स्टील अथॉरिटी ऑफ इण्डिया लिमिटेड
STEEL AUTHORITY OF INDIA LIMITED
भिलाई इस्पात संयंत्र
BHILAI STEEL PLANT

No. Mines/IOC/DMM/STE/2021/ 504 Dated: 27/ 12 /2021

To,

1. **Additional Director**
   Ministry of Environment, Forest and Climate Change
   Government of India,Paryavaran Bhavan,
   C.G.O Complex,Lodhi Road, New Delhi - 110 003.

2. **Director**
   Central Pollution Control Board,
   Parivesh Bhawan, CBD-cum-Office Complex
   East Arjun Nagar,New Delhi - 110 032.

3. **Addl. Principal Chief Conservator of Forests(C),**
   Ministry of Environment, Forest and Climate Change,
   Integrated Regional Office, Aranya Bhawan, North Block,
   Sector-19, Naya Raipur, Atal Nagar, Chhattisgarh-492001.

4. **Member secretary**
   CECB
   Commercial Complex, Chhattisgarh Housing Board Colony,
   Kabir Nagar, Raipur (C.G.)

Dear Sir,

Sub: Status of Compliance to the Environmental Clearance Conditions in respect of setting up of Pellet Plant (1.0 MTPA) with upstream Slime Beneficiation facilitates at Iron Ore Complex (IOC) Dalli Rajhara for the period April'2021 to September'2021.

Ref: EC for setting up of Pellet Plant (1.0 MTPA) with upstream Slime Beneficiation facilitates at Iron Ore Complex (IOC) Dalli Rajhara vide letter no. J-11015/437/2012.IA-II (M) dated: 17th April, 2015.

With reference to the above cited subject, the six month compliance repot to the Environmental Clearance Conditions in respect of setting up of Pellet Plant with upstream Slime Beneficiation facilitates at Iron Ore Complex (IOC) Dalli Rajhara for the period April'2021 to September'2021 is enclosed herewith as Annexure-I for your kind perusal please.

Thanking you,

Yours faithfully
For Steel Authority of India Ltd.
Bhilai Steel Plant

Encl: Compliance Report as above.

27.12.21
(P.M. Shirpurkar)
General Manager I/c cum Agent
Dalli Mechanised Mine

Annexure-I

Six monthly Compliance Report with respect to the conditions stipulated in the Environmental clearance granted by MOEF& CC for setting up of Pellet Plant with upstream Slime Beneficiation facilitates at Iron Ore Complex (IOC) Dalli Rajhara M/s Steel Authority of India Limited (SAIL), located at District Balod, Chhattisgarh for the period from APRIL'2021 to SEPTEMBER'2021.

Ref: MOEF letter no. J-11015/437/2012 IA-II(M) Dated: 17th April, 2015

A. Specific Conditions.

Sl.No	Conditions	Compliance
i.	Project shall carry out the study on impact of CSR programs implemented so for around the mine lease area by making a Surveyor report though an institution of Repute and need basis Action Plan for next CSR Programs within One year.	Impact of CSR programs implemented so for around the mine lease area will be done though an institution of Repute immediately after the installation of the integrated Pelletisation unit. Need based Action Plan for next CSR Programs will be prepared and implemented within One year, based on the study.
ii.	A study from institution of Repute may be conducted on the impact of dust on Crops Productivity for agriculture land located mines and mitigation measures implemented by PP and reduce the impact.	Work has been awarded to M/s Indira Gandhi Krishi Vishwa Vidyalaya (IGKVV) Raipur (Award No:-CC-MINES-RAJHARA/4270009753/1130017585/AL-17(20-21)/205 Dated-30/05/2020) for undertaking a comprehensive study on the impact of dust on Crops Productivity for agriculture land located mines and mitigation measures as suggested will be facilitated by PP for implementation to reduce the impact. The team of experts from institute has visited the site on 28th and 29th Oct 2020 but further visit and study is delayed due to covid-19 pandemic. A team of scientists, Research scholar & field staff (from M/s IGKVV, Raipur) led by Shri Vinod Nayak, Shri Gourav Kumar Jatav (Scientists), Shri Kumar Dewangan (Scholar), Shri Tarun Yadav and Shri Jitendra Vishwakarma (field staff) visited IOC, Dalli Rajhara in this year 2021. The team was Interacted with farmers and following activities has been conducted during June'2021 to October 2021. ▪ Collection of soil sample and water samples ▪ Selection of farmers for FLD's ▪ Fertilizer and Organic manure distribution ▪ Layout preparation and transplanting of rice ▪ Fertilizer and organic manure application as per the treatments ▪ Urea application in different stages ▪ Monitoring of crops ▪ Monitoring of crops and observation recorded ▪ Harvesting and threshing of crops. The study report form IGKVV is still awaited.

Sl.No	Conditions	Compliance
iii.	Recommendation by the institute for Crops most suited in this environment and training to the farmer to switch over to new cropping system which will sustain nutrient loading may be ensured.	Work has been awarded to Agricultural department and Indira Gandhi Krishi Vishwa Vidyalaya (IGKVV) Raipur (Award No:-CC-MINES-RAJHARA/ 4270009753/ 1130017585/ AL-17(20-21)/205 Dated-30/05/2020) for undertaking soil characterisation studies. Based on which Crops most suited in this environment will be suggested and training to the local farmer to switch over to new cropping system will be facilitated. The final study report of M/s IGKVV is still awaited.
iv.	Project shall regularly conduct Water audit and ensure enhancing Water use efficiency.	Regular water audit is done departmentally and documented. Last water audit was carried out by M/s CII. All steps are undertaken to enhance recycling wherever possible thereby conserving fresh water. Few initiatives have been taken viz. 1. Re-cycling of water in the hydro cyclones. 2. Use of decanted water for slurry preparation.
v.	M/s SAIL shall make R&D efforts for enrichment and utilisation of low/sub grade Iron Ore.	A step towards the enrichment and utilisation of low grade iron ore is done with the establishment of Slime Beneficiation Unit (SBU). The SBU enriches the Slimes having an input quality of (Fe-55%, SiO_2-12.5%, Al_2O_3-4% to Fe-65%, SiO_2=<4%, Al_2O_3=<1%) which is dispatched to Bhilai for use in Sinter Plant.
vi.	Implementation of the Recommendation of National Institute of Miner Health for ensuring good occupational environment for mine workers may be ensured.	For implementation of the recommendation of National Institute of Miner Health for ensuring good occupational environment for mine workers, ergonomically designed cabins are provided and use of Personal protective equipment (PPE's) are ensured. Risk assessment and Personal exposure assessment of work environment for dust, noise is done on regular basis by our Environment Laboratory.
vii.	Use of dry fog sprinkler system to suppress fugitive dust on haul road and other transport road, shall be adopted.	For suppression of fugitive dust at haul roads, water sprinklers are deployed on regular basis. Since the SBU installed is a wet process plant chances of fugitive dust is minimal.
viii.	Environmental clearance is subjected to obtaining clearance, if any, under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.	In the core zone, no wildlife animal has been reported as schedule I as per the wildlife protection Act 1972.
ix.	The Project proponent shall obtain necessary prier permission of the competent authorities for drawl of requisite quantity of surface water and ground water for the project.	No ground water is being used for Processing/beneficiation activities. The total water requirement is being made available from a "Boirdih dam" which is used for captive consumption and the same will also be used in the upcoming project.
x	The Operations shall be restricted to above ground water table and it should not intersect ground water table. In case of working below ground water , prior approval of the Ministry of Environment and forests and Central Ground Water authority shall be obtained , for which a detailed hydro geological study shall be carried out	No natural watercourse and/or water resources have been obstructed due to any mining operations. No working is below ground water table level.

Sl.No	Conditions	Compliance
xi.	The pollution due to transportation load on the environment will be effectively controlled & Water sprinkling will also be done regularly. Vehicles with UPCC only will allowed to ply. The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Project should obtained (PUC), Certificate from all the vehicles from authorised Pollution testing Centres.	Existing railway siding is adjacent to ore processing /beneficiation plant. Therefore, beneficiated ore does not require further transportation. Water sprinkling will also be done regularly at Haul roads. Only the vehicles having valid PUC certificates from authorised Pollution testing Centres are deployed for material handling.
xii	Plantation on the OB dumps slopes has to be increased and manage properly. Housekeeping should be improved in processing area.	The reclaimed and rehabilitated area is regularly afforested and till date 559011 saplings have been planted in 215.55 Ha areas. Afforestation in 5 Hact area at Dalli Mechanised Mine has been done by M/s CG Van Vikas Nigam alongwith IOC Mines of BSP for total 20.38 Hect area afforestation at Township.
xiii	A full - fledged sewage treatment plant should be set-up by the project in the colony. The oil and grease trap at the workshop at both the mines should have a covered shade .A separate pit should be constructed to retain the treated water which should be re used for washing purpose instead of discharging into natural water course .	Assignment was given to CET (Centre for Engineering and Technology) by Mines Department for preparation of Tender Specification to set up a STP which is our in-house consultant to SAIL. Tender Specifications is in finalisation stage based on MBBR Technology (Moving Bed Bio Reactor). Oxidation pond for the treatment of sewage water for the colony is in place. Three numbers of State-of-the-art, Effluent Treatment Plant (ETP) has been installed. In addition to it, Oil Trap Chambers) has been provided in all the workshops wherever vehicle washing is done.
xiv.	Project shall identified the causes for the higher particulate matter and take appropriate mitigate measures .Project shall start monitoring $PM_{2.5}$	For existing facilities, four ambient air quality-monitoring stations have been established in the core zone as well as in the buffer zone for RSPM, PM10, PM 2.5,SOx and NOx monitoring. The data so recorded is regularly sent to State Pollution Control Boards. **(ANNEXAURE – A1 & ANNEXURE – A2)**
xv	Project should ensure that all the workers wear safety devices.	Personnel working in dusty areas wear protective respiratory devices in addition to the other Personal Protective Equipment (PPE's).Adequate training and information on safety and health aspects is given through initial and refresher training.
xvi.	The project proponent shall obtain consent to operate from the State Pollution control Board, Chhattisgarh and effectively implement all the condition stipulated therein.	Consent to Establish (CTE) has been granted by CECB vide letter No 429/TS/CECB/2016 dated 21.04.2016 and renewal of Consent to operate with respect to the existing operations has been granted by CECB vide No. 6744/TS/CECB/2021 Nava Raipur Atal Nagar, Dated: 20/12/2021.

Sl.No	Conditions	Compliance
xvii.	Implementation of Environment management policy of the company w.r.t. Judicious use of Mineral resources for growth & development synchronizing Mining &Environment with prosperity.	Implementation of Environment management policy of the company is already in practice. The beneficiation of Slimes from the plant Slime Beneficiation Unit (SBU) is a testimony to our judicious use of mineral resources for growth & development (Waste to Wealth) synchronizing Mining &Environment with prosperity.
xviii.	There shall be planning, developing and implementing facility of rain water harvesting measures on long term basis in consultation with regional director, Central ground water board and implementation of conservation measures to augment ground water resources in the area in consultation with Central Ground Water Board.	Implementation of the Rainwater Harvesting Schemes in the project area and in the adjoining areas are done after meticulous planning and is in line with the guidelines of CGWB. Roof top area spanning – 9036 sqM of Six roof top area buildings has been covered. Presently Ground water is not used. However, 6 Nos. of Rainwater Harvesting systems have been implemented to augment ground water resources within the adjoining lease area.
xix.	Regular monitoring of ground water table to be carried out at the upstream and depth of water available in the dug well is to be measured .Monitoring to be done by establishing a network of existing wells and constructing new piezometres.	Regular monitoring of ground water level and quality is being carried out at four locations in and around the 19 Ha area. Piezometer has been installed in Township area. **(ANNEXURE –B)**
xx.	Monitoring of ambient air Quality to be carried out based on the Notification, as amended from time to time by the Central Pollution Control Board.	The air samples are being analysed for their mineralogical composition and records are maintained. The same shall be during operational phase of the project. For existing facilities, ambient air quality monitoring stations have been established at 4 locations in core and 4 locations in buffer zone and all the monitoring records are being maintained and reports are regularly sent to State Pollution Control Board. Meanwhile Continuous Ambient Air Quality Monitoring Station (CAAQMS) has been installed. **(ANNEXURE – A1 & ANNEXURE – A2)**
xxi.	Water sprinkling should be increased at places loading and unloading points and transfer points to reduced fugitive emissions.	For suppression of fugitive dust at haul roads, water sprinklers are deployed. Since the SBU installed is a wet process plant chances of fugitive dust is minimal.
xxii.	The upliftment of Scheduled cast / Scheduled tribe population, specific programmes have been taken in to consideration specially with respect to education, healthcare, livelihood generation, infrastructure development& promotion of sports &culture for SC/ST population and that these will be intensified in future.	All steps are taken in line with government's directives and guidelines with respect to the upliftment of Scheduled cast / Scheduled tribe population. Employment has been given in existing plant. Specific programmes have been taken in to consideration specially with respect to education, healthcare, livelihood generation, infrastructure development& promotion of sports &culture for SC/ST population and that these will be intensified in future.

Sl.No	Conditions	Compliance
xxiii.	The project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations	No natural watercourse and/or water resources have been obstructed due to any mining operations. Jharannalla and Kusumnalla has been left undisturbed and are being protected. Regular monitoring of water quality is also being done.
xxiv.	The top soil, if any, shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The top soil shall used for land reclamation and plantation. The overburden (OB) generated during the mining operations shall be stacked at earmarked dump site (S) only and it should not be kept active for a long period of time. The maximum height of the dump shall not exceed 8 metre and width 20 m and overall slope of the dumps shall be maintained to $45^{0.}$ The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of thedump. The entire excavated area shall be backfilled and afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self sustaining. Compliance status shall be submitted to the Ministry of Env. &Forests and its regional Office located at Bhopal on six monthly bases.	Top soil has been utilised for plantation and afforestation schemes. The overburden (OB) generated during the mining operations is stacked at earmarked dump site (S) only and it is rehabilitated after the maturity of the dump after scientific analysis. The maximum height of the dump shall not exceed 8 metre and width 20 m and overall slope of the dumps shall be maintained to $45^{0.}$ The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, The entire excavated area shall be backfilled and afforested. Monitoring and management of rehabilitated areas is done as per the "watch and ward" provisions in the NIT until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment. &Forests and its regional Office located at Bhopal on six monthly bases.
xxv	Catch drains and siltation ponds of appropriate size shall be constructed around the mine working,mineral and OB dumps to prevent run off or water and flow of sediments directly into the river and other water bodies.The water show collected should be neutralized for watering the mine area, roads, green belt development etc.The drains shall be regularly Desilted particularly after monsoon and maintained properly .The drains ,settling tanks and check dams of appropriate size ,gradient and length shall be constructed both around the mine pit and overburden dumps to prevent run off of water and flow of sediments directly into the river and other water bodies and sump capacity should be designed keeping 50% safety margin over and above pit sudden rain fall (based on 50 year data) and maximum discharge in the area adjoining the mine side .Sump capacity should also provide adequate retention period to allow proper settling of silt material .sedimentation pits shall be constructed at the corners of the garland drains and Desilted at regular intervals .	Catch (Garland) drains and siltation ponds of appropriate size has be constructed around the mine working, mineral and OB dumps to prevent run off or water and flow of sediments directly into the river and other water bodies. The water show collected is sampled and used for watering the mine area, roads, green belt development etc. The drains along with the check dams are regularly Desilted particularly after monsoon and maintained properly. The drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and overburden dumps to prevent run off water and flow of sediments directly into the river and other water bodies. (Although there is no river/water body near-by) the precautions are taken regularly. Sump capacity is designed keeping 50% safety margin over and above pit sudden rain fall (based on 50 year's data) and maximum discharge in the area adjoining the mine side. Sump capacity has provision for adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and Desilted at regular intervals.

Sl.No	Conditions	Compliance
xxvi.	Dimension of the retaining wall at the toe of overburden dumps and OB benches within the mine to check run off and siltation shall be based on the rain fall data .	Two RCC Retaining Walls and one earthen Retaining Wall have been made at the toe of overburden dumps within the mine to check run-off. The dimensions of RCC Retaining Walls are 30mX3.6mX2m and of Earthen wall is 100mX1.5mX3.5m. Adjoining the RCC Wall, there is a trench in order to arrest run-off in case of heavy downpour.
xxvii	Effective safe guard measures such as regular water sprinkling shall be carried out in critical areas prone to Air Pollution and having high levels of $PM_{10}$and $PM_{2.5}$ such as all roads ,loading and unloading points and transfer points .It shall be insured that the ambient Air Quality parameters confirm to the norms prescribe by the Central Pollution Control; Board in this regard.	Regular water sprinkling is being carried out in critical areas prone to air pollution and having high levels of SPM and RPM such as haul such as haul road, loading and unloading point and transfer points. The Ambient Air Quality monitoring reports are regularly sent to State Pollution Control Board.
xxviii	Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintained.	Flow rate of the springs and perennial nallahs- Jharan Nallah and Kusum Nallahs flowing around the mine lease shall be carried out and records maintained. **(Annexure-C)**
xxix	Regular monitoring of Water quality upstream and downstream of water bodies shall be carried out and record of monitoring data should be maintain and submitted to the Ministry of Environment & Forests from its regional office Bhopal , central ground water authority, regional Director, Central Ground Water Board ,State pollution Control Board and Central pollution Control Board.	Regular monitoring of water quality of Jharannalla and Kusumnalla is being carried out and records of monitoring data is being maintained and sent to State Pollution Control Boardcentral ground water authority, regional Director, Central Ground Water Board. **(Annexure-D)**
xxx.	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezo meters during the mining operation. The monitoring shall be carried out four times in a year, Pre -monsoon (April- May) monsoon (August),Post -monsoon (November) and Winter (January) and the data thus collected may be sent regularly to Ministry of Env.&Forests) and its regional Office ,its regional office Bhopal, Central Ground Water Authority and Regional Director, Central Ground Water Board .	Regular monitoring of ground water level and quality is being carried out at four locations in and around the lease hold areaby establishing a network of existing wells. The monitoring is being carried out four times in a year, Pre -monsoon (April- May) monsoon (August), Post -monsoon (November) and Winter (January) and the data thus collected is sent regularly to Ministry of Env. & Forests) and its regional Office, its regional office Bhopal, Central Ground Water Authority and Regional Director, Central Ground Water Board. Piezometers have been installed for measurement of Ground water table. **(ANNEXAURE –B)**

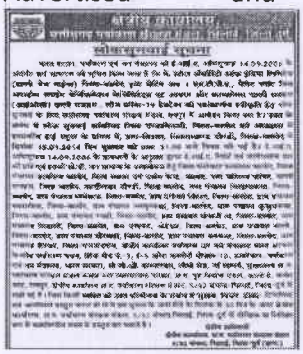
Sl.No	Conditions	Compliance
xxxi.	Pre Placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose schedule of health examination of the workers should be drawn and fallowed accordingly.	Pre-placement medical examination and periodical medical examination of the workers engaged in the mines are carried out and records are maintained. All newly appointed workers undergo a comprehensive medical examination (Pre-employment Medical Examination) and subsequently a periodical Medical Examination (PME) at regular interval. All workers undergo a PME every 5 years, however workers whose age is more than 45 years, the PME is done in every 3 years. All contractual workers also undergo medical examination. The Examination is conducted by occupational health specialist of hospital of Bhilai Steel Plant and the history of PME reports is maintained in digital form.
xxxii.	The Project proponent shall take all precautionary measures during mining operation for conservation and Protection of endangered, fauna spotted in the study area.Action Plan for Conservation of flora and fauna shall be prepared and implemented in consultation with the State Forests and wild life department. Necessary allocation of funds for implementation of the conservation Plan shall be made and the funds so allocated shall be included in the project cost. All the safeguard measures brought out in the wild life conservation pan so prepared specific to the project site shall be effectively implemented.A copy of action Plan shall be submitted to the Ministry of (Env.&Forests) and its regional office Bhopal.	All precautionary measures are taken during mining operation for conservation and Protection of endangered, fauna. Action plan for conservation of the flora and fauna is being implemented by State Forest Department. A site for green belt of 7.5 m width all along the perimeter of the site is under preparation by State Forest Department.
xxxiii.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking mobile toilets, mobile STP,safe drinking water ,medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project.	Construction work with respect to the Slime Beneficiation Unit (SBU) is completed and plant is under operation. Whenever construction of the Pelletisation unit of the Plant commences, due care shall be taken to provide housing facilities at site. Present workers who are engaged in plant operation comes from nearby villages.

B. General Conditions

Sl.No	Conditions	Compliance
i.	No change in Mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	No change in Iron Ore Processing / Beneficiation technology and scope of working will be made without prior approval of the Ministry of Environment & Forests.
ii.	No change in the calendar plan including Beneficiation, quantum of mineral iron ore and waste should be made.	There is no change in the calendar plan including Processing/Beneficiation of mineral iron ore and waste& also it will be continued in future.

Sl.No	Conditions	Compliance
iii.	The critical parameters such as PM $_{10}$ (size less than 10 micro metre),$PM_{2.5}$(Size less than 2.5 micro metre),NO_x in the ambient air within the impact zone, peak particle velocity at 3000M distance are within the nearest habitation whichever is closer shall be mention periodically .Further quality of discharge water shall also be mention {(TDS,DO,Phand total suspended solids(TSS)}.These monitored data shall be uploaded on the web side of the company as well as displayed on a display Board at the project site at a suitable location near the main gate of the company in public domain .The circular no. J-20012/1/2006-IA.II(M) Dated 27/05/2009 issued by Ministry of Env.&Forests) ,which is available on the web side of the Ministry www.envfor.nic.in shall also be referred in these regard for its complies	The critical parameters such as PM $_{10}$ (size less than 10 micro metre),$PM_{2.5}$(Size less than 2.5 micro metre), NO_x in the ambient air within the impact zone, peak particle velocity at 3000M distance are within the nearest habitation whichever is closer is monitored periodically. Further quality of discharge water is also monitored for {(TDS, DO, PH and total suspended solids(TSS)}.The monitored data is uploaded on the web side of the company as well as displayed on a display Board at the project site at a suitable location near the main gate of the company in public domain. (Effluent water quality- **ANNEXURE – E)**
iv.	Four ambient Air Quality monitoring stations should be established in the CORE ZONE as well as in the buffer zone for PM_{10} , $PM_{2.5}$, SO_2 and NO_x monitoring .Location of the stations should be decided based on the metrological data topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board .Data on ambient Air Quality should be regularly submitted to the ministry including its Regional Office located at Bhopal and the State Pollution Control Board /Central Pollution Control Board once in six months .	Four ambient Air Quality monitoring stations has been established in the CORE ZONE as well as in the buffer zone for PM_{10} , $PM_{2.5}$, SO_2 and NO_x monitoring .Location of the stations has been decided based on the metrological data topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board .The air samples shall be analysed for their mineralogical composition and records would be maintained during operational phase of the project. **(ANNEXURE – A)**
v.	Fugitive dust emission from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	Regular water sprinkling will be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around the crushing and screening plant, loading and unloading point and transfer points. It will be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
vi	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	For existing facilities, measures are being taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. already provided with ear plugs / muffs. **(ANNEXAURE – F)**
vii	Industrial waste water (workshop and waste water from the mine)should be properly collected ,treated so as to confirm to the standards prescribed under GSR 422(E) ,dated 19 th May ,1993 and 31st December ,1993 or as amended from time to time.Oil and grease trap should be installed before discharge of workshop effluents.	Industrial waste water (workshop and waste water from the mine) is properly collected, treated so as to confirm to the standards prescribed under GSR 422(E), dated 19th May'1993 and 31st December'1993 or as amended from time to time. Oil and grease trap chambers are installed before discharge of workshop effluents in addition to the state-of-the art Effluent Treatment Plant (ETP).

Sl.No	Conditions	Compliance
viii	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.	Personnel working in dusty areas are provided with protective respiratory devices and it is ensured that they are worn. Employees are also provided with adequate training and information on safety and health aspects.
	There will be zero waste water discharge from the plant.	For existing facilities zero water discharge is being maintained.
ix	Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Occupational health surveillance program of the workers is undertaken periodically by in-house NOHS department and are being documented.
x	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization	Structured Environment cell has been established and is functioning. Two Senior Executive reporting directly to the head of the organisation at site with sufficient number of trained staff have been posted in environmental management cell. It is well equipped with required environmental parameters, monitoring and testing facilities.
xi	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhopal.	A capital cost of Rs.1630 lakhs have been earmarked for pollution control activities such as air pollution, water pollution, tailing pond facilities, biological environment, greenbelt development, rainwater harvesting and other cost of environmental control and monitoring measures. Annual Recurring cost per year for above activities will beRs.95 lakhs.- Recycle and reuse of tailings pond and pellet plant water to save dam water resource.- 10 check dams have been provided for arresting of silt.- Retention wall and garland drains around pellet plant to collect runoff water and lead it to sedimentation tank- Plantation of diverse trees and shrubs in and around pellet plant to arrest noise and dust pollution- Pellet plant is being installed to make use of the slimes settled in Hitkasa Tailing pond and thus is a major initiative step not only towards reducing air & water pollution but also making use of available sub grade mineral resources.
xii.	The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	It will be informed accordingly subject to implementation.
xiii.	The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	All possible cooperation will be provided for monitoring of compliance conditions of the stipulated conditions in EC.

Sl.No	Conditions	Compliance
xiv.	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the ministry of Env.&Forests, its regional Office Bhopal ,Central Pollution Control Board and State Pollution Control Board .	Agreed. Six monthly reports on the status of the implementation of the stipulated environmental safeguards to the ministry of Environment &Forests, its regional Office Bhopal,Central Pollution Control Board and State Pollution Control Board .
xv.	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the ministry of Env.&Forests, its regional Office Bhopal ,Central Pollution Control Board and State Pollution Control Board	Is being implemented.
xvi.	A copy of clearance letter will be marked to concerned panchayat /Local NGO,if any from whom suggestions /representation has been received while processing the proposal .	Agreed. The copy of the clearance letter has been sent to the concerned panchayat /Local NGO,from whom suggestions /representation has been received while processing the proposal.
xvii.	State Pollution Control Board should display a copy of the clearance letter at the Regional Office, district Industry Centre and Collectors office/Tahsildars Office for the 30 days.	-
xviii	The Project authority should advertise at least in two local newspapers widely circulated ,One of which shall be in the vernacular language of the locality concerned ,within seven days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment & Forests at htpp://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this ministry located Bhopal .	Advertised and copy attached.  

27.12.21

(P.M. Shirpurkar)
General Manager I/c cum Agent
Dalli Mechanised Mine

Annexure- A1

BUFFER ZONE AIR QUALITY
SLIME BENEFICIATION PLANT
PERIOD : APRIL TO SEPTEMBER'2021

(Unit : µg/M^3)

S.No.	Date	Boirdih Pump House				Dam Site Pump House				P.H.C. Chikhlakasa			
		PM-10	PM-2.5	NOx	SO_2	PM-10	PM-2.5	NOx	SO_2	PM-10	PM-2.5	NOx	SO_2
	Norms	100	60	80	80	100	60	80	80	100	60	80	80
1	22 अप्रैल 21									-	21.45	11.71	9.06
2	26 अप्रैल 21	-	19.22	8.14	6.78								
3	21 मई 21					-	19.34	7.71	5.62				
4	21 जून 21					-	19.54	7.22	6.18				
5	20 जुलाई 21									-	18.90	9.08	7.17
6	30 जुलाई 21					-	13.75	8.05	6.76				
7	31 जुलाई 21	-	16.52	9.24	7.18								
8	20 अगस्त 21									-	14.78	9.54	5.16
9	25 अगस्त 21	-	18.24	9.82	7.73								
10	25 अगस्त 21					-	15.09	8.67	7.05				
11	3 सितम्बर 21	-	12.80	8.44	7.16	-	17.84	9.62	8.74				

25/12/2021

Asstt. Manager (Env.)
IOC-Rajhara

Annexure - A2

AMBIENT AIR QUALITY (CORE ZONE - 8 HRS. SAMPLING)

SLIME BENEFICIATION PLANT

PERIOD : APRIL TO SEPTEMBER'2021

(Unit : µg/M^3)

S.No.	Date	MVT Centre				Administrative Building				Hitkasa Pump House				Time Office-Jharandalli			
		PM-10	PM-2.5	NOx	SO_2	PM-10	PM-2.5	NOx	SO_2	PM-10	PM-2.5	NOx	SO_2	PM-10	PM-2.5	NOx	SO_2
	Norms	100	60	80	80	100	60	80	80	100	60	80	80	100	60	80	80
1	2 अप्रैल 21	56.43	22.56	10.97	10.98	61.41	22.82	13.39	13.44	28.83	15.35	9.33	5.32	61.46	25.62	10.95	11.81
2	20 अप्रैल 21	37.10	19.68	11.91	11.82	66.66	20.61	12.53	11.98	43.18	15.70	9.58	8.65	66.87	22.35	10.69	9.76
3	27 अप्रैल 21	54.35	20.20	11.06	9.48	62.25	21.52	12.06	11.10	36.89	13.35	8.46	6.26	62.69	20.07	10.75	9.20
4	14 मई 21	38.62	21.34	11.71	7.62												
5	20 मई 21	72.15	23.18	12.01	10.98	71.84	24.64	12.75	11.60	53.07	18.66	11.41	9.93	67.54	22.89	11.35	11.11
6	26 मई 21	63.80	20.71	12.39	11.98	69.48	22.81	13.07	12.74	47.66	16.73	10.67	8.85	66.00	20.84	11.05	10.24
7	11 जून 21	36.25	20.52	11.93	9.85												
8	16 जून 21	39.98	18.29	12.93	10.25	48.70	29.26	13.44	9.80	33.16	13.29	7.55	5.81	46.20	22.83	11.62	8.31
9	23 जून 21	31.69	18.60	12.45	9.11												
10	9 जुलाई 21	46.21	22.18	12.95	10.15	52.38	26.50	12.32	8.94	29.68	13.99	8.22	7.99	52.48	25.03	11.01	9.01
11	21 जुलाई 21	34.47	26.78	11.93	9.48	39.23	28.44	12.30	8.29	29.23	17.36	8.95	6.88	33.93	21.99	11.71	9.88
12	27 जुलाई 21	44.12	20.46	11.53	7.99	49.27	24.23	11.24	8.56	28.23	12.70	7.48	7.12	50.51	24.19	10.46	7.81

AMBIENT AIR QUALITY (CORE ZONE - 8 HRS. SAMPLING)

SLIME BENEFICIATION PLANT

PERIOD : APRIL TO SEPTEMBER'2021

(Unit : µg/M^3)

S.No.	Date	MVT Centre				Administrative Building				Hitkasa Pump House				Time Office-Jharandalli			
		PM-10	PM-2.5	NOx	SO_2	PM-10	PM-2.5	NOx	SO_2	PM-10	PM-2.5	NOx	SO_2	PM-10	PM-2.5	NOx	SO_2
	Norms	100	60	80	80	100	60	80	80	100	60	80	80	100	60	80	80
13	18 अगस्त 21	48.67	21.20	12.20	9.32	52.16	23.10	11.56	9.70	30.31	13.19	7.48	6.69	50.05	24.44	10.33	7.48
14	24 अगस्त 21	53.76	20.95	11.25	9.15	52.00	21.87	11.80	9.38	37.27	13.16	8.17	7.53	52.97	23.10	10.89	10.76
15	1 सितम्बर 21	33.22	22.55	11.83	9.29	37.56	26.45	11.49	7.89	22.46	16.84	7.82	5.77	31.86	21.43	11.83	9.04
16	7 सितम्बर 21	46.59	19.94	10.49	8.65	51.81	19.79	11.04	8.35	35.37	11.59	7.39	6.62	50.19	21.95	11.40	9.41
17	22 सितम्बर 21	44.84	17.76	11.06	9.32	54.81	21.48	11.29	9.35	28.25	10.25	8.44	4.88	49.84	17.73	10.23	6.46

27/12/2021

Asstt. Manager (Env.)
IOC-Rajhara

Annexure-B

PRE-MONSOON (SUMMER) SEASON GROUND WATER QUALITY AND GROUND WATER LEVEL IN IRON ORE COMPLEX

Date of Sampling :- 13 May, 2021

S.No.	Parameters	pH	Turbidity	Free Chlorine	Total Chlorine	Total Iron	Mn	Silica	Sulfide	Sulfate	Copper	Nitrate	Nitrite	Fluoride	Chloride	Alkalinity	Total Hardness	Dissolved Solids	Remarks
	Norms	6.5-8.5	5	0.20	-	0.30	0.1	-	-	200	0.05	45	-	1	250	200	300	500	
	Unit	-	NTU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	PPM	
1	Saptagirl Park (Borewell)	7.39	4.01	0.03	0.03	0.19	0.14	BDL	BDL	4.7	BDL	BDL	0.22	BDL	BDL	77.0	80.0	81.0	
2	Rajhara Baba area (Hand Pump)	7.95	3.33	0.03	0.03	0.15	0.23	BDL	BDL	3.1	BDL	BDL	0.38	BDL	1.10	46.0	51.0	75.0	
3	256 Unit Quarters (Hand Pump)	7.33	5.19	0.03	0.03	0.27	0.28	BDL	BDL	11.0	BDL	BDL	0.10	BDL	0.60	72.0	76.0	211.0	
4	Chikhlakasa Govt. School (Hand Pump)	7.07	1.66	0.03	0.04	0.28	0.19	BDL	BDL	6.4	BDL	1.80	1.00	BDL	1.20	62.0	69.0	130.0	
5	Gotulmunda Village (Hand Pump)	7.07	4.70	0.03	0.03	0.15	0.22	BDL	BDL	9.7	BDL	BDL	1.10	BDL	1.10	61.0	81.0	158.0	
6	Oriya Basti (Hand Pump)	7.19	6.14	0.03	0.03	0.25	0.18	BDL	BDL	10.4	BDL	1.70	1.00	BDL	0.80	75.0	85.0	207.0	
7	Chikhli Village near Govt. Middle School (Hand Pump)	6.96	3.90	0.03	0.02	0.21	0.25	BDL	BDL	7.6	BDL	BDL	0.60	BDL	1.20	67.0	81.0	154.0	
8	Jamarua Village (Hand Pump)	6.86	3.44	0.02	0.02	0.18	0.29	BDL	BDL	8.1	BDL	0.70	1.20	BDL	0.70	52.0	67.0	117.0	
9	Salhe Village (Hand Pump)	7.12	2.26	0.03	0.03	0.14	0.21	BDL	BDL	6.6	BDL	1.00	1.50	BDL	1.10	74.0	89.0	243.0	
10	Barsatola Village (Hand Pump) near school	6.94	2.76	0.03	0.02	0.13	0.19	BDL	BDL	7.9	BDL	BDL	0.90	BDL	1.40	60.0	74.0	159.0	
11	Nirmala Sector, near block No. 41 (Hand Pump)	7.51	4.44	0.02	0.02	0.16	0.11	BDL	BDL	4.8	BDL	0.90	2.20	BDL	1.60	70.0	75.0	168.0	
12	Karutola Village (Hand Pump)	7.06	5.26	0.03	0.03	0.24	0.22	BDL	BDL	8.7	BDL	0.64	0.62	BDL	BDL	125.0	119.0	302.0	
13	Bital Village (Hand Pump)	7.19	2.59	0.02	0.03	0.15	0.29	BDL	BDL	6.2	BDL	1.10	1.10	BDL	0.70	157.0	172.0	169.0	
14	Dhobedand (Hand pump)	7.14	3.12	0.03	0.03	0.19	0.15	BDL	BDL	11.5	BDL	1.30	1.00	BDL	1.10	121.0	131.0	174.0	
15	Kokan Village, near Bandh Para (Hand Pump)	6.88	2.66	0.03	0.03	0.15	0.19	BDL	BDL	5.8	BDL	1.00	1.60	BDL	BDL	82.0	90.0	121.0	

Note : Read Copper in micro gram/litre in actual, BDL = Below detectable limit.

Ground Water Level (in Meters)

S.No.	Location	Ground Water Level
1	Panderdalli, Quarry Road (Well)	5.80 Meter
2	Chikhli Village (Well)	3.65 Meter
3	Barsatola Village (Well)	4.70 Meter
4	Gotulmunda Village (Well)	4.90 Meter

S.No.	Location	Ground Water Level
5	Karutola Village (Well)	4.00 Meter
6	Salhe Village (Well)	6.10 Meter
7	Jheenkatola Village (Well)	8.80 Meter

28/12/2021

Asstt.Manager (Env)
IOC-Rajhara

Annexure-B

MONSOON SEASON GROUND WATER QUALITY AND GROUND WATER LEVEL IN IRON ORE COMPLEX

Date of Sampling :- 20 September, 2021

S.No.	Parameters	pH	Turbidity	Free Chlorine	Total Chlorine	Total Iron	Mn	Silica	Sulfide	Sulfate	Copper	Nitrate	Nitrite	Fluoride	Chloride	Alkalinity	Total Hardness	Dissolved Solids	Remarks
	Norms	6.5-8.5	5	0.20	-	0.30	0.1	-	-	200	0.05	45	-	1	250	200	300	500	
	Unit	-	NTU	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	PPM	
1	Saptagiri Park (Borewell)	7.42	3.88	0.03	0.03	0.17	0.10	BDL	BDL	5.2	BDL	BDL	0.19	BDL	BDL	72.0	79.0	82.0	
2	Rajhara Baba area (Hand Pump)	7.39	2.94	0.02	0.02	0.18	0.17	BDL	BDL	4.7	BDL	BDL	0.22	BDL	1.20	52.0	55.0	79.0	
3	256 Unit Quarters (Hand Pump)	7.41	6.69	0.03	0.03	0.28	0.89	BDL	BDL	9.6	BDL	BDL	0.90	BDL	0.70	50.0	88.0	301.0	
4	Chikhlakasa Govt. School (Hand Pump)	7.12	1.50	0.02	0.03	0.16	0.10	BDL	BDL	5.7	BDL	1.60	1.00	BDL	1.10	59.0	65.0	126.0	
5	Gotulmunda Village (Hand Pump)	7.34	3.81	0.02	0.03	0.19	0.19	BDL	BDL	8.1	BDL	BDL	1.00	BDL	1.00	61.0	77.0	166.0	
6	Oriya Basti (Hand Pump)	7.83	5.56	0.03	0.03	0.23	0.18	BDL	BDL	9.6	BDL	1.10	1.10	BDL	0.70	66.0	80.0	199.0	
7	Chikhli Village near Govt. Middle School (Hand Pump)	7.18	4.21	0.03	0.03	0.18	0.20	BDL	BDL	7.8	BDL	BDL	0.42	BDL	1.30	61.0	78.0	160.0	
8	Jamarua Village (Hand Pump)	7.21	3.72	0.03	0.03	0.13	0.19	BDL	BDL	6.2	BDL	0.90	1.10	BDL	0.80	62.0	69.0	111.0	
9	Salhe Village (Hand Pump)	7.42	3.11	0.02	0.02	0.14	0.21	BDL	BDL	6.5	BDL	1.10	1.50	BDL	1.00	69.0	78.0	254.0	
10	Barsatola Village (Hand Pump) near school	7.41	2.26	0.02	0.02	0.21	0.16	BDL	BDL	5.9	BDL	BDL	0.70	BDL	1.60	72.0	85.0	169.0	
11	Nirmala Sector, near block No. 41 (Hand Pump)	7.56	3.93	0.02	0.03	0.14	0.10	BDL	BDL	4.4	BDL	0.70	1.30	BDL	1.30	78.0	82.0	129.0	
12	Karutola Village (Hand Pump)	7.11	6.02	0.03	0.03	0.22	0.21	BDL	BDL	7.9	BDL	0.60	0.65	BDL	BDL	119.0	123.0	289.0	
13	Bital Village (Hand Pump)	7.26	2.41	0.02	0.03	0.17	0.14	BDL	BDL	5.8	BDL	0.90	1.00	BDL	0.80	162.0	173.0	152.0	
14	Dhobedand (Hand pump)	7.21	2.88	0.03	0.03	0.17	0.11	BDL	BDL	7.4	BDL	1.20	1.00	BDL	1.20	119.0	129.0	171.0	
15	Kokan Village, near Bandh Para (Hand Pump)	7.38	2.75	0.03	0.03	0.21	0.12	BDL	BDL	7.6	BDL	0.80	0.89	BDL	1.10	80.0	86.0	119.0	

Note : Read Copper in micro gram/litre in actual, BDL = Below detectable limit.

Ground Water Level (in Meters)

S.No.	Location	Ground Water Level
1	Panderdalli, Quarry Road (Well)	2.73 Meter
2	Chikhli Village (Well)	0.49 Meter
3	Barsatola Village (Well)	0.00 Meter
4	Gotulmunda Village (Well)	0.46 Meter

S.No.	Location	Ground Water Level
5	Karutola Village (Well)	0.30 Meter
6	Salhe Village (Well)	1.74 Meter
7	Jheenkatola Village (Well)	0.00 Meter

28/12/2021

Asstt.Manager (Env)
IOC-Rajhara

Annexure- C

WATER FLOW RECORDS OF JHARAN NALLA AND KUSUM NALLA
PERIOD : APRIL TO SEPTEMBER'2021

S.No.	Date	LOCATION						Remarks
		Jharan Nalla			Kusum Nalla			
		Time in Seconds	Revolution	Velocity (M/Sec.)	Time in Seconds	Revolution	Velocity (M/Sec.)	
1	14 अप्रैल 21	60	45	0.505	60	56	0.619	
2	25 सितम्बर 21	60	65	0.733	60	70	0.789	

28/12/2021
Asstt. Manager (Env.)
IOC-Rajhara

Annexure-D

EFFLUENT WATER QUALITY
DALLI MECHANISED MINE
PERIOD : APRIL TO SEPTEMBER'2021

Parameter	अप्रैल-21			मई-21			जून-21			जुलाई-21			अगस्त-21			सितम्बर-21		
	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत
pH	7.37	7.54	7.47	7.36	8.04	7.50	7.37	7.53	7.43	7.42	7.99	7.60	7.51	7.73	7.60	7.55	7.67	7.60
TSS	15.0	30.0	22.0	1.0	26.0	13.5	18.0	24.0	20.8	1.0	29.0	13.7	24.0	41.0	30.3	39.0	48.0	43.0
Fe	0.17	0.21	0.19	0.15	0.22	0.18	0.17	0.17	0.17	0.13	0.18	0.16	0.21	0.29	0.23	0.19	0.26	0.22
COD	2.0	4.0	3.0	2.0	4.0	3.0	3.0	4.0	3.8	4.0	6.0	4.8	5.0	9.0	6.8	6.0	7.0	6.5
BOD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Temp.	30.0	30.0	30.0	29.0	29.0	29.0	27.5	28.0	27.8	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Oil & Grease	0	0		0	0		0	0		0	0		0	0		0	0	
Sulfide	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

27/12/2021
Asstt. Manager (Env.)
IOC-Rajhara

Annexure-E

EFFLUENT WATER QUALITY

SLIME BENEFICIATION PLANT

PERIOD : APRIL TO SEPTEMBER'2021

Parameter	अप्रैल-21			मई-21			जून-21			जुलाई-21			अगस्त-21			सितम्बर-21		
	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत	न्यूनतम	अधिकतम	औसत
pH	7.37	7.54	7.47	7.36	8.04	7.50	7.37	7.53	7.43	7.42	7.99	7.60	7.51	7.73	7.60	7.55	7.67	7.60
TSS	15.0	30.0	22.0	1.0	26.0	13.5	18.0	24.0	20.8	1.0	29.0	13.7	24.0	41.0	30.3	39.0	48.0	43.0
Fe	0.17	0.21	0.19	0.15	0.22	0.18	0.17	0.17	0.17	0.13	0.18	0.16	0.21	0.29	0.23	0.19	0.26	0.22
COD	2.0	4.0	3.0	2.0	4.0	3.0	3.0	4.0	3.8	4.0	6.0	4.8	5.0	9.0	6.8	6.0	7.0	6.5
BOD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Temp.	30.0	30.0	30.0	29.0	29.0	29.0	27.5	28.0	27.8	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Oil & Grease	0	0		0	0		0	0		0	0		0	0		0	0	
Sulfide	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

27/12/2021

Asstt. Manager (Env.)
IOC-Rajhara

Annexure- F

AMBIENT NOISE

SLIME BENEFICIATION PLANT

PERIOD : APRIL TO SEPTEMBER'2021

Location→	MVT Centre		Administrative Building		Hitkasa Pump House		Time Office-Jharandalli	
Parameter→	Leq.		Leq.		Leq.		Leq.	
Norms →	Day	Night	Day	Night	Day	Night	Day	Night
	75 dB (A)	70 dB (A)	75 dB (A)	70 dB (A)	75 dB (A)	70 dB (A)	75 dB (A)	70 dB (A)
16 अप्रैल 21	51.5	-	51.8	-	46.0	-	51.6	-
26 मई 21	52.2	-	52.4	-	46.7	-	52.1	-
16 जून 21	51.0	-	52.1	-	45.9	-	51.5	-
16 जुलाई 21	52.1	-	51.4	-	46.2	-	52.3	-
5 अगस्त 21	51.6	-	51.9	-	46.5	-	52.0	-
1 सितम्बर 21	52.0	-	51.6	-	45.8	-	52.1	-

27/12/2021

Asstt. Manager (Env.)

IOC-Rajhara