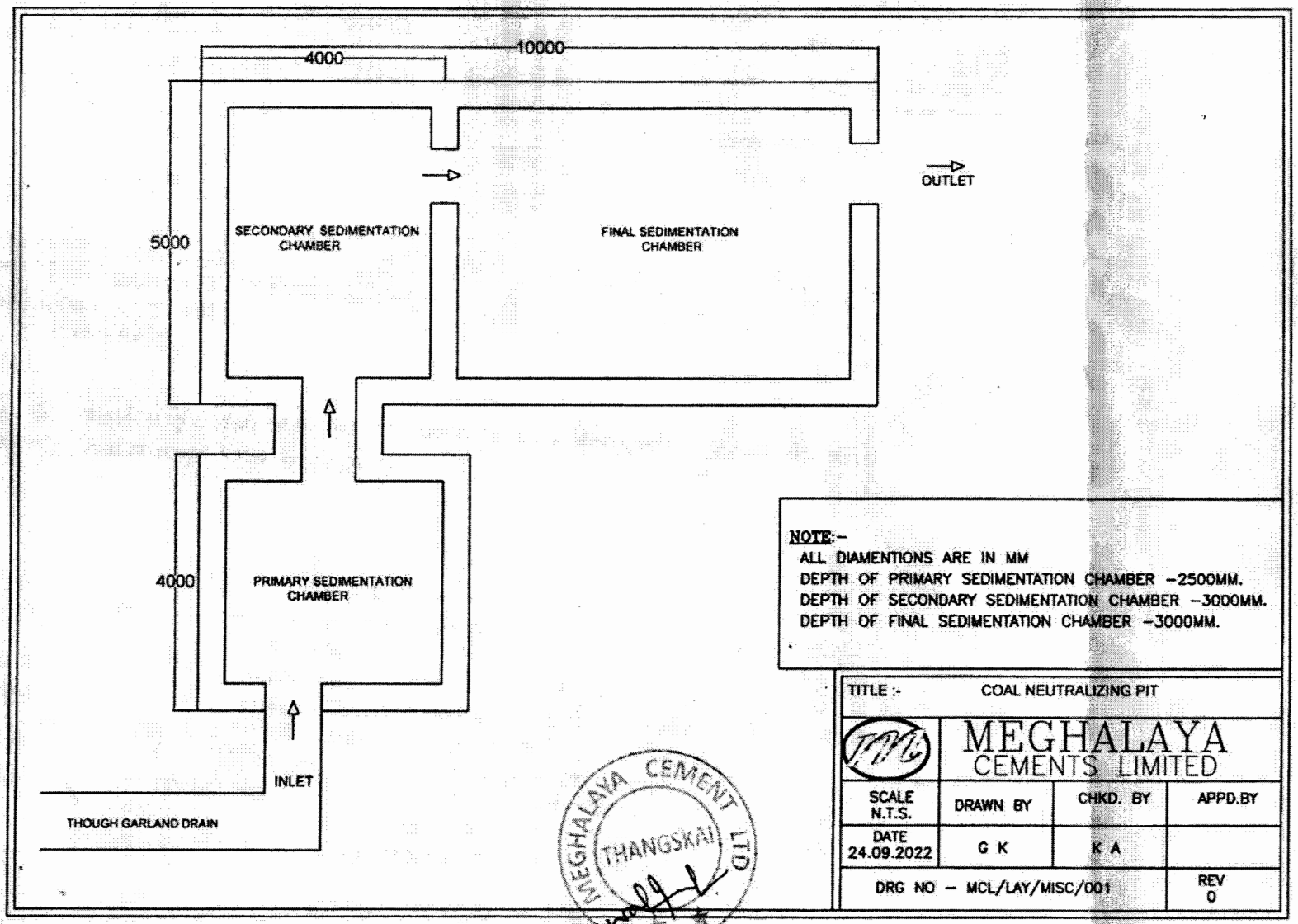
In step 3, Treated water comes from chamber-2 & after that it discharged through drain.

Flow Chart:-



MEGHALAYA CEMENT LTD. THANGSKAI

Annex- IX



NOTE:-
ALL DIAMENTIONS ARE IN MM
DEPTH OF PRIMARY SEDIMENTATION CHAMBER –2500MM.
DEPTH OF SECONDARY SEDIMENTATION CHAMBER –3000MM.
DEPTH OF FINAL SEDIMENTATION CHAMBER –3000MM.

TITLE :-	COAL NEUTRALIZING PIT		
	MEGHALAYA CEMENTS LIMITED		
SCALE N.T.S.	DRAWN BY	CHKD. BY	APPD.BY
DATE 24.09.2022	G K	K A	
DRG NO – MCL/LAY/MISC/001			REV 0

MEGHALAYA CEMENT LTD. THANGSKAI

Annex – XII

MCL OCCUPATIONAL HEALTH CENTER

Health Center Staff

Sr No.	Name of Staff	Designation	Course
1	Dr. N.Ranjit Singh	Medical officer	MBBS
2	Dr. Gita Shylla	Dentist	BDS
3	Sabir Hussain	Male Nurse	GNM
4	Tarini Bazburah	Compounder	RMP
5	Shankar Singha	Lab Technician	MLT
6	Shilpi Nath	Nurse	ANM
7	Wanpli Talang	Nurse	ANM
8	Deimonmi Suiam	Dresser	First Aid Training
9	Other Staffs	1 no.	JR. ASSISTANT

Hospital Equipment

Sr. No.	Hospital Equipment	Quantity	Remarks
1	ECG Machine	1	
2	Audiometry	1	
3	Spirometry (PFT)	1	
4	Cardiac Monitor	1	
5	Oxygen Cylinder for oxygen Inhalation (Jambo)	5	
6	Oxygen Cylinder for oxygen Inhalation (10 kg)	6	
7	Suction Machine	1	
8	Nebulizer Machine	2	
9	Bed in Ward	2	
10	Bed in Emergency ward	1	

Lab Equipment

Sr. No.	Hospital Equipment	Quantity	Remarks
1	Semi auto analyzer	1	
2	Micro scop	1	
3	Incubator	1	
4	Centrifuge machine	1	
5	Hemometer	1	
6	Accu check machine	1	
7	Blood cell counter	1	
8	Hemocyto meter	1	

TEST FACILITY

1	Blood RE (TC, DLC, ESR, HB%)
2	Blood Sugar
3	KFT, LFT, Lipid Profile
4	Maleria
5	Trop - T
6	VDRL,HBSAg, HCB
7	ASO titre
8	Widal test
9	Rheumatoid factor
10	Grouping, ABO RH typing
11	Uric acid
12	AFB
13	Urine analysis (test)

DENTIST FACILITY

1	Dentist X-Ray Machine
2	Dentist Chair

AMBULANCE

1	Ambulance Traveler (Advance Life Support)	1	With Facility = Cardiac Monitor - 1 no., Defibrilator - 1 & Oxygen support
2	Ambulance (TATA SUMU)	1	With Facility = Oxygen support

Hospital Emergency Service

1	**A) Annual Periodic Medical Examination of Employees. (ECG, Audiogram, PFT, Blood Test, Urine Test & Physical examination)** **B) Handling Emergencies in OHC Centre :– Accidental Cases, Burning cases, Snake bite, Cardiac arrest and all over emegency and primary treatment given.** **C) OPD**

MEGHALAYA CEMENT LTD THANGSKAI

Annex-XIII

SALARY DETAILS OF CLEANER FOR THE MONTH OF MARCH'23

S.N.	NAME	CODE NO.	SEX	D.O.J.	GRADE	DEPT	DESIG	SALARY
1	DISWONLANG BAREH	2260	FEMALE	01.04.2011	WKM	HR&A	CLEANER	16778
2	EDEN LALOO	3323	FEMALE	01.04.2011	WKM	HR&A	CLEANER	15596
3	SABINA SYIH	2262	FEMALE	01.04.2011	WKM	HR&A	CLEANER	14322
4	KHALMISS SUTING	2263	FEMALE	01.04.2011	WKM	HR&A	CLEANER	16459
5	PHINIAL DHAR	2264	FEMALE	01.04.2011	WKM	HR&A	CLEANER	13730
6	IBASHISHA KHARSATI	2267	FEMALE	01.04.2011	WKM	HR&A	CLEANER	15420
7	PHIMAI SUTNGA	2271	FEMALE	01.04.2011	WKM	HR&A	CLEANER	16095
8	LILY POHBAN	2273	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11790
9	KYRSOI SYIH	2275	FEMALE	01.04.2011	WKM	HR&A	CLEANER	15283
10	PHYRNAI SYRTI	2276	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11818
11	RIDAMON SUCHEN	2277	FEMALE	01.04.2011	WKM	HR&A	CLEANER	12247
12	SPELBHA SUCHIANG	2322	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11901
13	WONDERFUL PALE	2330	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11601
14	RANSHI PUSEIN	2343	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11496
15	SAPHA SIANGSHAI	2344	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11601
16	EMLI DHAR	2345	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11548
17	TALITHA RYMBAI	2349	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11496
18	SHANIAH SHYLLA	2352	FEMALE	01.04.2011	WKM	HR&A	CLEANER	11868
19	CHEBARIMA BAREH	2362	FEMALE	02.06.2011	WKM	HR&A	CLEANER	12893
20	MINA KHONGLAH	2269	FEMALE	01.04.2011	WKM	HR&A	CLEANER	13560
21	NILDIS KHLUNG	3288	FEMALE	07.08.2012	WKM	HR&A	CLEANER	11601
22	LUTMON LAMARE	3030	FEMALE	03.08.2012	WKM	HR&A	CLEANER	11576
23	SHIDA SUTNGA	3316	FEMALE	01.07.2013	WKM	HR&A	CLEANER	11496
24	HEL PAJAT	3244	FEMALE	03.08.2013	WKM	HR&A	CLEANER	11601
25	PALDIS SUTING	3247	FEMALE	01.08.2013	WKM	HR&A	CLEANER	11601
26	SABITRY KHONGLAH	3248	FEMALE	03.10.2013	WKM	HR&A	CLEANER	11472
27	MARTHA CHALLAM	4051	FEMALE	04.05.2015	WKM	HR&A	CLEANER	11630
28	SUMAR RYMBAI	4057	FEMALE	06.05.2015	WKM	HR&A	CLEANER	11630
29	SABITRY LALOO	4086	FEMALE	12.06.2015	WKM	HR&A	CLEANER	11368
30	SHELA SUTING	5088	FEMALE	17.05.2016	WKM	HR&A	CLEANER	11630
31	HASINA SYRTI	5085	FEMALE	16.05.2016	WKM	HR&A	CLEANER	10890
32	KYNJAILANG SYMPLI	5430	FEMALE	02.07.2018	WKM	HR&A	CLEANER	11707
33	KMENLANG GYMPAD	5422	FEMALE	02.07.2018	WKM	HR&A	CLEANER	11707
34	ISKAPAIA LAMARE	5429	FEMALE	02.07.2018	WKM	HR&A	CLEANER	11548

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-XIII

35	KEEPHIM SYMPLI	5436	FEMALE	13.08.2018	WKM	HR&A	CLEANER	11472
36	SOMLY SURONG	5589	FEMALE	17.08.2019	WKM	HR&A	CLEANER	10890
37	HEIJINGMIAT RYMBAI	5587	FEMALE	17.08.2019	WKM	HR&A	CLEANER	10890
38	SONITA RYMBAI	5590	FEMALE	17.08.2019	WKM	HR&A	CLEANER	10890
39	DARI PUSEIN	5697	FEMALE	15.03.2021	WKM	HR&A	CLEANER	9990
40	BEAUTIFUL PALE	5699	FEMALE	16.03.2021	WKM	HR&A	CLEANER	9810
41	SYNDONG SYRTI	5703	FEMALE	18.03.2021	WKM	HR&A	CLEANER	9810
42	MUNI SUTING	5706	FEMALE	19.03.2021	WKM	HR&A	CLEANER	9810
43	RIMAIA SHADAP	4014	FEMALE	01.04.2022	WKM	HR&A	CLEANER	9000
44	JUDICIAL RYMBAI	5834	FEMALE	04.07.2022	WKM	HR&A	CLEANER	9000
45	SHEBA SHADAP	5835	FEMALE	04.07.2022	WKM	HR&A	CLEANER	9000
46	ONJOLY PDANG	5836	FEMALE	04.07.2022	WKM	HR&A	CLEANER	9000
47	WADLANG SYRTI	5846	FEMALE	05.08.2022	WKM	HR&A	CLEANER	9000
48	MARGRED KHONGLAH	5847	FEMALE	08.08.2022	WKM	HR&A	CLEANER	9000
49	PYNTNGEN SYRTI	5848	FEMALE	08.08.2022	WKM	HR&A	CLEANER	9000
50	BARMON KHONGIONG	5448	FEMALE	01.04.2013	WKM	HR&A	CLEANER	11601

Annex- XIV

MEGHALAYA THANGSKAI LTD

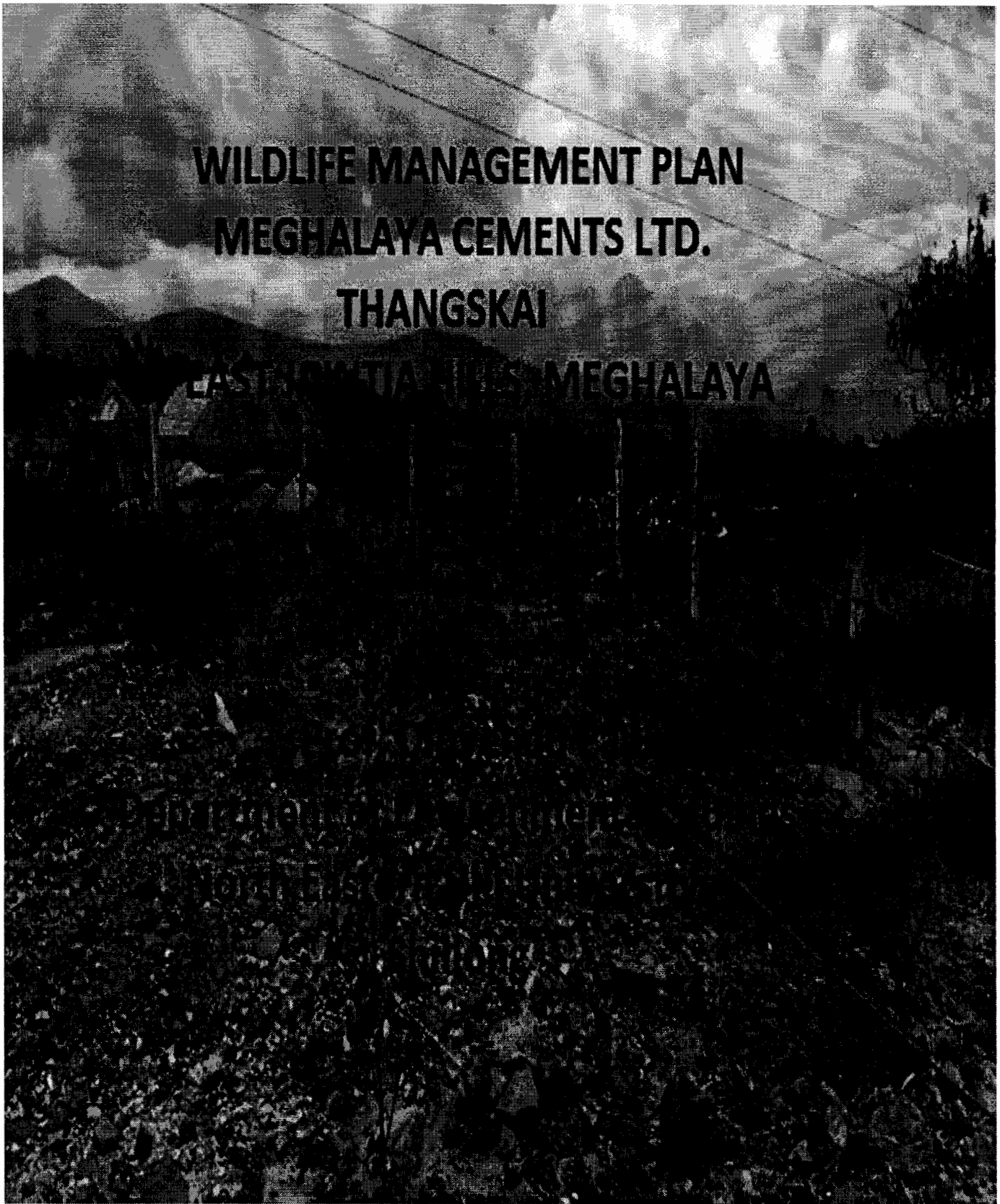
Annex- XV

MEGHALAYA ... LTD
THANGSKAI

Annex-XV

MEGH... THANGSKAI ... LTD

Annex- XV



MEGHALAYA CEMENT LTD.
THANGSKAI

Annex- XV

TABLE OF CONTENTS

MEGHALAYA CEMENT LTD.
THANGSKAI

Annex-XV

Acknowledgement

It is a pleasure to place on record, my appreciation for all the help and support received from different quarters towards completion of the project.

I am thankful to Meghalaya Cements Ltd. for reposing their faith in NEHU for undertaking the project. I am especially appreciative of Shri R. K. Pareek (President), Shri Vijay Kumar Pant (Vice President, Technical), and Shri Vikas Saraf (Vice President, Commercial) for their cordial support and fruitful deliberations during the formulation of modalities of the project.

The efforts of Mr. Ujjal (Manager-Environment) and the field station managers and staff of MCL, through their support and hospitality during the field visits, accessto documents, and consultations during the course of the project is gratefully acknowledged and appreciated.

Finally I am extremely grateful to all the respondents of the project area and adjoining villages for their valuable inputs which were indispensable in the fruition of the work and its logical culmination into the present report.

December, 2022 ***Dibyendu Paul***

MEGHALAYA CEMENT LTD THANGSKAI

Annex- XV

LIST OF TABLES

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-XV

EXECUTIVE SUMMARY

Meghalaya Cement Ltd. (MCL) is located at Thangskai in East Jaintia Hills District, Meghalaya. Meghalaya Cement Ltd. (MCL) intended to increase the capacity of its existing plant at Thangskai in Jaintia Hills, Meghalaya, India from 900 TPD clinker to 2,600 TPD clinker along with a 18 MW captive thermal power plant and captive limestone mines including 31.05ha ML. The plant is based on nearby limestone deposits in the villages of Moing, Kheliegari and New Kheliejari and proposed mines in South Khlehjeri in Jaintia hills district of Meghalaya.

The environmental clearance for the expansion was accorded by the State Environmental Impact Assessment Authority (SEIAA), Govt. of Meghalaya, wherein, it was stipulated that a conceptual plan for wildlife management would be prepared in consultation with a reputed institution. The company in keeping with their eco-ethical responsibilities of beingpartners in sustainable growth, took cognizance of the stipulation and decided to commission study culminating in preparation of a 'Wildlife Management Plan' to address the special needs of certain taxa of biota and wildlife in particular . The Department of Environmental Studies, North-Eastern Hill University (NEHU) was approached by MCL to undertake the stipulations prescribed by SEIAA. In response, NEHU submitted a proposal for a preparation of a wildlife management plan.

The project area forms a part of the Shillong Plateau characterized by a rugged hilly topography. The geo-tectonic activities in the past have resulted in the development of deep gorges, valleys and steep cliffs, with several streams dissecting the hilly terrain. The elevation of plant area is 754msl.The plateau area around village Thangskai is dissected by numerous streams which drain the area and ultimately join the rivers Prang and Lubha.

The climate of the Khasi and Jaintia hills districts is pleasant. It is warm and humid except in winter. The mean monthly minimum temperatures ranges from 5.77°C in January to 18.15°C in July, and the mean monthly maximum temperatures ranges from 15.13°C in January to 24.38°C in June. The area enjoys an average annual rainfall of 2415 mm.

MEGHALAYA CEMENT LTD THANGSKAI 2022

Annex-XV

Comparison of satellite imageries of the year 1999 and 2013 revealed a marginal increase in dense forest and decrease in open forest in the area. The LULC data revealed that dense forest in the study area has increased by 592.29 hectare whereas open forest declined by 1918.44 hectare. Other nonforest classes namely shrub/ grass land, crop land, barren land, builtup area and water body were also found to have increased during this period by 571.23, 0.36, 704.07, 50.04 and 0.45 hectares, respectively. The increase in dense forest in the study area is attributed to transformation of open forest on account of afforestation activities undertaken by the cement manufacturing units in some pockets of the area. Simultaneously, open forest was also found to have decreased considerably due to the deforestation and forest fragmentation attributed mainly to limestone mining and construction of cement plants. Agriculture is the predominant occupation of the residents in and around Lumshnong area. Agriculture is rainfed. In recent times, horticultural crops have also been systematically introduced.

Line transact and quadrat survey revealed the presence of 54 tree species and 50 shrub/herb/climber species within a radius of 10 km. of the project area. Questionnaire based survey established the presence of species of mammals followed by species of birds, species of amphibians and species of reptiles.

Based on the physiognomy of the project area, the following prescriptions were arrived at :-

- Development of a boundary plantation belt (10-20m wide) using native wild/ fruit bearing species to enhance wild fauna visitation/ sound and air pollution abatement.
- Plantation of barren/ open scrub areas for habit restoration/development using native wild/ fruit bearing species and enhancement of wild fauna visitation.
- Establishment of a ground cover of shrubs/grasses/ legumes for soil conservation and forage.
- Installation of perennial watering holes and salt licks.

A total budgetary allocation of 28.5 Lakhs is proposed for the different work components over a 5 year period.

MEGHALAYA CEMENT LTD THANGSKAI

Annex- XV

1. Introduction : Meghalaya Cement Ltd. (MCL) is located at Thangskai in East Jaintia Hills District, Meghalaya. Meghalaya Cement Ltd. (MCL) intended to increase the capacity of its existing plant at Thangskai in Jaintia Hills, Meghalaya, India from 900 TPD clinker to 2,600 TPD clinker along with a 18 MW captive thermal power plant and captive limestone mines including 31.05ha ML. The plant is based on nearby limestone deposits in the villages of Moing, Kheliegari and New Kheliejari and proposed mines in South Khlehjeri in Jaintia hills district of Meghalaya.

The environmental clearance for the expansion was accorded by the State Environmental Impact Assessment Authority (SEIAA), Govt. of Meghalaya, wherein, it was stipulated that a conceptual plan for wildlife management would be prepared in consultation with a reputed institution. The company in keeping with their eco-ethical responsibilities of beingpartners in sustainable growth, took cognizance of the stipulation and decided to commission study culminating in preparation of a 'Wildlife Management Plan' to address the special needs of certain taxa of biota and wildlife in particular . The Department of Environmental Studies, North-Eastern Hill University (NEHU) was approached by MCL to undertake the stipulations prescribed by SEIAA. In response, NEHU submitted a proposal for a preparation of a wildlife management plan.

MEGHALAYA CEMENT LTD THANGSKAI

2. Scope of the present study: This conservation plan deals specifically with the project area and 10km buffer of the lease area based on actual field studies. Floristic and faunal studies included:

1. Status of major floral/faunal components of all the terrestrial habitat present in the study area

2. Collection of secondary data on the status of floral/faunal components and habitats from Forest dept., BSI, ZSI and published data.

2. To provide conservation plan to improve quality of the habitat to enhance the overall biological diversity.

3. Results:

3.1. Physiography : The project area forms a part of the Shillong Plateau characterized by a rugged hilly topography. The geo-tectonic activities in the past have resulted in the development of deep gorges, valleys and steep cliffs, with several streams dissecting the hilly terrain. The elevation of plant area is 754msl.The plateau area around village Thangskai is dissected by numerous streamswhich drain the area and ultimately join the rivers Prang and Lubha.

3.2. Climate: The climate of the Khasi and Jaintia hills districts is uniquely pleasant. It is warm and humid except in winter. The mean monthly minimum temperatures ranges from 5.77°C in January to 18.15°C in July, and the mean monthly maximum temperatures ranges from 15.13°C in Januaryto 24.38°C in June.

The area enjoys an average annual rainfall of 2415 mm. The water immediately flows down from the higher ranges downwards due to steep slopes. These drainage streams and rivuletshold water during most of the year. However, some of them become dry during summer.

3.3.Mining scenario:

Large scale extraction of limestone in Jaintia Hills began in 2004 near Lumshnong village a fter setting up of the cement plants in the area. With time, several cement plants have been established and are operational in the area resulting in extensive mining of limestone in the region. The analysis of the postclassified satellite imageries of the year 1999 and 2013

MEGHALAYA CEMENT LTD THANGSKAI

revealed a marginal increase in dense forest and decrease in open forest in the area. The LU LC data revealed that dense forest in the study area has increased by 592.29 hectare whereas open forest declined by 1918.44 hectare. Other nonforest classes namely shrub/grass land, crop land, barren land, builtup area and water body were also found to have increased during this period by 571.23, 0.36, 704.07, 50.04 and 0.45 hectares, respectively. The increase in dense forest in the study area is attributed to transformation of open forest on account of afforestation activities undertaken by the cement manufacturing units in some pockets of the area.Simultaneously, open forest was also found to have decreased considerably due to the deforestation and forest fragmentation attributed mainly to limestone mining and construction of cement plants.

3.4. Land use pattern: Agriculture is the predominant occupation of the residents in and around Lumshnong area. Agriculture is rainfed. In recent times, horticultural crops have also been systematically introduced. Besides, much of the area is degraded due to a long history of shifting agriculture. Open scrub dominates much of the the core zone and is composed of short trees and shrubs. Agricultural habitat was absent in the core area.

3.5.Flora: An extensive survey of the flora of the project area (10km.radius) was undertaken. Detailed study through established scientific methodology has brought to light an exhaustive list of flora and fauna assemblages occurring in the area.

Sampling: Sampling for flora was accomplished using Line Transect Method and QuadratMethod.

Line transect method: 500 m line transects (Measuring tape) were laid out randomly at different locations in the project area and species in contact with the tape were recorded/ collected.

Quadrat method: Quadrats were laid out randomly at different locations in the project area and surrounding area and species falling within quadrats were recorded/sampled. For tree species quadrat size was 10x10mand for herbaceous vegetation, the quadrat size was 1x1m

Preparation of herbaria and identification: Herbaria were prepared with the

MEGHALAYA CEMENTS LTD THANGSKAI

Annex-XV

collected plant samples and identifications were done using existing herbarium collections of NEHU. Samples which could not be identified at NEHU were referred to the BSI for identification. The plants identified are listed in **Tables 1 and 2**

MEGHALAYA CEMENT LTD THANGSKAI

Annex-XV

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

Sl.no	Name	Family	Vernacular name
1.	*Actinodaphne obovata* (Nees) Blume	Lauraceae	Dieng-lakrao (K)*
2.	*Aesculus assamica* Griff.	Sapindaceae	Dieng-dula(K)
3.	*Alchornea tiliifolia* (Benth.) Müll.Arg.	Euphorbiaceae	
4.	*Asplenium phyllitidis* D. Don.	Aspleniaceae	
5.	*Bauhinia khasiana* Baker.	Leguminosea	
6.	*Callicarpa arborea* Roxb.	Verbanaceae	Dein-lakhoit(J)**
7.	*Caryota urens* L.	Arecaceae	
8.	*Caseria* sp		
9.	*Castanopsis echinocarpa* Mig.	Fagaceae	Dien-sning(J)
10.	*Castanopsis indica* (Roxb. ex Lindl.)	Fagaceae	
11.	*Castonopsis purpurella*	Fagaceae	Dein-sohtap (J)
12.	*Castonopsis tribuloides* (Sm.) ADC	Fagacea	Dien sa-ut (J)
13.	*Cinnamomum bejolghota* (Buch.-Ham.) Sweet	Lauracea	Dieng-pathi (K)
14.	*Duabanga grandiflora* (DC.) Walp.	Lythraceae	Dieng-bai (K)
15.	*Elaeagnus pyriformis* Hook. f.	Elaeagnaceae	Sashang
16.	*Eurya accuminata* DC.	Theacea	Dienpyrchin(J)
17.	*Ficus hirta* subsp. *roxburghii* (King) C.C.Berg	Moraceae	Spunae (J)
18.	*Ficus semicordata* Buch.-Ham. ex Sm.	Moraceae	
19.	*Lithocarpus elegans* (Blume) Hatus. ex Soepadmo.	Fagaceae	Sarangkhlo (J)
20.	*Lithocarpus fenestratus* (Roxb.) Rehder.	Fagaceae	
21.	*Litsea citrata* Blume.	Lauraceae	Soh-sying (J)
22.	*Litsea laeta* Wall. ex Nees.	Lauraceae	
23.	*Litsea lancifolia* (Roxb.ex Nees.)	Lauraceae	
24.	*Litsea monopetala* (Roxb.) Pers.	Lauraceae	
25.	*Litsea thomsonii* Hook.f.	Lauraceae	
26.	*Macaranga* sp.		Lakhar (j)
27.	*Macropanax disperma* (Bl.) O.	Analiaceae	Dieng-ia-rasi
28.	*Mallotus nepalensis* Müll. Arg.	Euphorbiaceae	Sla-lakhar khian (J)
29.	*Melastoma nepalensis* Lodd.	Melastomaceae	Dien-slidong(J)
30.	*Micromelum integerrimum* (Roxb.)Wight &Arn.	Rutaceae	Dieng-tyrpei (J)
31.	*Morinda angustifolia* Roxb.	Rubiaceae	
32.	*Ostodes paniculata* Blume	Euphorbaceae	Dein-lashitkhlow(J)
33.	*Persea kingii* Hook f.	Lauraceae	
34.	*Phyllanthus glaucus* Wall.		Samatan(J)
35.	*Pithecellabium montanum* Benth.	Mimosaceae	
36.	*Pterospermum lancifolium* Roxb.	Sterculiaceae	Dieng-khoh(K)
37.	*Quercus serrata* Roxb.	Fagaceae	
38.	*Rhus javanica* (L) Merr.	Anarcardiaceae	Dien-sama (J)
39.	*Sapindus attentuate/erecta* Wall.	Sapindaceae	
40.	*Sapium baccatum* Roxb.	Euphorbiaceae	Dieg-jalongeh (K)
41.	*Sarcosperma griffithii* Hook.f. ex C.B.Clarke	Sapotaceae	Dein-pai (K)
42.	*Schima wallichi* (DC.) Korth.	Theaceae	Shyrngan (J)
43.	*Solanum melongena* Linn.	Solanaceae	
44.	*Solanum torvum* Sw.	Solanaceae	
45.	*Styrax serrulatum* Linn.	Styracaceae	Deing-jalatpai (K)
46.	*Symplocus glomerata* King ex Cl.	Symplocaceae	Tiewdiengpeiiong (K)
47.	*Symplocus sp*	Symplocaceae	
48.	*Syzigium formosum* (Wall) Mas.	Myrtaceae	Soh-slidong (J)
49.	*Syzigium macrocarpum* (Roxb.) Balak.	Myrtaceae	
50.	*Syzygium cumini* (L.) Skeels.	Myrtaceae	
51.	*Syzygium tetragonum* (Wt.) Kurz.	Myrtaceae	Dien-sohsyrle (J))
52.	*Trevesia palmate* (Roxb.) Vis.	Araliaceae	Dienglakor (K)
53.	*Vernonia volkameriifolia* DC.	Asteraceae	
54.	*Wendlandia tinctoria* (Roxb.) DC.	Rubiaceae	Chamot (J)

*K=Khasi,**J=Jaintia

MEGHALAYA CEMENT LTD THANGSKAI

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

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

(K- Khasi and J - Jaintia)

MEGHALAYA CEMENT LTD THANGSKAI

Annex-XV

3.6. Fauna: A questionnaire survey was carried out in the villages around the project area to identify the fauna inhabiting the area based on sightings. The scientific and local names of the fauna are listed in Table 5. Additionally, camera traps were installed within the project area torecord and document the movement of mammals and other fauna in the project area. However, camera traps did not capture any animal activity within the project area.

Table 3. List of fauna in the project area generated through questionnaire survey

Sl.no	Scientific name	Vernacular name
	Aves	
1	*Bambusicola fytchii hokinsoni*	Chyng-Kiar
2	Black drongo	Larwat
3	*Bubo flavipes*	Dhoh
4	*Passer domesticus*	Chyrkia
5	*Kalij pheasant*	Syiar Khloo
6	*Psarisomus dalhousiae*	Purong
7	Red-vented bulbul	Riah Blong
8	*Milvus migrans lineatus*	Khlein
9	Indian woodpecker	
10	**Amphibia**	
11	*Bufoides meghalayana*	Khroh Chyrtob
12	*Rana clamitans*	Khroh Rngam
13	*Rana danieli*	Khroh
14	*Bufoides meghalayana*	Khroh Chyrtob
15	**Reptilia**	
16	*Calotes versicolor*	Chieh Cherko
17	*Opheodrys vernalis*	Psain Rngam
18	*Varanus bengalensis*	Tyrpit
19	**Mammalia**	
20	*Cannomys badius*	Khnae Piahlang
21	Indian pangolin	Rbae
22	*Collosciurus erythraeus*	Rasang
23	*Herpestes edwardsii*	Mongoose
24	Himalayan black bear	Dngiem
25	*Hoolock gibbon*	Hulu
26	Indian muntjac	Skae
27	Indian Squirrel	Rasang stem kpoh.
28	*Mus booduga*	Khne Lum
29	*Panthera pardus*	Krong
30	*Hystrix sp.*	Ynkhet
31	*Presbytis pileatus*	Chrieh

MEGHALAYA CEMENTS LTD THANGSKAI

Annex – X

Meghalaya cements limited

Thangskai , Meghalaya

DOWNSTREAM WATER ANALYSIS REPORT FOR THE YEAR 2022-23

Date:-24.03.2023

Sl. No.	Parameters	Obtained Values in						Average	Permissible Limit
		Oct'2022	Nov'2022	Dec'2022	Jan'2023	Feb'2023	Mar'2023		
1	pH	7.3	7.2	7.4	7.1	7.2	7.4	7.27	6.5 – 8.5
2	Dissoled Oxygen (mg/lit)	12.47	13.59	11.67	11.42	12.58	11.89	12.27	-
3	Total Dissolve Solids (mg/Lit)	198	157	192	169	173	158	174.50	<500
4	Conductivity (mg/Lit)	174	168	139	171	156	162	161.67	-
5	Total Hardness (mg/ Lit)	227	240	238	216	228	216	227.50	<300
6	Calcium Hardness (mg/Lit)	153	171	159	164	161	154	160.33	<200
7	Magnesuim Hardness (mg/Lit)	74	69	79	52	67	62	67.17	<100
8	Alkalinity (mg/Lit)	88	63	79	71	67	76	74.00	<200
9	**Cr+6 (mg/t)**	0.0216	0.0191	0.0267	0.0321	0.0256	0.0299	0.026	<0.05

Prepared By

Arti Singh

Checked & Verified By

Tiwari Anurag

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-X

Meghalaya cements limited

Thangskai , Meghalaya

UPSTREAM WATER ANALYSIS REPORT FOR THE YEAR 2022-23

Date:-24.03.2023

Sl. No.	Parameters	Obtained Values in						Average	Permissible Limit
		Oct'2022	Nov'2022	Dec'2022	Jan'2023	Feb'2023	Mar'2023		
1	pH	7.1	7.3	7.2	7.4	7.1	7.3	7.23	6.5 – 8.5
2	Dissolved Oxygen (mg/lit)	13.5	12.3	12.4	12.9	11.8	12.6	12.58	-
3	Total Dissolve Solids (mg/Lit)	155	169	174	146	153	167	160.67	<500
4	Conductivity (mg/Lit)	163	156	174	137	148	153	155.17	-
5	Total Hardness (mg/ Lit)	238	220	247	230	220	227	230.33	<300
6	Calcium Hardness (mg/Lit)	157	149	173	166	151	166	160.33	<200
7	Magnesuim Hardness (mg/Lit)	81	71	74	64	69	61	70.00	<100
8	Alkalinity (mg/Lit)	72	65	71	69	59	63	66.50	<200
9	**Cr+6 (mg/t)**	0.0318	0.0361	0.0226	0.0251	0.0259	0.0296	0.029	<0.05

Prepared By

Arti Singh

Checked & Verified By

Ujjwal Anurag

MEGHALAYA CEMENT LTD THANGSKAI

Annex- XI

YEAR WISE PLANTATION DETAILS
M/s MEGHALAYA CEMENTS LIMITED
Plant area - 52.949 Ha

As on Dated 31/03/2023

Year	Saplings planted (Nos.)	Area covered (Hect.)	Saplings Survive (Nos.)	Survival Rate	Remarks
2009-20	79900	19.1898	61195	76.59%	Planted at different locations such as Northern, Northeastern and eastern side of the project area, CPP campus, Lawn of residential blocks & Topcem Public School Campus, Interspaces in plant boundary, road & internal road side, Children park etc. before the amendment of reduction of existing of plant area from 59.269 Ha to 52.949 Ha vide letter no-SEIAA/PROJECT-2/2007/8/1818 dated Shillong, the 30th September, 2020.
2020-21	3475	0.2185	2955	85.04%	Planted CPP back side and interspaces along plant boundary.
2021-22	10548	0.5170	8697	82.45%	Planted LS Reclaimer back side,CPP back side, Topcem Public School Campus, Mazagine Area, Clay Shed back side, Cricket Ground road side and interspaces along plant boundary.
2022-23	6693	Nil (Gap filling)	5340	79.78%	Gap filling at Green Colony side, Old Transport Colony, Approach Road, Near By Topcem School, Nursery, CPP back side, Down Colony, Near Clay Shed, Near Cricket Ground, Near E-Block etc.
Total	**100616**	**19.9253**	**78187**	**77.71%**	

MEGHALAYA CEMENT LTD
THANGSKAI

4.0.Management plan.

Data obtained from the sampling and survey was used to develop the management plan aimed at improving the ecological and environmental integrity in and around the project area.

4.1. Eco-management: The following types of plantations are suggested for eco-management.

(i) **Green belt development along the boundary of the project site:**

Native tree species listed (Table 1) should be nursery raised and a green belt along the boundary (10-20m wide) should be developed. This will mitigate air pollution and provide a barrier for sound abatement. Inclusion of fruit bearing trees will also increase the incidence of visitation by avian species.

(ii) **Plantation for habitat improvement:** Barren and/or open scrub area in the project site should be outplanted with nursery raised seedlings of native tree species. The mix should also include fruit yielding species so as to enhance visitation by wildlife and bird species. Establishment of such plantations will also encourage roosting of avian species. The existing plantation areas adjoining Thangskai and Chiehruphi villages **(Annexure I)** should be the main areas targeted for habitat improvement and installation of watering holes and salt licks.

(iii) Gap filling : Existing plantation areas should be revisited on a seasonal basis for intensive gap filling operations so as to ensure proper establishment of the plantations.

(iv) Development of ground cover: Native shrub/grass species (including leguminous species) should be planted as ground cover. Grasses are drought tolerant and can colonize fast in low nutrient soil due to the presence of fibrous roots and helps to reduce soil erosion as they are the best sand binders. The grasses available locally in abundance can be used for biological treatment. For stabilization of loose material and slopes. Clumps of grasses can be collected from adjacent and nearby areas without destroying the grass cover of the adjacent areas. Besides stabilizing soils, the grass cover will also provide forage and attract herbivores.

4.2. Establishment of watering holes: Watering holes provide the water requirements for many species of wildlife especially during the dry season when many natural water resources dry up. Many birds and mammals will use the water hole as a place to find food and water. Shallow water holes will be used by birds as a bath. Amphibians will also be

MEGHALAYA CEMENTS LTD THANGSKAI

drawn to the water. Toads and frogs may also use the pond for reproductive purposes and use the water holes as a permanent habitat. In addition to these, many aquatic insects and invertebrates will use the pond as a habitat, providing the base of the food chain for many wildlife species. The ponds may be earthen, preformed, cement, or lined. If the drainage characteristics of the soils provide for water retention, earthen ponds are preferable as they will simulate natural conditions. The other alternative is to construct cemented watering holes . Watering holes should be developed in 4-5 locations within the project area At least one such watering hole in each location should be shallow, so that it could be used by birds as a bath . Existing perennial/seasonal streamlets can also be utilized for the purpose by installation of mini check dams. It should be ensured that the watering holes retain water throughout the year, and especially during the dry season. Adequate tree cover should also be developed along the fringes of such holes so as to minimize evaporative losses.

4.3. Provision of salt licks: Requirement of salt is very important for most wildlife, which they often meet from natural salt licks available in the forests. As no such salt licks are present in the project area, artificial salt licks should be made in the project area, preferably near the water holes. Such salt licks attract wildlife to the area where they are installed. Salt licks may be prepared in the following manner :-

Rock salt or sea salt 82%

Bone meal 4%

Calcium Hydroxide 2%

Clay 12%

The mixture is made to a paste using water and moulded as a block. When solidified the block is placed near the watering holes.

MEGHALAYA CEMENTS LTD THANGSKAI

4.4. Budget : The budgetary allocation for a five year period is detailed below :-

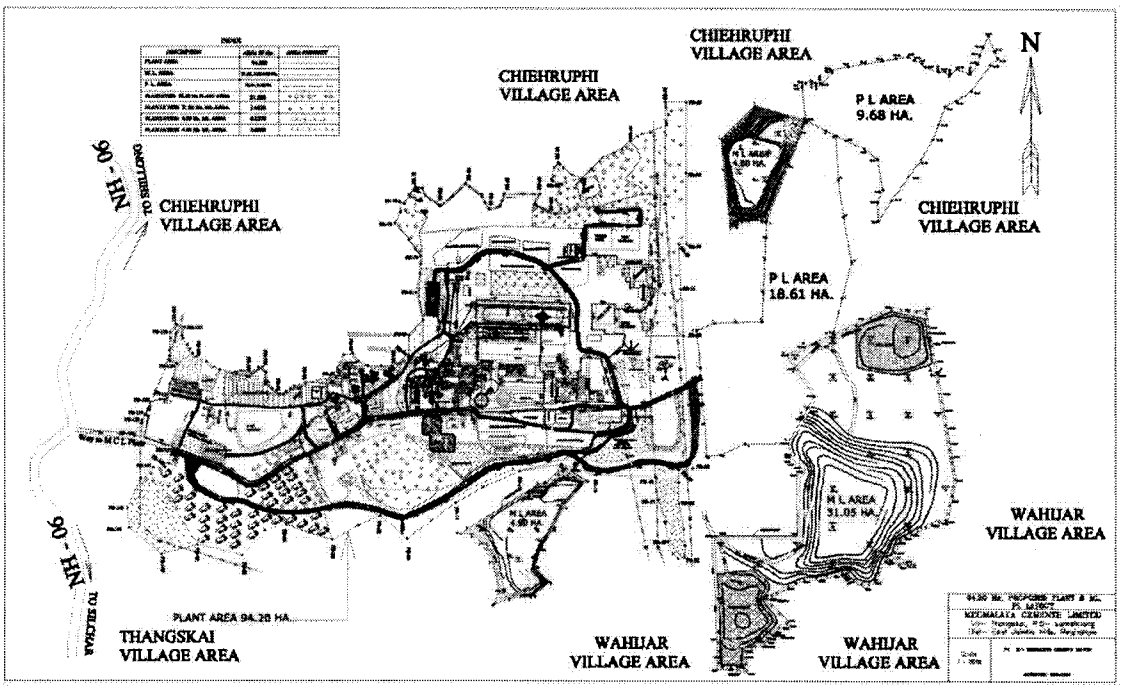
Sl. No	Activity	Budget allocation (Rs. Lakhs)					Total
		Year 1	Year 2	Year 3	Year 4	Year 5	
1	Raising of seedlings in existing nursery	2.0	2.0	2.0	2.0	2.0	10.0
2	Outplanting & gap filling of earlier afforested locations through procured seedlings seedlings	1.0	1.0	1.0	1.0	1.0	5.0
3	Saplings for green belt	1.0	1.0	1.0	1.0	1.0	5.0
4	Installation of watering holes and salt licks (2 nos.) and maintenance	4.0	0.5	0.5	0.5	0.5	6.0
5	Installation of camera traps for documentation of wildlife						
6	Contingencies	0.5	0.5	0.5	0.5	0.5	2.5
						GRAND TOTAL	28.5

5. Conclusion: It is presumed that continuous and intensive plantation and gap filling activities through greenhouse nursery raised seedlings of indigenous tree species (including fruit bearing species) will, in the future, lead to a healthy canopy cover, providing good habitat conditions and camouflage for a variety of wildlife including birds and amphibians. Further, the inclusion of a cover crop will make allowances for the development of soil fertility and organic matter, which will further enhance the habitat quality and create adequate niches for successful colonization by flora and fauna.

MEGHALAYA CEMENT LTD THANGSKAI

Annex-XV

ANNEXURE I



MEGHALAYA CEMENT LTD
THANGSKAI

Annex- XVI

भारत सरकार
GOVERNMENT OF INDIA
एकीकृत क्षेत्रीय कार्यालय
INTEGRATED REGIONAL OFFICE
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
लॉ सीब लुम्पतंगेन/LAW-U-SIB, LUMBATNGEN,
शिलॉग/SHILLONG-793021
TEL. 0364-2537270; FAX. 0364-2536041
E-mail: moefro.shillong@gov.in

Received 2/4/2021

No. RO-NE/E/WLC/2021-SHI/ 65-77 Date: 1st April, 2021

To,

As per list enclosed.

Sub: Minutes of the Review meeting on Implemenation of Wildlife Conservation Plan held on 05.03.2021 at the Integrated Regional Office (IRO), MoEF&CC, Shillong-regarding.

Ref: 1. MoEF&CC New Delhi's letter no. IA-11014/1/2021-IA-I dated 05.01.2021,
2. This office letter no. RO-NE/E/WLC/2021-SHI/3752-63 dated 03.03.2020.

Sir/Madam,

In inviting a reference to the above, I am directed to enclose herewith Minutes of the Review Meeting on Implementation of Wildlife Conservation Plan held on 05.03.2021 at the Integrated Regional Office (IRO), MoEF&CC, Shillong.

This is for your kind information and further necessary action.

Yours faithfully,

for (Dr. H. Tynsong)
Scientist 'D'

Encl: As stated.

Copy to:

1. The Principal Chief Conservator of Forests & HoFF, Meghalaya Forest Head Quarter, Sylvan House, Lower Lachumiere Shillong-793001,
2. The APCCF & Chief Wildlife Warden, Govt. of Meghalaya, Shillong Lachumiere, P.O.Shilong-793001,
3. The DFO (T), Jaintia Hills Division, Jowai, 793150, Meghalaya,
4. Shri Sharath Kumar Pallerla, Director, I.A. Division, MoEF&CC, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003.

for Scientist 'D'

MEGHALAYA CEMENT LTD THAMGSKAH

Contd...

Annex- XVI

To,

1. The Plant Head,
M/s Star Cement Ltd.,
Vill. Lumshnong, P.O. Khliehriat,
Dist-East Jaintia Hills-793 210, Meghalaya.

2. The Plant Head,
M/s Meghalaya Cements Ltd.,
Vill: Thangskai, P.O. Lumshnong,
Dist: East Jaintia Hills, 793200, Meghalaya.

3. The Plant Head,
M/s Amrit Cement Limited,
Opposite Horse Shoe Building, Lower Lachumiere,
Shillong-793001, Meghalaya.

4.The Plant Head,
M/s Green Valliey Industries Pvt. Ltd.,
Vill. Musiang, Lamare (Old),
Khliehriat, East Jaintia Hills- 793200, Meghalaya.

9.The Chief Executive Officer,
Shyam Century Ferrous,
Rajabagan, Byrnihat,
Meghalaya-793010.

5. The Plant Head,
M/s Mawmluh Cherra Cements Ltd.,
Taxation Building, Shillong-793001, Meghalaya.

6. The Operations Director,
M/s Lafarge Umium Mining Pvt. Ltd.,
3rd Floor, Goenka Towers,
Morello Compound, Keating Road,
Shillong-793001, Meghalaya.

7. The Plant Head,
M/s Dalmia Bharat Cement (Formerly Adhunik Cements Ltd.), Umsoo Mootang, Thangskai Village,
Lumshnong, East Jaintia Hills, 793210, Meghalaya.

8. The General Manager,
M/s JUD Cement Ltd., Wahiajer (Narpuh),
East Jaintia Hills District,
Pin: 793200, Meghalaya.

for Scientist 'D'

MEGHALAYA CEMENT LTD
THANGSKAI

PROCEEDINGS OF THE REVIEW MEETING ON IMPLEMENTATION OF WILDLIFE CONSERVATION PLAN HELD ON 05. 03. 2021 AT INTEGRATED REGIONAL OFFICE, MOEF & CC, SHILLONG

The Integrated Regional Office of MoEF & CC, Shillong, held a Review Meeting on the 5th March, 2021, in the Office Conference Hall to review the implementation of the Wildlife Conservation Plan. The Review Meeting was called in response to the site visits and subsequent report prepared by IRO, Shillong in response to the MoEF & CC, New Delhi letter dated 05.01.2021. Altogether 18 (eighteen) participants including the Officers of IRO, Shillong, PCCF & HoFF, Government of Meghalaya, APCCF and Chief Wildlife Warden (CWLC), Government of Meghalaya and the DFO (T), Jowai, Meghalaya; as well as representatives from industry sectors like M/s Meghalaya Cements Limited, M/s Adhunik Cement Limited, M/s Green Valliey Industries Limited, M/s Star Cement Limited, M/s Amrit Cement Limited, and M/s Lafarge Umiam Mining Private Limited participated in the meeting. List of participants is attached in Annexure-I.

The objective of the review meeting was to bring both regulators and user agencies (industry sectors) under one platform for a deliberation on the effective implementation of the Wildlife Conservation Plan (WCP) as stipulated in the Environmental Clearance (EC).

2. The DDGF (C), IRO, Shillong, Ms. Imtienla Ao, welcomed the officials of the State Forest Department as well as the representatives from the industry sector. While initiating the meeting, the DDGF (C) laid emphasis on the objective of the meeting and the need for coordination and cooperation of all concerned to achieve the long term goal of sustainable development and conservation. She stressed on the fact that the effective implementation of the WCP is important not only in compliance to the stipulated EC conditions but also in the interest of conservation of the rich floral and faunal diversity that the region takes pride in. She then requested Dr. H. Tynsong, Scientist 'D', IRO Shillong to give a brief presentation on the current status of the implementation of WCP by various user agencies. She also requested that the presentation be made project-wise followed by discussion on the same.

3. PRESENTATION AND DISCUSSION ON STATUS OF WCP IMPLEMENTATION

3.1. M/s Star Cement Limited:

Dr. H. Tynsong, Scientist 'D' gave a detailed presentation on the present status of implementation of the WCP. He mentioned that Conservation Plan has been prepared and

MEGHALAYA CEMENT LTD THANGSKAI

approved by the Forest and Environment Department, Government of Meghalaya. The total budget proposed in Conservation Plan is Rs.98.00 lakhs and Rs. 20.00 lakhs (total Rs.118 lakhs). Star Cement Limited vide letter No. SCML/Conservation Plan/2015-16/229 dated 05.08.2015, dated 22.08.2016, dated 23.01.2018, dated 29.04.2019 and dated 09.05.2020 have forwarded cheques to the Divisional Forest Officer (T) Jaintia Hills Forest Division, Jaintia Hills, Jowai altogether amounting to Rs. 89.80 lakhs regarding the payment for the implementation of the Conservation Plan for wild Flora and Fauna and Green Belt Development Plan. Rs. 28.20 lakhs is the balance amount to be paid by the company. However, report on the implementation of the Conservation Plan is yet to be received by the company from the concerned department.

Shri Devendar Bansal, Resident Director of M/s Star Cement Limited while participating in the discussion informed that the balance amount pertaining to WCP and the Green Belt Development Plan has already been deposited by the company with the Govt., of Meghalaya recently. Thereafter, Dr H. Tynsong requested the official of Star Cement Limited to submit the details of payment to IRO, Shillong. The representative of Star Cement Limited informed in the meeting that payment details will be submitted to IRO, Shillong within 30 days.

Shri W. L. Yatbon, DIGF (C), IRO Shillong suggested that the fund pertaining to the Conservation Plan should be deposited with the PCCF & HoFF for better monitoring of fund utilization and implementation.

Responding to the question raised by the DDGF (C) IRO, Shillong regarding non-submission of implementation of WCP and confirming receipt of payment, Shri R Nainamalai, DFO (T) Jowai, informed that payment of Rs.89.80 lakhs have been received from Star Cement Limited. However, he informed that the report on the implementation of WCP could not be submitted as the Monitoring Committee is yet to be formed. He further informed that the Monitoring Committee will soon be constituted to monitor the implementation of WCP. The DDGF (C) requested the **DFO (T) Jowai to expedite constitution of the Monitoring Committee and other related works pertaining to WCP and submit report on the implementation to IRO, Shillong within 1 month time.**

Participating in the discussion, Shri B. K. Lyngwa, PCCF & HoFF, Government of Meghalaya emphasized on the importance of Wildlife as a whole, and opines that the importance should not be given only to the plants (flora), as could be seen in the WCP of Star Cement Limited, and it should also address all wildlife issues. Shri H. C. Chaudhary, APCCF and

MEGHALAYA CEMENT LTD THANGSKAI 2

CWLW, Govt., of Meghalaya after seeing the content of the WCP prepared for Star Cement Limited felt that the current WCP of Star Cement Limited has not sufficiently addressed many important issues pertaining to the conservation and protection of Wildlife in the area. He further stressed on the idea of a common conservation plan for all the industries established in the area. PCCF & HoFF, Government of Meghalaya expressed support to the idea of having a Common Wildlife Conservation Plan for all industries present in the East Jaintia Hills as the geographical conditions, vegetation type, climate etc., are similar and suggested that the new Conservation Plan proposed may be named as Regional Conservation Plan (RCP). The APCCF and CWLC further elaborated that the RCP will address all issues pertaining to the protection and conservation of Wildlife in the entire mining impacted areas and not individually by different industry. It was further suggested that the RCP will propose budget provision to be spent for various conservation works and the user agencies will have to pay based on a formula to be worked out maybe depending upon the production capacity/generation capacity of the plant. He also informed that the common format, which may not highly rigid, will be prepared for formulation of a RCP in consultation with all User Agencies.

While welcoming the concept of a Regional WL Conservation Plan to address Wildlife and Biodiversity issues at the Landscape level to avoid fragmentation and overlapping of areas and duplication of activities, the DDGF(C) requested the APCCF & CWLC to expedite the modality for formulation of the RCP and submit report within 3 months time.

ACTION: APCCF&CWLW SFD Meghalaya; DFO, Jowai

3.2. M/s Lafarge Umiam Mining Private Limited (LUMPL):

The Scientist 'D' informed that there are two Environmental Clearances accorded to M/s Lafarge Umiam Mining Private Limited. The Action Plan for conservation of flora and fauna has been prepared by the State Government of Meghalaya along with a budget of Rs. 439 lakhs to be spent over the next 10 years for biodiversity conservation. M/s Lafarge Umiam Mining Pvt. Ltd. has deposited the said amount in the CAMPA account of Meghalaya No. SB010 25217 on 5th January, 2012. Further, for the implementation of Addendum Conservation Plans, LUMPL deposited amount of Rs. 41 Lakhs and Rs. 11 Lakhs in the corporation Bank New Delhi through letter dated No.15.01.2018 and a return receipt through letter No.MFG.3/2014/CAMPA/Vol-1/18646 from the Chief Conservator of Forest (FC Act). A report submitted by the State Forest Department, vide their letter dated 22nd March, 2019 during the year 2012-2013 a sum of Rs.

MEGHALAYA CEMENT LTD THANGSKAI

Annex- XVI

58,32,000/- was incurred in the implementation of Biodiversity Conservation Plan (BCP). He further informed that IRO, Shillong has requested LUMPL to submit report on the details of the State Government's activities undertaken under the BCP with regard to expenditure of Rs. 58,32,000/-, and any other activities implemented under BCP during the period 2014-2020.

Ms. Manjuree Rai, Company Secretary, of Lafarge Umiam Pvt., Ltd, clarified that all payments as stipulated in the Biodiversity Conservation Plan have already been deposited with the State Govt.

The DIGF (C), IRO Shillong on observing the delay in the implementation of Biodiversity Conservation Plan and non-submission of report (State Govt has submitted report for the year 2012-13), wanted clarification from the State Forest Department as to why no report have been submitted for other years i.e. from the year 2014 onwards. The PCCF & HoFF, Govt of Meghalaya informed that the delay in the implementation of Biodiversity Conservation Plan may be due to non-release of CAMPA fund as all funds for the purpose was deposited in the state CAMPA. He further informed that the matter will be enquired from the concerned Section in the Department and report will be submitted accordingly.

ACTION: State Forest Department (SFD), Meghalaya.

3.3. M/s Adhunik Cement Limited:

Dr. H. Tynsong stated that the company possesses two EC accorded projects, one for cement plant and one for limestone mining plant. He stated that the Plan was approved by the Chief Conservator of Forests, Wildlife Circle, Meghalaya vide letter no. FWC/G/117 dated 10.11.2010 and fund earmarked for WCP was Rs. 45.998 lakhs. He further informed that the project authorities could not ascertain during site visit whether the proposed amount in the WCP have been remitted by the company to the Forest Department or not. Also for the limestone mining plant, he mentioned that Government of Meghalaya, Office of CCF cum Chief Wildlife Warden, Wildlife Circle of Meghalaya, Shillong vide letter Dated FWC/G/117 Dated 16.11.2010 has approved the Biodiversity Conservation Plan and also confirmed that there are no threatened species except for one species of Schedule-I i.e. *Bambusicola fytchii* (common name Assam Bamboo Partridge) belonging to Avi Fauna observed in study area 10 km radius of the project site. Conservation plan of Assam Bamboo Partridge has been recommended by CCF, Shillong, Meghalaya vide letter No.FWC/G/117/59 dated 10.04.2013 and the same has been submitted to

MEGHALAYA CEMENT LTD THANGSKAI

MoEF & CC vide letter dated 16.04.2013. A sum of Rs. 12.1 lakhs has been proposed for conservation of Biodiversity and Schedule-I species. However, project authorities could not ascertain during site visit whether the proposed amount have been remitted by the company to the Forest Department or not.

The DDGF (C) IRO, Shillong requested the representative of Adhunik Cement Limited to clarify whether the proposed amount in both the WCPs have been deposited or not to the State Govt. Responding to the same Shri Sanjay Kumar of Adhunik Cement Limited informed that the amount is yet to be deposited by the company for both the plants.

The APCCF and CWLC, Government of Meghalaya contested the WCP of Adhunik Cement Ltd., which recorded only 1 Schedule-I species is available in the area. He informed that as per the recent report, there are more than 20 Scheduled-I species in the area. Shri Chaudhary, hence stressed on the fact that there is a need to recast the WCP of Adhunik Cement Limited and other WCPs with the new RCP. Shri Sanjay Kumar of Adhunik Cement Limited later seeks clarification on whether the company required depositing the earmarked amounts of already approved WCPs in view of the new proposal for RCP. APCCF and CWLC clarified that the company can make the payment to comply with the EC condition; however the amount will be adjusted once the RCP have been finalized.

The DDGF (C) IRO Shillong said that the approved WCPs need to be recasted/ incorporated into the RCP at regional level. She further advised the APCCF and CWLC to formulate all items/parameters to be incorporated in the new RCP, and to recast old plans which have already been approved, and not implemented till date. In this way, a joint monitoring can be carried out jointly both by the user agencies as well as the regulatory agencies.

ACTION: SFD; User Agency

3.4. M/s Shyam Century Ferrous Limited:

The Scientist 'D' stated that Conservation Plan for the conservation of wild fauna in consultation with the State Forest Department has been prepared. He further informed that the Conservation Plan stated that the factory does not have any direct impact on the reserve forests except indirect impacts. Further, it is stated that the company should not discharge any pollutant to the Umtrew River and trees of wildlife importance to be planted in the vacant area of the

MEGHALAYA CEMENT LTD
THANGSKAI

factory for ecological balance. No financial provision has been proposed in the Conservation Plan. However, there were no representatives from the company in the meeting.

The DIGF (C), IRO, requested the PCCF & HoFF, Govt., of Meghalaya to re-examine the Conservation Plan prepared for M/s Shyam Century Ferrous Limited stating that it is impossible to believe that the industry which falls under highly polluting category will not have any impacts on the nearby forests. The APCCF and CWLC also expressed his reservations on the recommendation given by the Department to M/s Shyam Century Ferrous Limited, as charcoal, wood chips etc., are being used in the Ferro Alloy Plant by M/s Shyam Century Ferrous Limited. He requested IRO, Shillong to provide the copy of the recommendation given by the Forest Department issued to M/s Shyam Century Ferrous Limited, to enable the Department to re-examine the same.

ACTION: IRO Shillong; SFD Meghalaya

3.5. M/s Amrit Cement Industries Limited:

Scientist 'D' stated that the Narpuh Wildlife Sanctuary falls within 10 kilometers from the project location. He further stated that Conservation Plan for the conservation of wild fauna in consultation with the State Forest Department has not been prepared and implemented. He also informed that the project authorities reported to IRO Shillong that they did not prepare the WCP as there is no reserve forest in the vicinity. IRO, Shillong during regular monitoring vide letters dated 04.03.2015, 07.06.2016 and 16.07.2018, have requested the project authorities to obtain permission from the State Forest Department regarding impact of proposed plant on surrounding reserve forests as stipulated in the EC condition. The Scientist D concluded that the condition remains non-complied as no official letter has been issued by the State Forest Department that there is no reserve forest in the area.

The APCCF and CWLC, Government of Meghalaya told that it is impossible that the cement plant by M/s Amrit Cement Ltd., will not have any impact on the nearby forests, hence, the company should obtain permission from the State Forest Department, Meghalaya. He further informed that the plant by M/s Amrit Cement Ltd., will also be included in the new RCP.

M/s Amrit Cement Ltd., was directed to prepare the WCP accordingly in consultation with the CWLW, State Forest Department, Meghalaya and report the same to IRO, Shillong.

ACTION: APCCF&CWLC of SFD; User Agency

MEGHALAYA CEMENT LTD THANGSKAI

Annex-XVI

3.6. M/s Meghalaya Cement Limited:

Dr. H. Tynsong stated that the company possesses two EC accorded projects, one for cement plant and one for limestone mining plant. As per EC condition for cement plant, the Conservation Plan for conservation of wild fauna and fauna needs to be prepared in consultation with a reputed institution such as Wildlife Institute of India, Dehradun. However, the WCP is yet to be prepared though IRO, Shillong during monitoring vide letters dated 25.05.2016, 17.07.2017 and 15.02.2018 have requested the project authorities to comply the same. Also, for the limestone mining the conservation plan is yet to be prepared.

The DIGF, IRO Shillong said that Aranyanak (an NGO based in Guwahati) or the Wildlife Division of the State Forest Department can be an option for project authorities for technical support in preparation of the Conservation Plan.

The APCCF and CWLC, Government of Meghalaya informed that the plant by M/s Meghalaya Cement Limited will also be included in the new RCP.

The User agency was asked to contact and consult with the CWLW on the matter.

ACTION: User Agency, SFD

3.7. M/s Green Valliey Industries Limited:

Dr. H. Tynsong stated that a Conservation Plan for conservation of wild fauna in consultation with a reputed Institution such as Wildlife Institute of India, Dehradun has not been prepared and implemented. He also informed that the project authorities have approach WII, Dehradun requesting for guidance and implementation of WCP vide their letter No. GVIL/ENV/2017-18/68 dated 14.03.2018, which WII, Dehradun did not response. He further suggested that project authorities may be requested to approach SEIAA, Meghalaya to amend this condition, where a Conservation Plan may be prepared by the Chief Wildlife Warden of Meghalaya, instead of WII, Dehradun in view of no response from WII, Dehradun.

Participating in the discussion Shri Pawan Joshi, of Green Valliey Industries Limited stated that they had earlier approached Wildlife Institute of India (WII) for conservation plan, but had not responded. They also requested that EC Condition pertaining to the same may be amended.

MEGHALAYA CEMENT LTD THANGSKAI

The APCCF and CWLC, Government of Meghalaya informed that the plant by M/s Green Valliey Industries Limited will also be included in the new RCP.

ACTION: User agency

3.8. M/s JUD Cements Limited:

Dr. H. Tynsong informed that the plant is currently shut, and not in operation. The plant is in shutdown since June, 2020. A Conservation Plan for conservation of wild fauna is yet to be prepared and IRO, Shillong during monitoring vide letters dated 04.03.2015, 31.05.2016 and 01.08.2018 have requested project authorities to comply the condition. However, till date a conservation plan is yet to be prepared by the project. There were no representatives from the company present in the meeting.

The APCCF and CWLC, Government of Meghalaya informed that the plant by M/s JUD Cements Limited will also be included in the new RCP once they resumed production/operation.

3. 9. M/s Mawmluh Cherra Cements Limited:

There were no representatives from the company present in the meeting. In his presentation, Dr. H. Tynsong stated that action plan for conservation of flora and fauna have not been prepared and implemented in consultation with the State Forest and Wildlife Department as stipulated. He also informed that IRO, Shillong has already conveyed to PP during monitoring vide letter No. RO-NE/E/IA/ML/MI/27/6765 Dated 19.03.2014, dated 08.08.2016, dated 03.05.2018, & Dated 20.02.2019 regarding the non-compliance. In response, the MCCL vide their letter No. MCCL/SH/ENVPC/FLORA FAUNA/2018-19/249 Dated 04.03.2019 have approached the APCCF (Wildlife) & Chief Wildlife Warden, Shillong Meghalaya for preparation of action plan for conservation of Flora and Fauna.

However, APCCF and CWLC, Government of Meghalaya informed that he did not remember about the letter of MCCL requesting for preparation of action plan for conservation of Flora and Fauna. The APCCF and CWLC, Government of Meghalaya then requested IRO, Shillong to provide the copy of the quoted letter above for taking necessary action.

The DIGF (C), IRO Shillong after reviewing the status of the project suggested that MCCL may also approach renowned NGO like Aranyanak etc., for preparation of a standard Conservation Plan.

MEGHALAYA CEMENT LTD THANGSKAI

ACTION: SFD; user agency

4. **Key Decisions Taken During the Meeting:**

1. The existing fund flow arrangement, wherein the fund is deposited to the DFO who in turn re-appropriates the same to other departmental agencies like the Social Forestry, Wildlife division etc leads to difficulties in project evaluation and monitoring as well as in coordination and reporting. Therefore it was decided that the State Forest Department, Govt., of Meghalaya may work out an appropriate fund flow mechanism and the fund pertaining to the Conservation Plan be ideally deposited with the PCCF & HoFF with the state CWLW playing a key role in Planning & budget management, coordinating various wings of the SFD, maintenance of records and for better monitoring of fund utilization and efficient implementation.

2. The present fragmented approach to wildlife and biodiversity conservation not only fails to address key conservation issues at the landscape level but also leads to inefficient and uncoordinated implementation in a piece meal manner. Therefore for the cluster of industries in East Jaintia Hills impacting the same geographical area, a common Conservation Plan should be prepared and implemented. In consultation with concerned user agencies, the APCCF and CWLC, Forest Department, Government of Meghalaya will expedite the formulation of a Regional Conservation Plan, draft a methodology for share funding of the Plan and submit a report within three months.

3. Some delays have been caused in the preparation of the Conservation Plans due to the EC clearance condition wherein User Agency is advised to prepare the plan under the guidance of the Wildlife Institute of India (WII) and the inability of the agencies to rope in the services of WII. However, it is observed that the condition states "in consultation with a reputed institute ***such as*** WII" , hence it was decided that SFD and User Agencies may take the services of reputed wildlife and conservation NGOs of the North East Region such as Araanyak etc to assist in preparation of the conservation plans.

4. Star Cement Limited to submit payment details of balance amount pertaining to WCP to IRO, Shillong within 30 days.

5. The DFO (T) Jowai to expedite the constitution of the Monitoring Committee and other works pertaining to WCP and submit report on the implementation to IRO, Shillong within 1 month time. ,

6. The State Forest Department will send a report to the IRO in Shillong on M/s Lafarge Umiam Mining Private Limited's implementation of the Biodiversity Conservation Plan, as well as details on fund utilization from 2014 onwards.

7. The company can make the payments of already approved Wildlife Conservation Plan to comply with the EC condition subject to the submission of an undertaking to pay the additional amount as per RCP.

MEGHALAYA CEMENT LTD THANGSKAI

8. IRO, Shillong to provide a copy of the Forest Department's recommendation to M/s Shyam Century Ferrous Limited to the APCCF and CWLC so that the Department could re-examine it.

9. M/s Amrit Cement Ltd., was directed to prepare the WCP in consultation with the CWLW, State Forest Department, Meghalaya and submit the compliance report to IRO, Shillong.

10. The APCCF and CWLC, Government of Meghalaya informed that the plants by M/s Meghalaya Cement Limited, M/s Green Valliey Industries Limited and M/s JUD Cements Limited will also be included in the new RCP.

11. The APCCF and CWLC, Government of Meghalaya requested IRO, Shillong to provide the MCCL's letter No. MCCL/SH/ENVPC/FLORA FAUNA/2018-19/249 Dated 04.03.2019 for taking further necessary action.

12. The status of Preparation and Implementation of all Wildlife Conservation Plan will be reviewed on a quarterly basis.

13. Other industries/projects in the East Jaintia Hills District of Meghalaya that have received Environmental Clearance but do not have an EC condition to prepare Wildlife Conservation Plan will be addressed at the next review meeting for incorporation in the RCP.

The meeting ended with vote of thanks to all officials and the Chair.

(Ms. Imtienla Ao)
Deputy Director General of Forest (Central)
MoEF & CC, GoI, IRO, Shillong

****

MEGHALAYA CEMENT LTD
THANGSKAI

Annex XVII

MEGHALAYA CEMENTS LIMITED

TOPCEM CEMENT Mazbooti ka bharosa...hamesha

2600 TPD Cement Plant along with 10 MW Captive Power Plants

MEGHALAYA CEMENTS LIMITED

EAST JAINTIA HILLS, MEGHALAYA

Corporate social responsibility

Report for the period of October'22 to March'23

MEGHALAYA CEMENT LTD THANGSKAI

MEGHALAYA CEMENT LTD
THANGSKAI

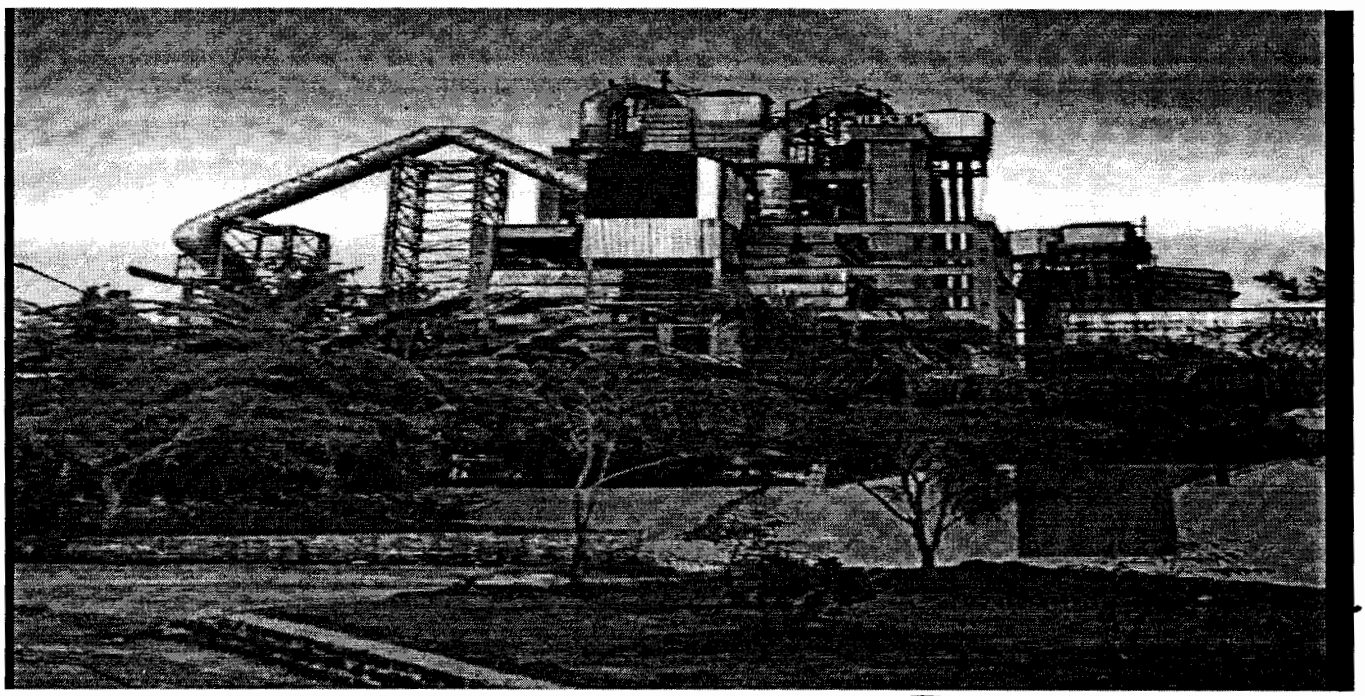
Annex-XVII

Introduction and Plant Overview

Meghalaya Cement Limited a leading Cement Manufacturing company in Northeast with Capacity of 858000 MT Clinker production per Annum located at Village- Thangskai, Po- Lumshnong, Dist- East Jaintia Hills, Meghalaya.

The Company initially had a capacity of 900 TPD and reached to 2600 TPD at present. The Cement plant is set up with advanced Dry process Rotary Kiln Technology with twin multistage preheaters and completely atomized through DCS system & the core machinery supplied by Walchandnagar Industries and other equipment by Larsen & Toubro, ABB, Schenk Jenson, & Nicholson, Beumer, Crompton Greaves, Cummins, R.P Alloys etc. The factory is located on the National Highway (NH)-44 about 125 kms away from Shillong on Jowai-Badarpur road.

Major energy requirement is in the area of Pyro - processing of Clinker, which is met using Coal, Pet Coke. Apart from this, plant requires electricity for other processes which is met by 10 MW Captive Power Plant and Gird Supply at 132 kV level from Meghalaya Power Distribution Corporation Limited. The plant has also installed 12 MVA DG Sets as backup power arrangement.



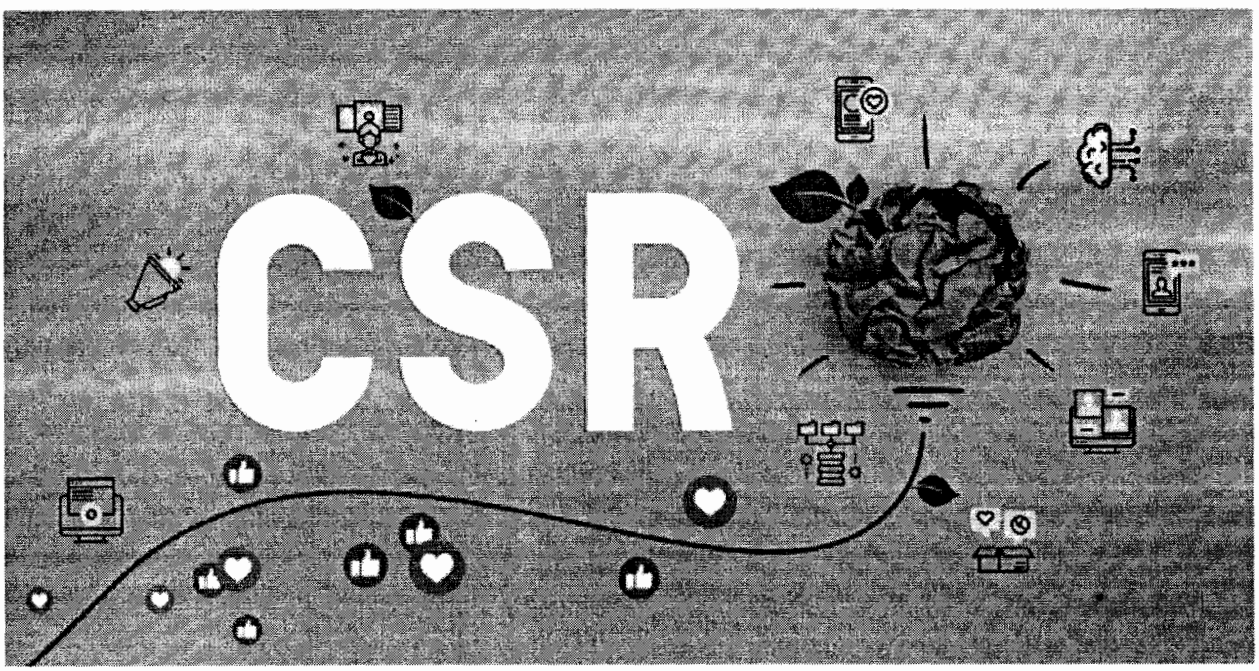
MEGHALAYA CEMENT LTD THANGSKAI

Reference of Environment Clearance

Letter No. - SEIAA/PROJECT-2/2007/18 dated: 25th March'2009 and Amended letter No. - ML/SEIAA/PROJECT-2/2007/937 dated 24th November'2021.

Environment Condition

"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 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."



MEGHALAYA CEMENT LTD THANGSKAI

Corporate Social Responsibilities

Corporate social responsibility (CSR) is a self-regulating business model that helps a company be socially accountable to itself, its stakeholders, and the public. By practicing corporate social responsibility, also called corporate citizenship, companies can be conscious of the kind of impact they are having on all aspects of society, including economic, social, and environmental.

To engage in CSR means that, in the ordinary course of business, a company is operating in ways that enhances society and the environment instead of contributing negatively to them.

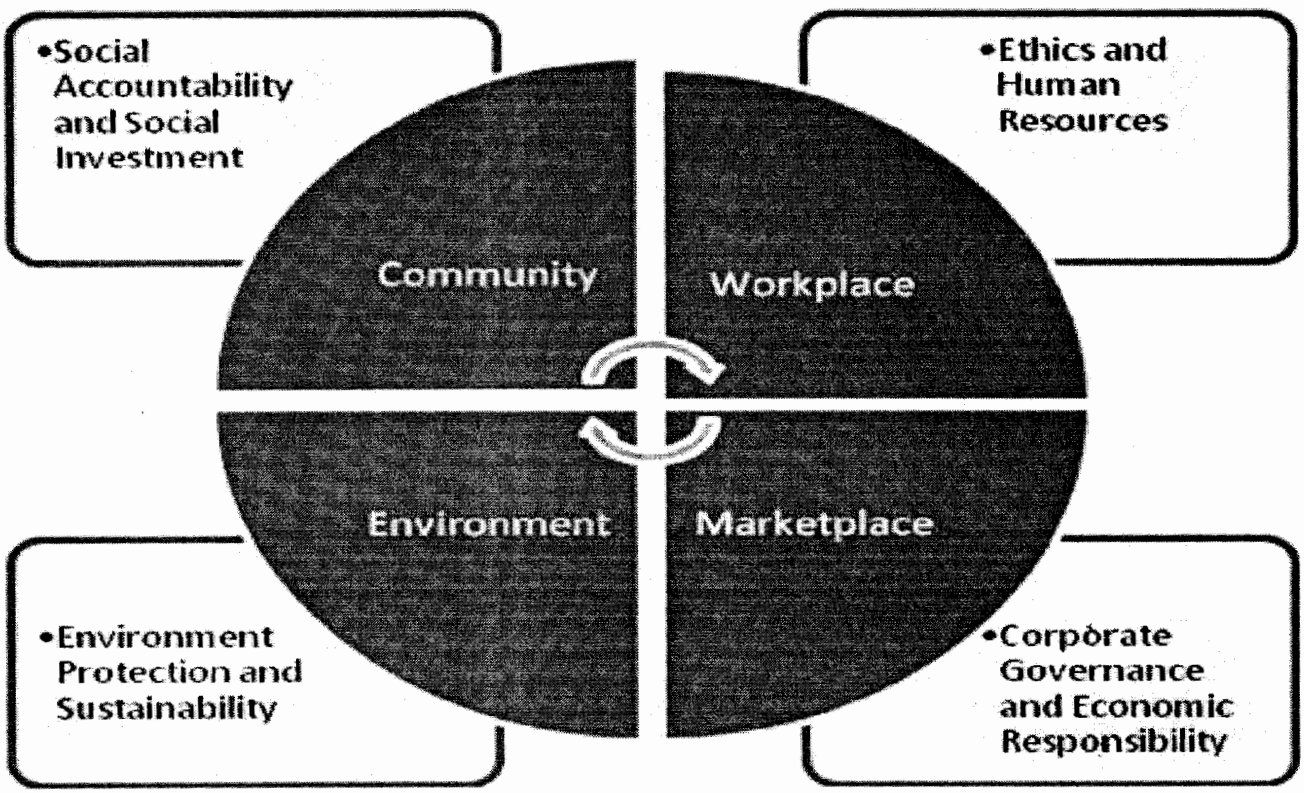
Key Takeaways':-

- Corporate social responsibility is a business model by which companies make a concerted effort to operate in ways that enhance rather than degrade society and the environment.
- CSR helps both improve various aspects of society as well as promote a positive brand image of companies.
- CSR helps both improve various aspects of society as well as promote a positive brand image of companies.
- CSRs are often broken into four categories: environmental impacts, ethical responsibility, philanthropic endeavors, and financial responsibilities.

Benefits of Corporate Social Responsibility

- As important as CSR is for the community, it is equally valuable for a company. CSR activities can help forge a stronger bond between employees and corporations, boost morale, and aid both employees and employers in feeling more connected to the world around them. Aside from the positive impacts to the planet, here are some additional reasons businesses pursue corporate social responsibility.
- ISO 26000 clarifies what social responsibility is and helps organizations translate CSR principles into practical actions. The standard is aimed at all types of organizations, regardless of their activity, size, or location. And because many key stakeholders from around the world contributed to developing ISO 26000, this standard represents an international consensus.

MEGHALAYA CEMENT LTD. THANGSKAI



MEGHALAYA CEMENT LTD THANGSKAI

Role of Meghalaya Cements Limited towards Corporate Social Responsibilities

Meghalaya Cements Limited is contributing on account of Social Accountability and Social Investment, Ethics and Human Resources, Environment Protection and Suitability and Corporate Governance and Economic Responsibility. In the period of October 2022 to March 2023 Meghalaya Cements Limited has spent Rs. 45.06 Lacs in different activities.

Expenditure Incurred for Socio-Economic Development under CSR for the period of October 2022 to March 2023:-

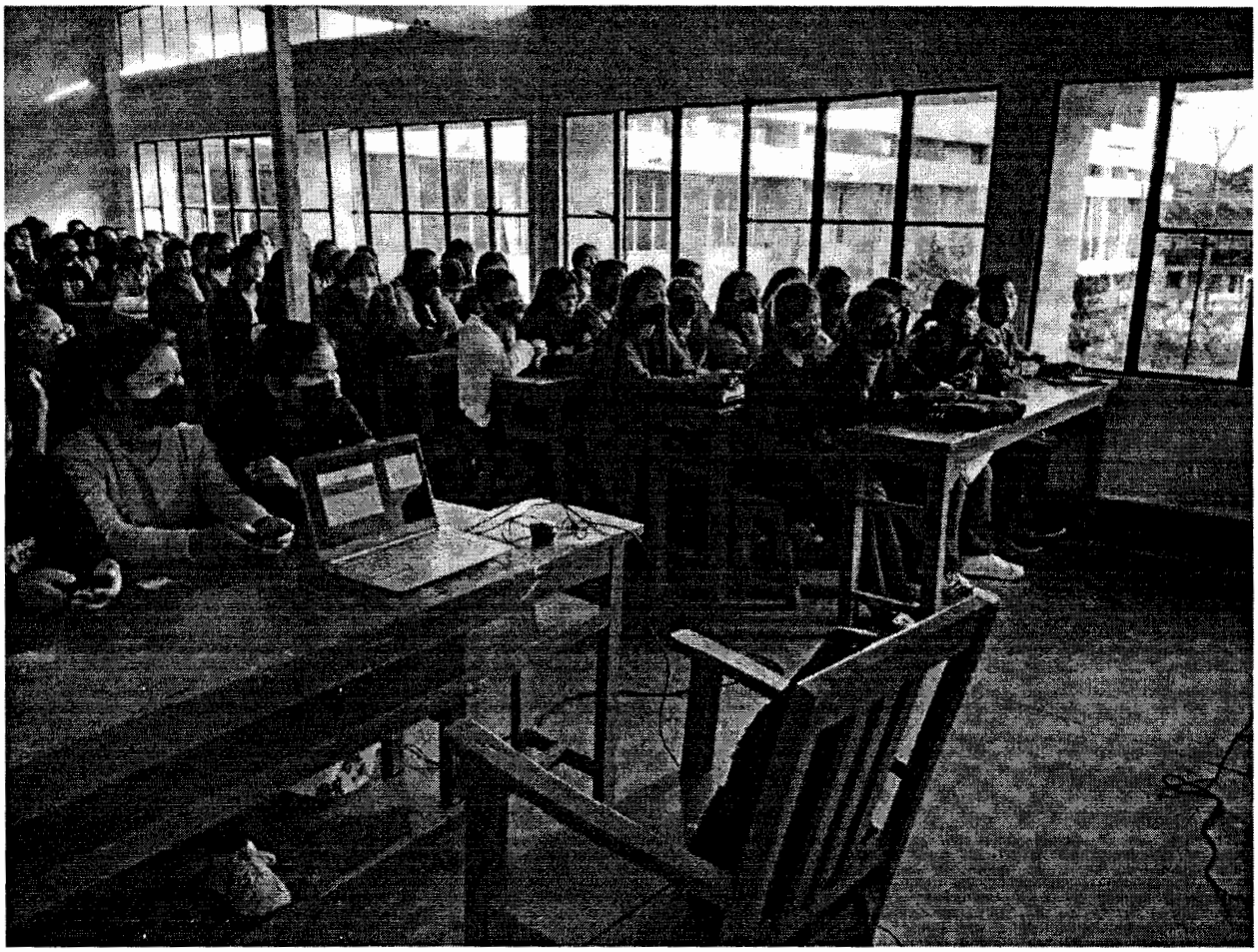
SL.NO.	HEADING	AMOUNT (In Rs.)
1	Emphasis on Education	79,500.00
2	Sports Activity	0.00
3	Encouraging/Felicitation program for Students.	0.00
4	Polio Immunization Camps, family planning, etc.	484,274.00
5	Infrastructure development of Hospitals / Schools	21,000.00
6	Cement Distribution Programme.	2,926,925.00
7	Plant Distribution programme	24,724.00
8	Donation to Churches, Road & House Repairing etc.	84,000.00
9	Community Feast	0.00
10	Drinking water supplying scheme.	193,153.00
11	Village development funds.	692,500.00
12	Corona Pandemic	00.00
Total		**4,506,077.00**

1. Emphasis on Education

The level at which teachers place importance on meeting the educational goals of all students. Education provides stability in life, and it's something that no one can ever take away from you. By being well-educated and holding a college degree, you increase your chances for better career opportunities

MEGHALAYA CEMENT LTD THANGSKAI

and open up new doors for yourself. For That Meghalaya Cements Limited has sponsored a well trained Teacher to **"Chiehruphi Higher Secondary School"** to meet the educational goals of all students. The deputed professional teacher who teaches students based on national curriculum guidelines within their specialist subject areas. Their duties include assigning homework, grading tests, documenting progress and keeping up with parent communication. The Monthly salary of the Professional Teacher has paid by the Company. The amount of Rs. 79500 has paid for the Teacher as monthly salary.



2. Polio Immunization Camps, Family planning, etc.:-

The Pulse Polio Initiative was started with an objective of achieving hundred per cent coverage under Oral Polio Vaccine. It aimed to immunize children

MEGHALAYA CEMENT LTD THANGSKAI

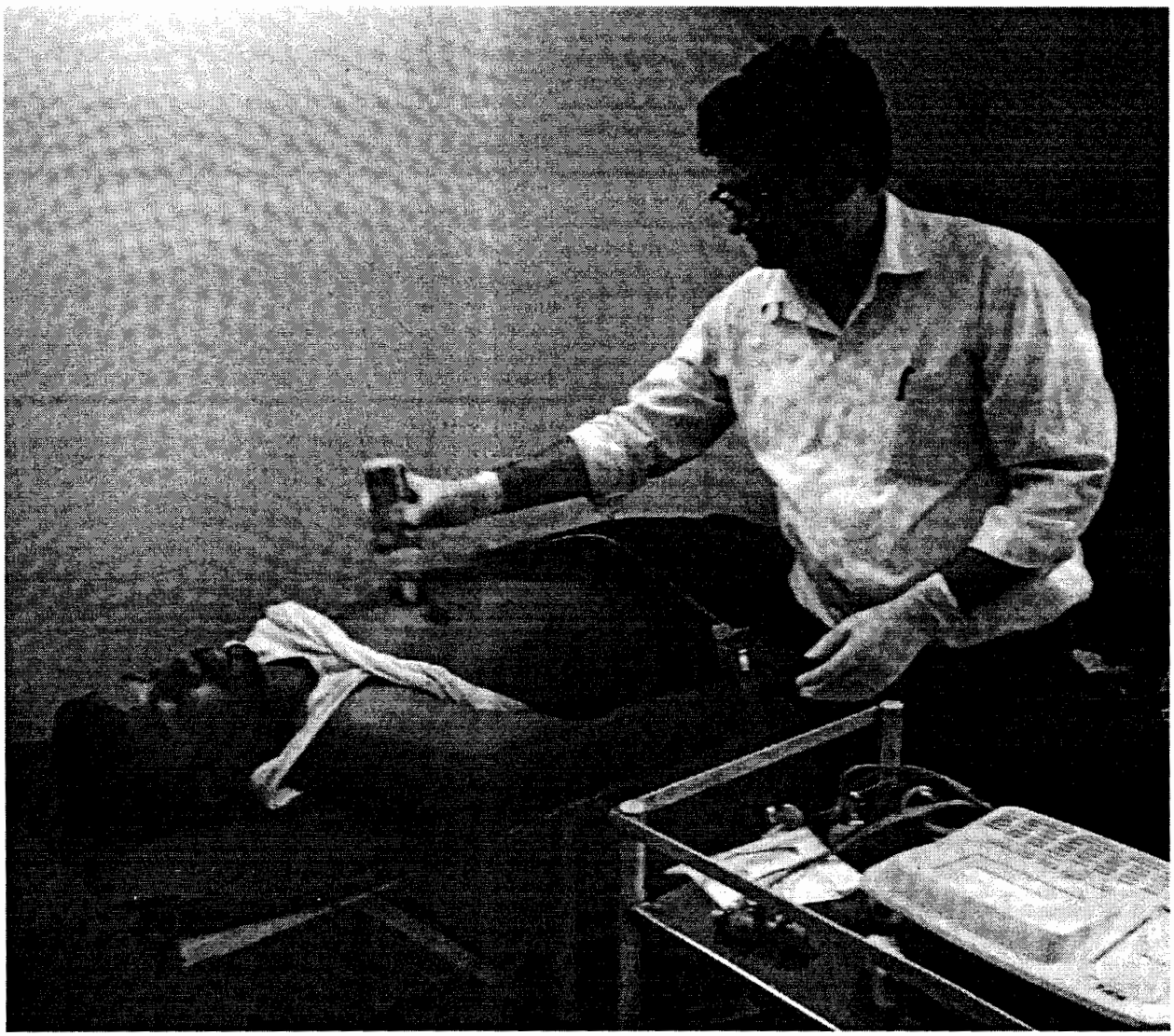
through improved social mobilization, plan mop-up operations in areas where poliovirus has almost disappeared and maintain high level of morale among the public. Natural Family Planning (NFP) relies on the ability to track ovulation in order to prevent pregnancy. These methods predict fertile and unfertile days to identify when to avoid unprotected sex and are only used by a small fraction of women. In View of National Health Mission, Company has deputed skilled Nurses for taking care of Child and Woman. Free medicine and Vaccine has distributed among the villagers by the company on periodic. The Salary of Nurses has provided by the company and Rs. 484'274 has been spent for the period of October-2022 to March-2023.

MEGHALAYA CEMENT LTD THANGSKAI

3. Infrastructure development of Hospitals/Schools:-

School infrastructure is what influences student learning so that it can run optimally. The improvements focused on stimulation, individualization, and naturalness. Infrastructure as a support system (such as schools, hospital) develops the quality of human capital by imparting quality and technical education and health facilities. This raises the standard and quality of living and helps the economy to eradicate major economic problems like poverty, unemployment and inequality. Meghalaya Cements has contributing major roles towards the developments of Infrastructure. The Company has spent Rs. 21000 for Purchasing of Heath checkup kits for routine check-up of Villagers.

MEGHALAYA CEMENT LTD. THANGSKAI



4. Cement Distribution Programme:-

Cement is important material for development of a society. Meghalaya Cements limited has distributed Cement to the Villagers on Cheap rate for development of their society roads, drains, House, Church, Schools and other Infrastructures. Company has distributed Rs. 2,926,925 in terms of cements toward them for development of their available infrastructures on low subsidized rate.

MEGHALAYA CEMENT LTD THANGSKAI

5. Plant (Species) Distribution Programme.

Environmental Benefits: - Trees offer many environmental benefits. Trees reduce the urban heat island effect through evaporative cooling and reducing the amount of sunlight that reaches parking lots and buildings. This is especially true in areas with large impervious surfaces, such as parking lots of stores and industrial complexes. Trees improve our air quality by filtering

MEGHALAYA CEMENT LTD THANGSKAI

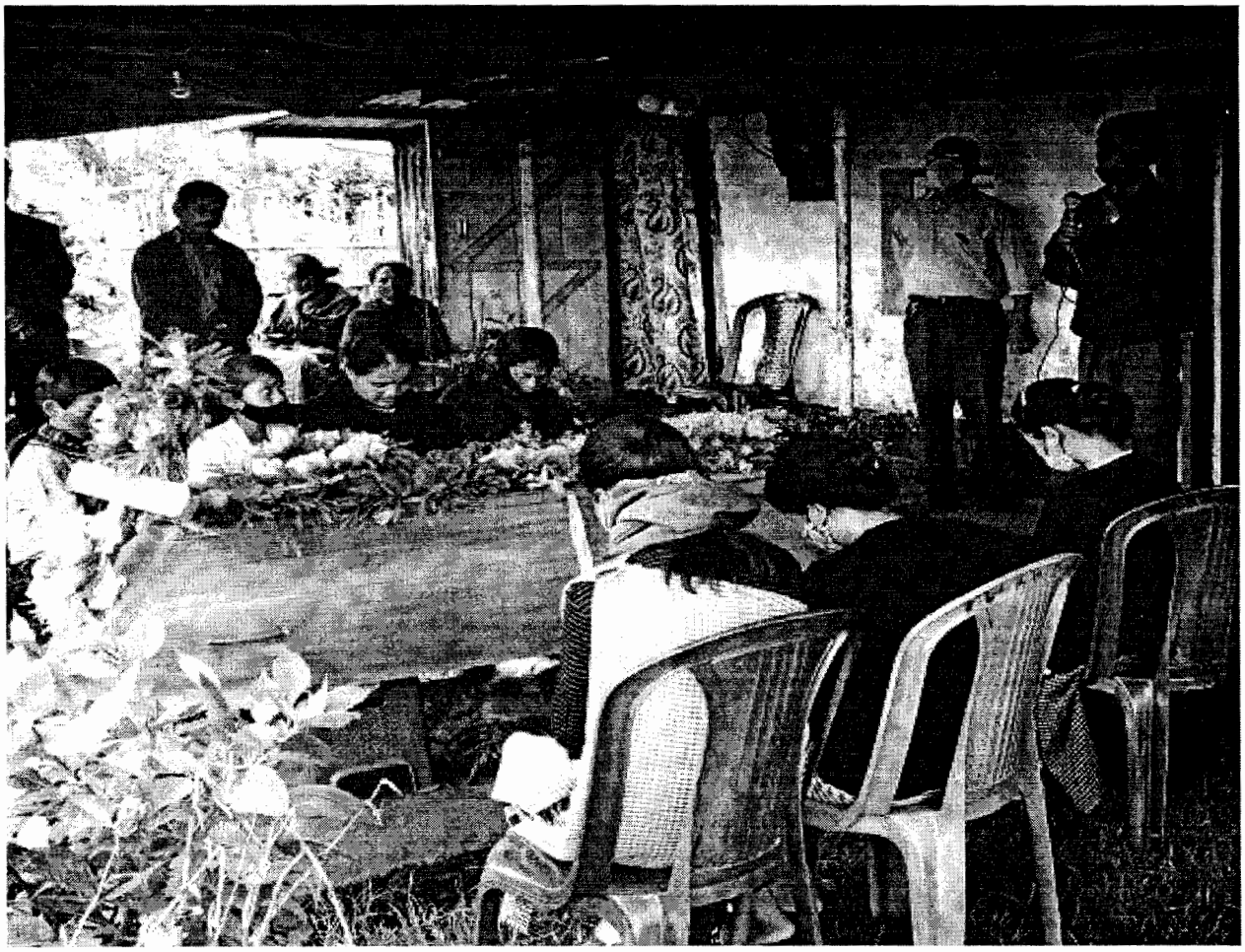
harmful dust and pollutants such as ozone, carbon monoxide, and sulfur dioxide from the air we breathe. Trees give off oxygen that we need to breathe. Trees reduce the amount of storm water runoff, which reduces erosion and pollution in our waterways and may reduce the effects of flooding. Many species of wildlife depend on trees for habitat. Trees provide food, protection, and homes for many birds and mammals.
In view of the above Meghalaya Cements Limited has distributed Local Species worth of Rs. 24,724 in Plantation drive.

MEGHALAYA CEMENT LTD. THANGSKAI

6. Donation to Churches, Road & House / Community Center Repairing etc.

Villages Infrastructure like Churches, Roads, House and Cimmunity Centers are very essential requirements for the Villagers. Company has contributed Rs. 84000 for the repairing of Churches, Roads, House and Community Center in the period of October-2022 to March-2023. Also Company has contributed for Funeral Programme for the villagers.

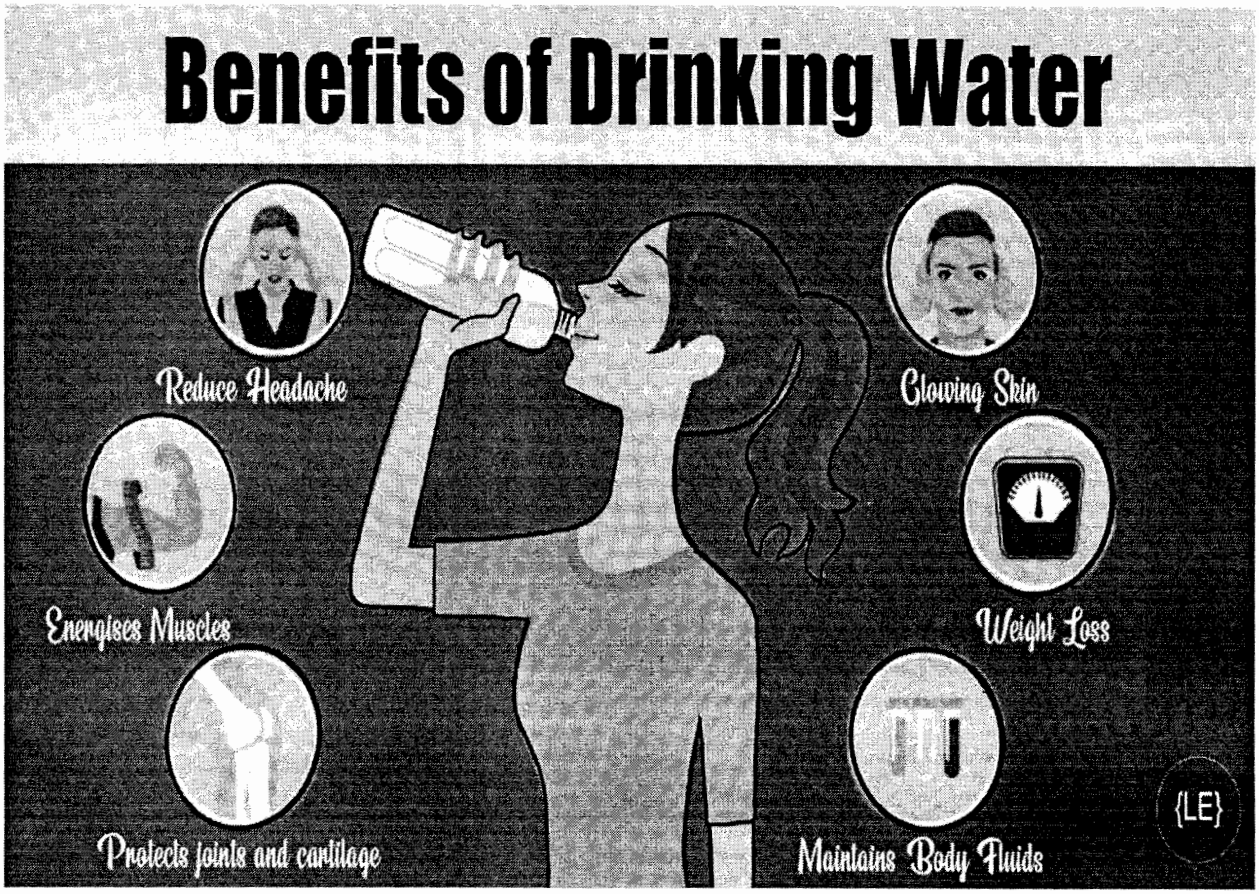
MEGHALAYA CEMENT LTD THANGSKAI



7. Drinking water supplying scheme:-

Getting enough water every day is important for your health. Drinking water can prevent dehydration, a condition that can cause unclear thinking, result in mood change, cause your body to overheat, and lead to constipation and kidney stones. Meghalaya Cements Limited has distrubuted drinking water among the villegers on daily basis and spent Rs. 193,153 for distribution of Drinking Water.

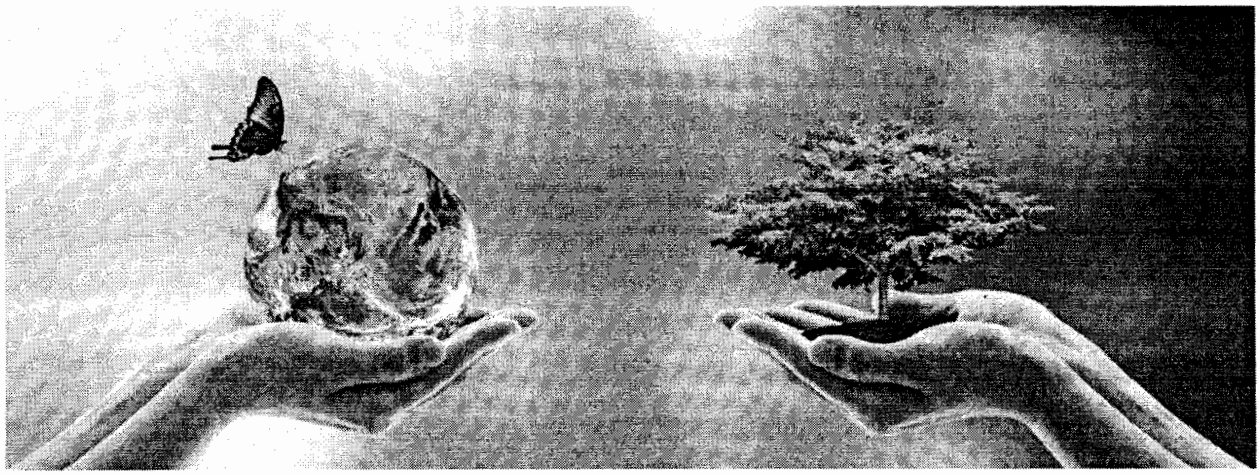
MEGHALAYA CEMENT LTD. THANGSKAI



MEGHALAYA CEMENT LTD
THANGSKAI

8. Village Development Funds

An action plan for the economic and social upliftment of Villages and It aims at improving the quality of life of people living in Villages, Meghalaya Cements Limited has contributing major role under CSR for Villagers. In the period of October-2022 to March-2023, Company has spent Rs. 692,500 in terms of Free Cement distribution & subsidized cement issued to the villages for Village Road, Church, school development work (Chiehruphi, Thangskai & Whaijer village).



¤¤¤¤

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-XVIII

Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong-793014
Website: http://megspcb.gov.in

No. MPCB/ATH-27/2007/2021-2022/20 Dated Shillong, the 11th Feb, 2022.

FORM – 2

[See Rule 6(2)]

FORM FOR GRANT/RENEWAL OF AUTHORIZATION BY MEGHALAYA STATE POLLUTION CONTROL BOARD, SHILLONG FOR OCCUPIERS, REPROCESSORS, REUSERS AND OPERATORS OF FACILITIES FOR COLLECTION, RECEPTION, TREATMENT, STORAGE, TRANSPORT AND DISPOSAL OF HAZARDOUS WASTE UNDER THE HAZARDOUS & OTHER WASTES (MANAGEMENT & TRANSBOUNDARY MOVEMENT) RULES, 2016

M/s MEGHALAYA CEMENT LTD. of Thangskai Village, East Jaiñtia Hills District, Meghalaya is hereby granted / renewal of the Authorization to operate a facility for collection, storage and disposal of hazardous waste on its premises situated at Thangskai Village, East Jaiñtia Hills District, Meghalaya with reference to Application No.MCL/Env/ATH/MsPCB/2020-21/23, Dated 1st January, 2020.

The Authorization is granted / renewed to operate a facility for collection, storage and disposal of hazardous waste is in accordance to the hazardous waste management matrix as specified below:-

HAZARDOUS WASTE MANAGEMENT MATRIX

	Hazardous Waste	Quantity	Collection	Reception	Treatment	Transport	Storage	Disposal
1.	Used/ Spent Oil	24.20 KL/A	✓	X	X	X	✓ Leak proof containers	✓ Recycling within the plant premises Sale/auction to registered recycler/refiner
3	Oil Sludge	120L/A	✓	X	X	X	✓ Leak proof containers	Recycling within the plant premises Sale/auction to registered recycler/refiner

MEGHALAYA CEMENT LTD. THANGSKAI

Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong-793014
Website: http://megspcb.gov.in
mspcb

The Authorization shall be in force for a period of **5(five) years, i.e., from 31st November, 2020 upto 30th November, 2025**.

The Authorization is subject to the conditions stated below and such conditions as may be specified in the Rules for the time being in force under the Environment (Protection) Act, 1986.

TERMS AND CONDITIONS:

1. The Authorization shall comply with the provisions of the Environment (Protection) Act and Rules made there under.
2. The Authorization shall be produced for inspection at the request of an officer authorized by the Meghalaya State Pollution Control Board.
3. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the Meghalaya State Pollution Control Board.
4. Any unauthorized change in personnel, equipment and working condition as mentioned in the application by the person authorized shall constitute a breach of this Authorization.
5. The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
6. The person authorized shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"
7. It is the duty of the authorized person to take prior permission of the State Pollution Control Board to close down the facility.
8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorization.
11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
12. An application for the renewal of an authorization shall be made as laid down under these Rules.

MEGHALAYA CEMENT LTD THANGSKAI

Contact details: Email: memsecy.spcb-meg@gov.in, megspcb@rediffmail.com; Telephone Numbers: Chairman-0364-2521217, Member Secretary-2522802, Scientific-2521514; Engineering-2521533; Legal-2520044; Laboratory-2521726; Administration-2520073; Accounts-2522124; Telefax-2521764.

Annex-XVIII

Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong-793014
Website: http://megspcb.gov.in
mspcb

13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

MEMBER SECRETARY
Meghalaya State Pollution Control Board,
Shillong

Copy to:-

1. The Director of Commerce and Industries, Govt. of Meghalaya, Shillong for kind information.
2. The General Manager, District Commerce & Industries Centre, East Jaiñtia Hills District, Khliehriat for information.
3. **M/s MEGHALAYA CEMENT LIMITED,** C/o The Director, Thangskai Village, East Jaiñtia Hills District for information and necessary action.

MEGHALAYA CEMENT LTD THANGSKAI

Contact details: Email: memsecy.spcb-meg@gov.in, megspcb@rediffmail.com; Telephone Numbers: Chairman-0364-2521217; Member Secretary-2522802; Scientific-2521514; Engineering-2521533; Legal-2520044; Laboratory-2521726; Administration-2520073; Accounts-2522124; Telefax-2521764.

Annex-XVIII

Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong-793014
Website: http://megspcb.gov.in

No.MPCB/ ATH-27/2007/2021-2022/19 Dated Shillong, the 11th Feb, 2022.

FORM – 2

[See Rule 6(2)]

15/2/22

FORM FOR GRANT/RENEWAL OF AUTHORIZATION BY MEGHALAYA STATE POLLUTION CONTROL BOARD, SHILLONG FOR OCCUPIERS, REPROCESSORS, REUSERS AND OPERATORS OF FACILITIES FOR COLLECTION, RECEPTION, TREATMENT, STORAGE, TRANSPORT AND DISPOSAL OF HAZARDOUS WASTE UNDER THE HAZARDOUS & OTHER WASTES (MANAGEMENT & TRANSBOUNDARY MOVEMENT) RULES, 2016

M/s MEGHALAYA CEMENT LTD. of Thangskai Village, East Jaiñtia Hills District, Meghalaya is hereby granted / renewal of the Authorization to operate a facility for collection, storage and disposal of hazardous waste on its premises situated at Thangskai Village, East Jaiñtia Hills District, Meghalaya with reference to Application No.MCL/Env/ATH/MsPCB/2020-21/23, Dated 1st January, 2020.

The Authorization is granted to operate a facility for Collection, Reception, Storage & Co-Processing of Non-Hazardous Waste in accordance to the hazardous waste management matrix as specified below:-

WASTE MANAGEMENT MATRIX

Sl No	Non-Hazardous Waste	Quantity	Collection	Reception	Storage	Co-Processing
1	HDPE Bags	1.03966 T/A	✓	✓	✓	✓
2	Scrap Tyre & Tube	17.08 MT/A	✓	✓	✓	✓

The Authorization shall be in force for a period of **5(five) years, i.e., from 31st November, 2020 upto 30th November, 2025.**

The Authorization is subject to the conditions stated below and such conditions as may be specified in the Rules for the time being in force under the Environment (Protection) Act, 1986.

MEGHALAYA CEMENT LTD. THANGSKAI

Contact details: Email: memsecy.spcb-meg@gov.in, megspcb@rediffmail.com; Telephone Numbers: Chairman-0364-2521217; Member Secretary-2522807; Scientific-2521514; Engineering-2521533; Legal-2520044; Laboratory-2521726; Administration-2520073; Accounts-2522124; Telefax-2521764.

Annex- XVIII

Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong-793014
Website: http://megspcb.gov.in

mspcb

TERMS AND CONDITIONS:

1. The Authorization shall comply with the provisions of the Environment (Protection) Act and Rules made there under.
2. The Authorization shall be produced for inspection at the request of an officer authorized by the Meghalaya State Pollution Control Board.
3. Any unauthorized change in personnel, equipment and working condition as mentioned in the application by the person authorized shall constitute a breach of this Authorization.
4. The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
5. The person authorized shall comply with the provisions outlined in the Central Pollution Control Board guidelines on **"Pre-Processing & Co-Processing of Hazardous & Other Wastes in Cement Plant as per Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016".**
6. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
7. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
8. An application for the renewal of an authorization shall be made as laid down under these Rules.
9. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
10. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

SPECIFIC CONDITIONS:

1. It shall be the duty of the receiver and operator of a facility to take adequate steps while handling hazardous & Other Waste to: -
   a. contain contaminants and prevent accidents and limit their consequences on humans and the environment,
   b. provide persons working on the site with information, training and equipment necessary to ensure their safety, and
   c. put up prominent hoardings indicating the nature of wastes/materials handled and precautionary measures taken, besides Do's & Don'ts, for public in case of any mishap.

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-XVIII

2. The transportation of Hazardous & Other Waste shall be in accordance with the provisions of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 and Rules made by the Central Government under Motor Vehicles (Amendment) Act, 2019.
3. The receiver of waste for transportation, storage and co-processing of hazardous waste shall maintain records of such operation in **Form 3**.
4. The receiver of waste shall submit Annual Returns to the Meghalaya State Pollution Control Board in **Form 4** by the **30th June** of every year for the preceding period April to March.
5. The occupier shall provide the transporter with the relevant information in **Form 9,** regarding the hazardous nature of the wastes and measures to be taken in case of an emergency and shall label the hazardous and other wastes containers as per **Form 8.**
6. In case of transportation of hazardous and other waste for recycling or utilisation including co-processing, the sender shall intimate both the State Pollution Control Boards before handing over the waste to the transporter.
7. In case of transit of hazardous and other waste for recycling, utilisation including co-processing or disposal through a State other than the States of origin and destination, the sender shall give prior intimation to the concerned State Pollution Control Board of the States of transit before handing over the wastes to the transporter.
8. The sender of the waste shall prepare seven copies of the manifest in **Form 10** comprising of colour code indicated below and all seven copies shall be signed by the sender:

Copy number with colour code	Purpose
Copy 1 (White)	To be forwarded by the sender to the State Pollution Control Board after signing all the seven copies.
Copy 2 (Yellow)	To be retained by the sender after taking signature on it from the transporter and the rest of the five signed copies to be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver (actual user or treatment storage and disposal facility operator) after receiving the waste and the remaining four copies are to be duly signed by the receiver.
Copy 2 (Orange)	To be handed over to the transporter by the receiver after accepting waste.
Copy 2 (Green)	To be sent by the receiver to the State Pollution Control Board.
Copy 2 (Blue)	To be sent by the receiver to the sender.
Copy 7 (Grey)	To be sent by the receiver to the State Pollution Control Board of the sender in case the sender is in another State.

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-XVIII

Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong-793014
Website: http://megspcb.gov.in
mspcb

Dhal 501

9. The sender shall forward copy 1 (white) to the State Pollution Control Board, and in case the hazardous or other wastes is likely to be transported through any transit State, the sender shall intimate State Pollution Control Boards of transit States about the movement of the waste.
10. No transporter shall accept waste from the sender for transport unless it is accompanied by signed copies 3 to 7 of the manifest.
11. The transporter shall submit copies 3 to 7 of the manifest duly signed with date to the receiver along with the waste consignment.
12. The receiver after acceptance of the waste shall hand over copy 4 (orange) to the transporter and send copy 5 (green) to his State Pollution Control Board and send copy 6 (blue) to the sender and the copy 3 (pink) shall be retained by the receiver.
13. The copy 7 (grey) shall only be sent to the State Pollution Control Board of the sender, if the sender is in another State.
14. The Unit shall report any accident in **Form 11** immediately to the Meghalaya State Pollution Control Board.
15. The occupier and operator of a facility may file an appeal against an Order passed by the Meghalaya State Pollution Control Board in **Form 12**.

MEMBER SECRETARY
Meghalaya State Pollution Control Board,
Shillong

Copy to:-

1. The Director of Commerce and Industries, Govt. of Meghalaya, Shillong for kind information.
2. The General Manager, District Commerce & Industries Centre, East Jaiñtia Hills District, Khliehriat for information.
3. M/s **MEGHALAYA CEMENT LIMITED,** C/o The Director, Thangskai Village, East Jaiñtia Hills District for information and necessary action.

MEGHALAYA CEMENT LTD THANGSKAI

Contact details: Email: memsecy.spcb-meg@gov.in, megspcb@rediffmail.com; Telephone Numbers: Chairman-0364-2521217; Member Secretary-2522802; Scientific-2521514; Engineering-2521533; Legal-2520044; Laboratory-2521726; Administration-2520073; Accounts-2522124; Telefax-2521764.

Annex-XVIII

Meghalaya State Pollution Control Board

Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong - 793014
Website : http://megspcb.gov.in

mspcb

No. MPCB/ATH-46/2017/2023-2024/8 Dated Shillong, the 15 May, 2023.

FORM – 2

[See Rule 6(2)]

FORM FOR GRANT/RENEWAL OF AUTHORIZATION BY MEGHALAYA STATE POLLUTION CONTROL BOARD, SHILLONG FOR OCCUPIERS, REPROCESSORS, REUSERS AND OPERATORS OF FACILITIES FOR COLLECTION, RECEPTION, TREATMENT, STORAGE, TRANSPORT AND DISPOSAL OF HAZARDOUS WASTE UNDER THE HAZARDOUS & OTHER WASTES (MANAGEMENT & TRANSBOUNDARY MOVEMENT) RULES, 2016

M/s MEGHALAYA CEMENT LTD. of Thangskai Village, East Jaiñtia Hills District, Meghalaya is hereby granted / renewal of the Authorization to operate a facility for collection, storage and disposal of hazardous waste on its premises situated at Thangskai Village, East Jaiñtia Hills District, Meghalaya with reference to Application No.MCL/Env/ATH/MsPCB/2022-23/21, Dated :9th August, 2022.

The Authorization is granted / renewed to operate a facility for collection, storage and disposal of hazardous waste is in accordance to the hazardous waste management matrix as specified below:-

HAZARDOUS WASTE MANAGEMENT MATRIX

	Hazardous Waste	Quantity	Collection	Reception	Transport	Storage	Utilization
1.	Used/ Spent Oil	0.40 KL/A	✓	X	X	✓ Leak proof containers	✓ Recycling within the plant premises Sale/auction to registered recycler/refiner
3	Fly Ash	1,500 MT/A	✓	✓	✓	✓ Steel Silo	Cement Production

The Authorization shall be in force for a period of **5(five) years, i.e., from 1st September, 2022 upto 31st August, 2027**.

The Authorization is subject to the conditions stated below and such conditions as may be specified in the Rules for the time being in force under the Environment (Protection) Act, 1986.

TERMS AND CONDITIONS:

1. The Authorization shall comply with the provisions of the Environment (Protection) Act and Rules made there under.

MEGHALAYA CEMENT LTD. THANGSKAI

Meghalaya State Pollution Control Board
Forests & Environment Department, Government of Meghalaya
'ARDEN' Lumpyngngad, Shillong - 793014
Website : http://megspcb.gov.in
mspcb

2. The Authorization shall be produced for inspection at the request of an officer authorized by the Meghalaya State Pollution Control Board.
3. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the Meghalaya State Pollution Control Board.
4. Any unauthorized change in personnel, equipment and working condition as mentioned in the application by the person authorized shall constitute a breach of this Authorization.
5. The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
6. The person authorized shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"
7. It is the duty of the authorized person to take prior permission of the State Pollution Control Board to close down the facility.
8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorization.
11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
12. An application for the renewal of an authorization shall be made as laid down under these Rules.
13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

(R. Nainamalai, IFS)
MEMBER SECRETARY
Meghalaya State Pollution Control Board,
Shillong

Copy to:-

1. The Director of Commerce and Industries, Govt. of Meghalaya, Shillong for kind information.
2. The General Manager, District Commerce & Industries Centre, East Jaiñtia Hills District, Khliehriat for information.
3. **M/s MEGHALAYA CEMENT LIMITED,** C/o The Director, Thangskai Village, East Jaiñtia Hills District for information and necessary action.

MEGHALAYA CEMENT THANGSKAI

Contact details : Email : memsecy.spcb-meg@gov.in, megspcb@rediffmail.com; Telephone Numbers: Chairman-0364-2521217; Member Secretary-2522802; Scientific-2521514; Engineering-2521533; Legal-2520044; Laboratory-2521726; Administration-2520073; Accounts-2522124; Telefax-2521764

Annex-XIX

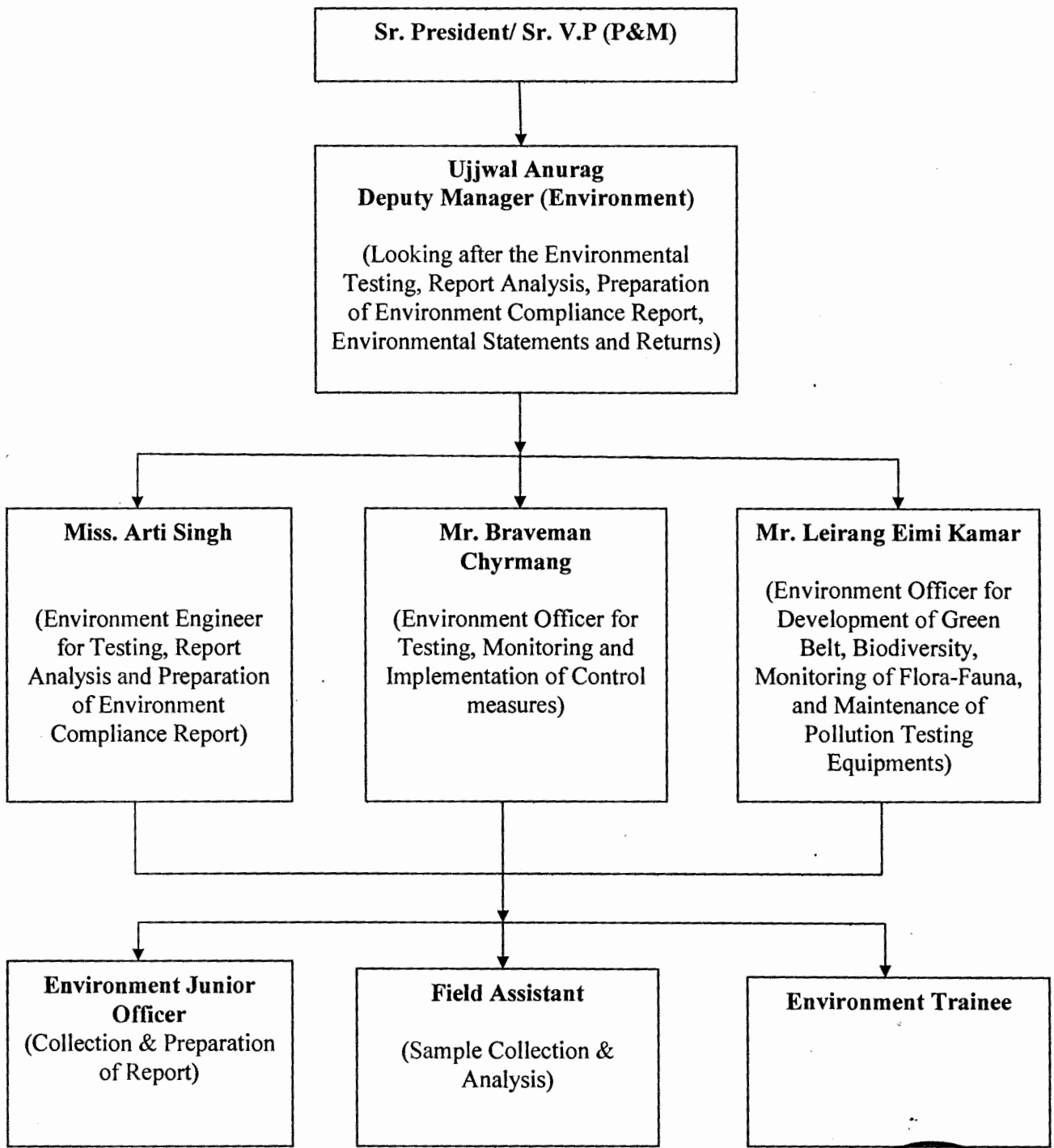
Meghalaya Cements Ltd.

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

Environment Management Cell Details

Dept: _Environment

Doc. No: MCL/IMS /PA/MR/DS



MEGHALAYA CEMENT LTD THANGSKAI HOD

Annex-XIX

Meghalaya Cements Ltd.

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

Environment Management Cell Details

Dept: _Environment

Doc. No: MCL/IMS /PA/MR/DS

Sl. No.	Equipments Name	Model	Range	Make
1	B.O.D Incubator -1	BTI - 06 / 73514, Bio Technique India	Site -6 Cu.Ft., Temp. Range – 5° to 60°C., Accuracy - ± 0.5°C.	Innovative Instruments & Controls CLP,
2	Stack Sampler	VSS – 1 – PLS / 01-DTH-2016 / Vayubodhan Envirotech Instrumentation	0 to 60 LPM & 0-to 3 LPM	Envirotect Instruments Pvt. Ltd
3	Stack Sampler	APM -620 / 797- DTI-05 / Vayubodhan Envirotech Instrumentation	0 to 60 LPM & 0-to 3 LPM	Envirotect Instruments Pvt. Ltd
4	Stack Velocity Monitor	APM -602 / 835 DTJ - 05 / Vayubodhan Envirotech Instrumentation	0 to 60 LPM & 0-to 3 LPM	Envirotect Instruments Pvt. Ltd
5	Fine Particulate Sampler (03 Nos.)	APM-550 / 583 – DTK-2010, 586-DTK-2010, 563-DTK-2010 / Envirotech Instrumentation	Range of flow Rate – 16.54-16.50,16.56-16.48,16.54-16.52	Envirotect Instruments Pvt. Ltd.
6	Gaseous Pollutant Sampler (02 Nos.)	APM-433 / 1.146 – DTK-2010, 2.150-DTK-2010 / Envirotech Instrumentation	Range -0 to 3 LPL	Envirotect Instruments Pvt. Ltd.
			Range -0 to 10 Micro meter in Diameter.	
7	High Volume Sampler (03 Nos.)	APM-430 / 1.640-DTL-05, 2.641-DTL-05, 3.642-DTL-05 / Vayubodhan Envirotech Instrumentation	Range of Flow rate – 1.1 to 1.7 Cu M^3/ mn	Envirotect Instruments Pvt. Ltd.
8	COD- Digestion	Cat No. CE-HC-011 / 11007 / Commercial	Up to 15°C.,Least Count-1°C	Commercial
9	Hot Air Oven	Internal ID-MCL/Env/HAO-1	Up to 250°C.,Least Count-0.1°C	Commercial
10	Digital Balance	/ 4114676 / Cy.304 CE	0 to 220 grms	Indian Calibration Services
11	S Type Pitot Tube	For Flow measurement	03 to 30 m/s	Envirotect Instruments Pvt. Ltd.
12	L Type Pitot Tube	For Flow measurement	03 to 30 m/s	Envirotect Instruments Pvt. Ltd.
13	Flue Gas Analyzer	Model No. 054218002	For SO2, Nox, Co, Co2 & O2 measurement in Flue gas	Make –KANE

MEGHALAYA CEMENT LTD HOD THANGSKAI

Annex-XIX

Meghalaya Cements Ltd.

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

Environment Management Cell Details

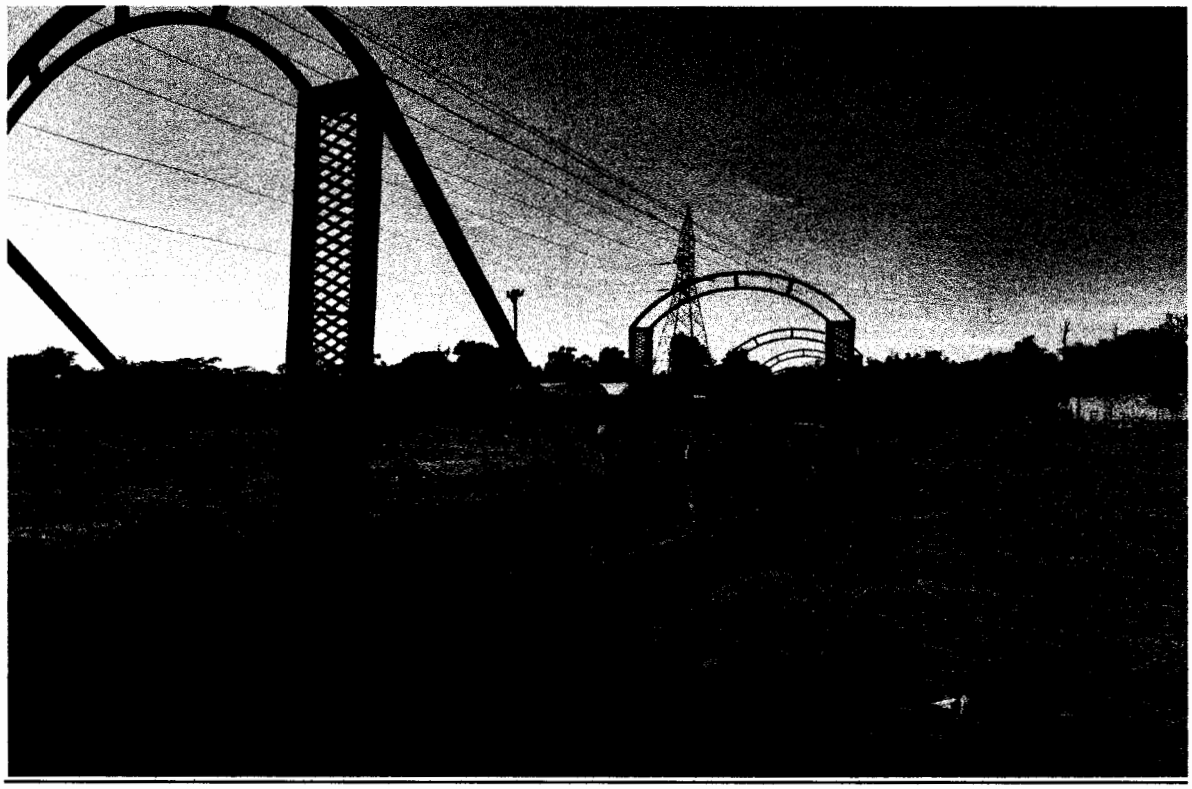
Dept: Environment

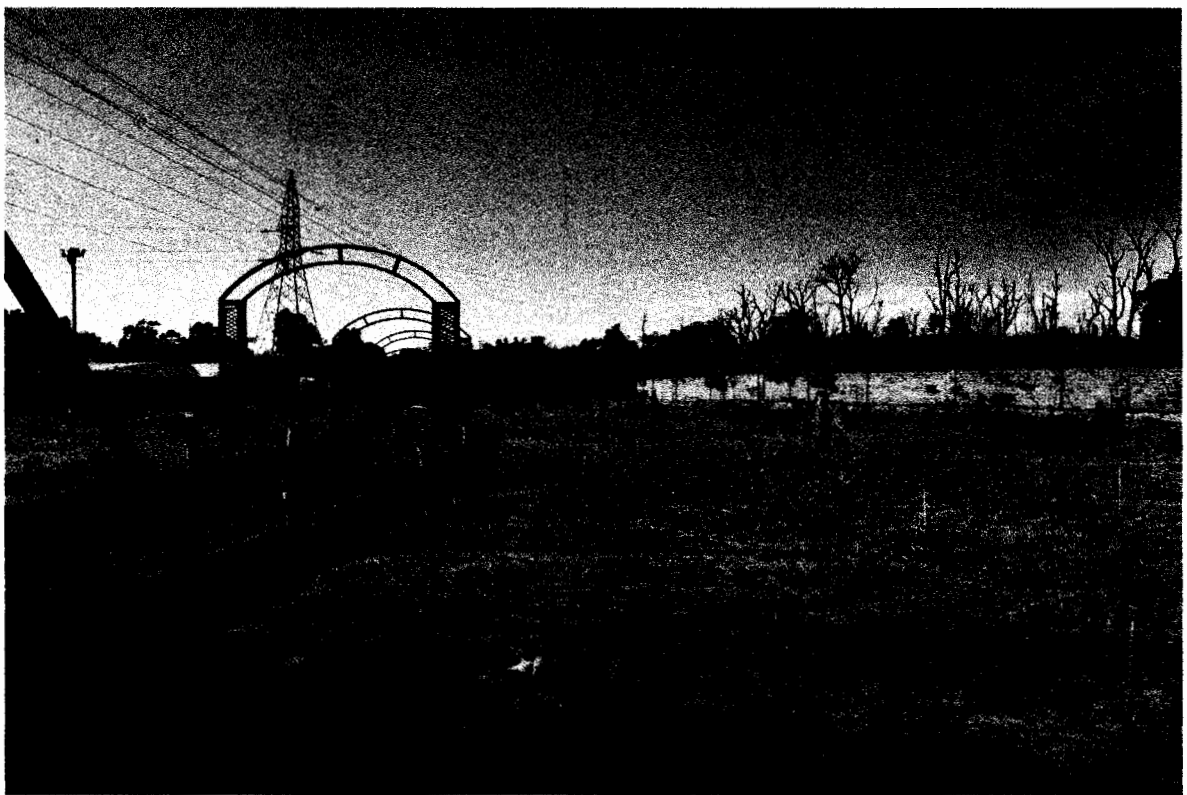
Doc. No: MCL/IMS /PA/MR/DS

14	Respirable dust samplers	Serial No. 640-DTL-2005, . 641-DTL-2005, . 642-DTL-2005	For Measurement of PM 10 & PM 2.5	Make- Envirotech Inst. (P) Ltd.
15	Automatic station for recording of micrometeorological parameter	DT-	For Rain fall, temperature, RH & wind speed measurement	AIMIL LTD
16	Sound pressure level meter	Model No. 05D101013	For noise level monitoring	Make- Raytheon Tech.
17	Stack monitoring kits	01-DTH-2016	For Measurement of Dust emission form Stacks	Make- Envirotech Inst. (P) Ltd.
19	Automatic station for recording of Ambient Quality Monitoring	Installed near gate no. 03	Form real time monitoring of Ambient air quality	Supplied Swan Environmental
20	Automatic station for recording of Stack Emission Monitoring	For RABH, Cooler ESP, Cement Mills and CPP stack emission monitoring	Form real time monitoring of stack emission	Supplied by Glens
21	Portable Air Quality Analyzer	For Real time Ambient air quality monitoring	Form real time monitoring of stack emission	Supplied by M/s. Swan Environmental
23	Temperature Gun	Model No. IRX-63	Range (-) 50°C to 1850°C	Make- HTC
24	pH Meter	Sl. No, 361/7928	Range 0 to 14	Systronics
25	Nephlo Meter	Sl. No, 1307138	Range 0 to 200 NTU	
26	Conductivity	Sl. No. S/6117-01-17		
27	CHROMIUM VI CHEMICAL TEST KIT	---------	Chromium, Hexavalent Range: 0.0 to 1.0 mg/L Chromium, Hexavalent Resolution: 02. mg/L	HANNA EQUIPMENTS (INDIA) PVT. LTD.

MEGHALAYA CEMENT LTD. THANGSKAI

Annex-XX





MEGHALAYA CEMENT LTD
THANGSKAI

Annex- XX

Artocarpus Heterophyllus

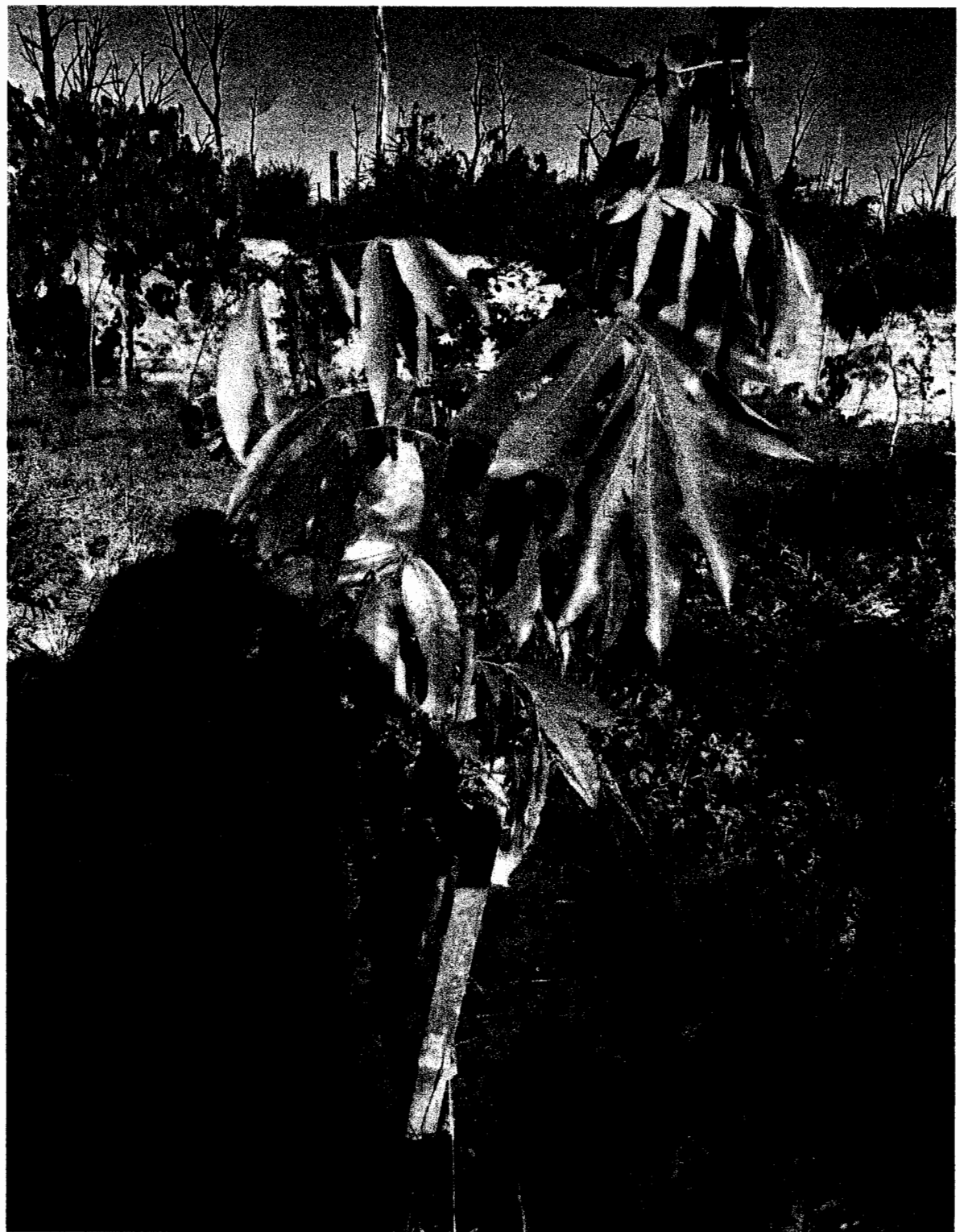
THANGSKAI

Annex- XX

MEGHALAYA CEMENT LTD
THANGSKAI

Annex-XX

Mesua Ferrea



MEGHALAYA THANGSKAI LTD

Annex- XX

Annex-XX

MEGHALAYA ... LTD
THANGSKAI

Annex-XX

Michelia Champaka

THANGSKAI

Annex–XX

MEGHALAYA [illegible] LTD
THANGSKAI