

Compliance Report of conditions stipulated in Environmental Clearance

Name of the Project: Kasnau-Matasukh Lignite Project, District Nagaur

Project Code- Thermal & Coal (Raj-165/243/2000)

Environmental Clearance letter no. J110015/21/99/-IA.II(M) Dated: 19.07.2000

Revalidation of Environmental Clearance dated 29.07.2022

EC Identification No.EC22A042RJ141117

Period of Compliance Report: April 2022 to September 2022

A.	Specific Conditions	
S. No.	Condition	Compliance
i	The entire water requirement (domestic, industrial as well as green belt development should be met only from the safe category zone i.e. S2 of Jayal Block District, Nagaur.	The entire water requirement (domestic, industrial as well as green belt development) is met with only from Nagaur Lift Canal is utilized for above purposes.
ii.	The project authorities should develop an alternate Charagah land for the villages in lieu of the grazing land to be acquired for the project on priority, in consultation with the State Government at their cost.	Alternate charagah land for villages, in lieu of the grazing land has been acquired & handed over to the Collector, Nagaur. A total of 97.92 Hect. Alternate charagah land has been provided.
iii.	Topsoil should be stacked properly with adequate measures at earmarked site (S). It should be used for reclamation and rehabilitation of mined out areas.	Topsoil is being stacked separately at earmarked site and is being used for reclamation and rehabilitation of the mined out area & surface O.B. dumps.
iv.	The flood prone areas should be kept under strict surveillance. Pumps of sufficient capacity and head should be installed at vulnerable locations along with adequate capacity sumps.	For strict surveillance, pumps of sufficient capacity are available with the company at mine site.
v.	Mining and back – filling in both the blocks (Matasukh and Kasnau) should be carried out concurrently.	Mining and backfilling is being carried out concurrently in Matasukh pit. Kasnau pit working has been suspended due to inrush of underground water in it.
vi.	OB Dump should be designed properly keeping in view the characteristics of OB and the angle of slope. The overall slope of the OB dumps should be exceeding 28°.	OB dumps are designed properly keeping in view the characteristics of OB and the angle of slope. Overall slope of OB dumps does not exceed 28°.

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vii.	Check dams and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de silted and maintained properly.	After three years of mining operation the back filling is concurrently back filling in the mining pit. At present there is no OB active dump in the mining area. As per the instruction of Directorate of Mines & Geology we are dumping some variegated clay separately (as per mineral conservation rules). OB dumps in the mining area is about 18 years old and are stable. Water collected from the siltation ponds is utilized for spraying on roads, green belt development etc. and drains are regularly maintained properly.
viii.	Geo-technical study for slope stability should be carried out and report submitted to the Ministry.	Earlier Geo-technical studies for slope stability were carried out by Prof.(Retd.) Dr. D.M. Surana of JNV University, Jodhpur. Reports have already been submitted. Recently, in September-2021 Geo-technical study for slope stability has also been carried out by CSIR-CIMFR, Dhanbad.
ix.	Adequate capacity de-fluorination plant should be installed to meet drinking water requirement of the workers and the township (700 families).	Water supplied from Nagaur Lift Canal is being utilized for drinking purposes.
x.	The project site and Nagaur-Didwana highway should be connected by a metallic approach road for transportation of lignite. Both sides of the road should be properly planted and maintained.	Metallic road from project site to the Nagaur-Didwana highway has been completed and plantation work on both sides of the road is partially completed. Remaining plantation is in progress.
xi.	Wastewater from domestic and industrial effluent should be suitably treated and reused for industrial purpose. Township should be provided with sewerage treatment plant.	The wastewater from work shop, whenever generated, will be suitably treated and used for plantation /dust suppression purposes. There is no residential colony/township at mines site.
xii.	While the mining operation is on, regular monitoring of ground water level and quality should be carried out by establishing a new work of existing wells and constructing new Peizometers. The interval of monitoring should be found times a year – pre monsoon (April / May), monsoon (August), post monsoon (November) and winter (January). MOEF and CGWB.	Monitoring of ground water level and quality are being carried out regularly by establishing a network of existing wells and 4 piezometers.
xiii.	A green belt of-200m. width covering an area of 261 Ha. By planting the	Green belt development has been taken up in consultation with local DFO, etc. by planting local

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	native species should be raised around the lease area, township, road etc. in consultation with the local DFO/CAZRI/Agricultural University. A detailed greenbelt development plan indicating year-wise activities and availability of resources should be submitted to MOEF within three months.	and suitable species of plants. Total 68,950 nos. plants developed in the various (dumps, office, camp site) & along the road in 114.35 Ha. area.
xiv.	For management of lignite stockpile, ground should be provided to prevent any leaching and its impact on the ground water.	A suitable ground for stockpiling of lignite has been provided. Water level at this place is 50-75 meters from surface. Impervious clay zones are stopping leaching of such water to ground water. For preparation of ground for Lignite Stock yard, impermeable layers of clay are also spreading to stopping leaching of such water to ground water.
xv.	A detailed mine decommissioning plan should be submitted to MOEF, 5 years in advance.	Agreed.
xvi.	Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to MOEF and its regional office.	Digital processing of the entire lease area using remote sensing technique is being undertaken for monitoring land use pattern. The last report was submitted to MOEF & its Regional Office on 15.07.2021.

B	General Conditions	
S.No.	Condition	Compliance
i.	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forest.	No change has been carried out in mining technology and scope of working. During the year 2004, due to heavy inrush of water in the Matasukh & Kasnau pit, De-pressurization activity as per scheme desired by CMPDIL has been included for safe mining.
ii.	No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.	No change in calendar plan has been made. But due to sudden inrush of huge quantities of ground water, calendar plan had to be changed for lignite production since March, 2004. Production of lignite could be started only in November, 2005 after depressurization of underground water through installation of 16 nos. of tubewells in Matasukh pit along with 4 Piezometers for monitoring ground water level.

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iii.	Spontaneous heating and fire in lignite dumps should be controlled by proper stacking. Heating spots and fire sites should be watered regularly / continuously, as necessary.	No incidence of spontaneous fire has been observed till date. A fire tender has been provided.
iv.	Five ambient air quality-monitoring stations should be established in the core zone as well as the buffer zone for RPM, SPM SO ₂ NO _x and CO monitoring. Locations of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultations with the State Pollution Control Board.	Ambient air monitoring stations have been established for PM ₁₀ , PM _{2.5} , SO ₂ , NO _x in consultation with RSPCB. Details of five Air quality-monitoring stations are as under:- 1. Mines Manager Office 2. Near OB Development Area 3. Near Lignite production faces 4. Canteen 5. Contractor's Camp Reports are enclosed herewith as Annexure-1.
v.	Data on ambient air quality should be regularly submitted to the ministry including its Regional Office at Lucknow and the State Pollution Control Board / Central Pollution Control Board once in six months.	Six (6) monthly ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ , NO _x) reports are being sent regularly to MoEF, Integrated Regional Office at Jaipur and RSPCB. Reports are enclosed.
vi.	Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump, truck (loading & unloading) should be provided and properly maintained.	Regular water spraying is carried out on haulage roads, loading & unloading points to protect fugitive dust emissions. Proper monitoring & data recording are being undertaken. On six monthly basis report is enclosed
vii.	Adequate measures should be taken for control of noise levels below 85dB in the work environment. Workers engaged in blasting and drilling operations, operation of the HEMM should be provided with earplugs / muffs.	Measures are being taken for controlling & managing noise levels below 85 dBA. Ear plugs & muffs are being provided to all HEMM operators, supervisors etc. Report is enclosed herewith as Annexure-2.

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viii.	Industrial waste water (workshop and waste water from the mine) should be properly collected, related so as to confirm to the standards prescribed under GSR 422(E) dated: 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents into the pond.	There is no industrial waste water generated during the mining. Only washing of machinery, vehicles and shovels etc. some generated waste water are being properly collected as per the standard prescribed rules.
ix.	Acid mine water, if any, has to be treated and disposed off after conforming to the standard prescribed by the competent authority.	Mine water is not acidic in nature. Hence not applicable.
x.	Environmental laboratory should be established with the adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	Environmental monitoring laboratory has been established at Central Lab, Jodhpur. Regular work of Monitoring has been awarded to M/s Team Institute of Science & Technology Pvt. Ltd., Jaipur.
xi.	<p>Personnel working in dusty area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.</p> <p>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.</p>	<p>Persons working in mines are being provided protective respiratory devices & also imparted adequate training and information on safety and health aspects at V.T. Centre of Mines.</p> <p>Total 350 mine workers have imparted training during last three years.</p> <p>Health check-ups of all the employees are being conducted periodically, as per norms of National Institute of Miners Health, Nagpur. No occupational diseases have been reported so far.</p>
xii.	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 organization.	A separate environmental management cell (comprising qualified personnel) has been setup and persons are directly reporting to the competent authority.
xiii.	The funds earmarked for environmental protection measures should be kept in separate account and	The funds earmarked for environmental control measures are not being utilized for any other purposes. Year-wise expenditure on

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	should not be diverted for other previous year wise expenditure should be reported to the Ministry.	environmental protection measures will be reported accordingly.
xiv.	The regional Office of this Ministry located at Lucknow shall monitor compliance of the stipulated conditions. The project authorities should provide a set of filled in questionnaire and EIA / EMP report to them and extend full co-operation to the officer/(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Agreed & relevant details are being provided regularly.
xv.	State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Center and Collector's office / Tehsildar's office for 30 days.	Already requested all concerned for displaying the copy of clearance letter.
xvi.	The project authorities should advertise at least in two local newspapers widely circulated around the project one of which shall be in the vernacular language of the locality concerned informing that the project has been according environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also seen at web site of the Ministry of Environmental & Forest Conservation.	It has been advertised in two local newspapers widely circulated around the project.

EC Identification No.EC22A042RJ141117

Revalidation of Environmental Clearance dated 29.07.2022

Period of Compliance Report: April 2022 to September 2022

S.No.	Description of Additional Specific Condition	Compliance/Remark/Status
i	PP to obtain the CTO for 1 MTPA capacity immediately after grant of revalidation of EC. Any violation to provision of Water and Air Act, if exist, SPCB liable to take action accordingly.	CTO was renewed on dated 13.10.2022 by RSPCB, which valid upto 31.08.2027.

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ii	PP shall comply with all the EC condition whichever is non- complied or partially complied as per the certified compliance report, like green belt, dedicated environment cell, etc. The same shall be reported to IRO, MoEF&CC within 3 months with action plan in time bound manner.	Shall be complied.
iii	PP shall focus on tree plantation along the Nagaur Didwana highway as per the Condition no. 10 and 13 of EC. A detailed action plan with budgetary provision should be submitted within 3 months to IRO. Areal images in this regard needs to be submitted in six monthly reports to IRO.	A detailed action plan for tree plantation along the connecting road to Nagaur Didwana highway is already submitted to IRO.
iv	PP to accomplish the recruitment of a full-fledged qualified manpower with Environmental Engineer/Env. Science degree background in Environment Management Cell etc within six months and same shall be reported to IRO, MoEF&CC.	Shall be complied.
v	PP to submit the separate EMP budget other CSR activity. Separate budget would also require to address the public hearing concerns. An action plan shall be drawn with local gram panchayat within 3 months from date of issue of letter. A dedicated budget shall be earmarked to meet the public concerns and action be submitted within 6 months to IRO, MoEF&CC.	Shall be complied.
vi	PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.	Is being complied.
vii	PP to install 1 more continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB & SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.	Shall be complied.
viii	PP shall develop 2 water harvesting pond near the villages of suitable area as suggested by EAC in consultation with Gram Panchayat within 1 year.	Shall be complied.
ix	PP shall deploy atleast 10 number of fog canons	Shall be complied.

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	with 40 mts throw for mitigation of fugitive dust during mining operations within six months.	
x	PP shall comply to its letter Refer no. RSMML/SBU(L)/VDB/F.5/KM/EC/2018/2022-23/25 dated 4th April, 2022 submitted the estimated allocated budgetary expenditure for EMP to be spent in next 5 years which includes Rs. 5.22 crores for plantation, Rs. 0.28 cr for rooftop rain water harvesting structures in 15 school buildings, Rs. 0.88 cr (proposed rejuvenation of 10 existing natural ponds within the buffer zone), Rs. 1.50 cr (for air, water, noise & soil monitoring), Rs. 8.29 crore (for water sprinkling for dust suppression) and Rs. 0.25 cr (occupational health & safety measures).	Shall be complied.
xi	PP to maintain the topped haul road properly to minimized the dust emission. PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.	We have already maintained the topped haul road properly to minimize the dust emission. Further we have undertaking the work of developing pucca roads under CSR, after seeking consent from the concerned panchayat of the villages within the study area of 10 km radius buffer zone.
xii	PP to plant additional 100,000 plants with three tier plantation along the haul Roads, if not completed, and identified areas with consent to the gram panchayat within one year and plant for remaining within 1 year for their proper growth.	Additional 100,000 plants will be planted with three tier plantation along the haul roads; other service road & backfilled area through our mining contractor.
xiii	PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year	Shall be complied.
xiv	Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National	Shall be complied.

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	Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.	
xv	Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.	Shall be complied.
xvi	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours	Is being complied. Report of the noise levels is being enclosing herewith.
xvii	PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.	There is no any loss to the farmers of agricultural land has been observed due to pollution. If occurs in the future, same will be complied with.
xviii	PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non-compliance or infringement should be reported to the concerned authority.	Shall be complied.
xix	Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have	Agreed

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	<p>been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.</p>	
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Standard EC condition	(a) Statutory compliance	
i	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.	There is no forest land.
ii	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	Not applicable.
iii	The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule-I species in the study area).	Not applicable.
iv	The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.	Agreed.
v	The project proponent shall obtain the necessary permission from the Central Ground	Already obtained.

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	Water Authority.	
vi	Solid/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016	There is no Solid/hazardous waste generated in the mines
	(b) Air quality monitoring and preservation	
i	Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5, SO2 and NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.	Shall be complied.
ii	The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25 th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.	Ambient air monitoring stations have been established in the Core zone for PM10, PM2.5, SO2, NOx and heavy metals such as Hg, As, Ni, Cd, Cr in consultation with RSPCB.
iii	Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters	Transportation of lignite, to the extent permitted by road, is being carried out by covered trucks. Effective control measures such as regular water sprinkling is being carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from

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	conform to the norms prescribed by the Central/State Pollution Control Board.	all sources are being controlled regularly.
iv	The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated	Is being complied.
v	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.	Is being complied.
vi	Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	Is being complied.
vii	Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.	There is no any Coal handling plant at mine site.
	(c) Water quality monitoring and preservation	
i	The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25 th September, 2000 and as amended from time to time by the Central Pollution Control Board.	There is no industrial waste water generated during the mining. Only washing of machinery, vehicles and shovels etc. some generated waste water are being properly collected as per the standard prescribed rules.
ii	The monitoring data shall be uploaded on the	Agreed.

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	company's website and displayed at the project site at a suitable location. The circular No. J- 20012/1/2006-IA.11 (M) dated 27 th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.	
iii	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO	Regular monitoring of ground water level and quality are being carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels are being carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality is being monitored once a year, and the data thus collected are being enclosed herewith.
iv	Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.	There is no river, lake and any major nallah near the mine /lease area.
v	Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.	Agreed.
vi	Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly	Catch drain all around the acquired land area have been made. The length being KMS & width and depth being 1.5 M & 1 M respectively. Garland drains and siltation ponds is constructed around the mine working. & OB dumps to prevent run off of water and flow of sediments. Water so collected in the siltation

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	de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check runoff and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.	ponds is utilized for spraying on roads, green belt development etc. and drains are regularly maintained properly
vii	Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).	15 nos. of Water recharge Structures have been constructed in and around the mine.
viii	Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.	There is no industrial waste water generated during the mining. Only washing of machinery, vehicles and shovels etc. some generated waste water are being properly collected as per the standard prescribed rules.
ix	The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.	The water pumped out from the mine, after siltation, is being utilized for watering the mine area, roads, green belt development etc. The drains is being regularly desilted particularly after monsoon and maintained properly.
x	The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any	The surface drainage plan is being prepared on Quarterly basis. However, there is no river, lake and any major nallah near the mine /lease area.

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	diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/Gol Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law	
xi	The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.	There is no river, near the mine /lease area
	(d) Noise and Vibration monitoring and prevention	
i	Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored	Adequate measures are being taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in operation of HEMM are being provided personal protective equipments (PPE) like ear plugs/muffs. Adequate awareness programmes for users are being conducted.
ii	Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS	No blasting is required at the mine.
iii	The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.	The noise level survey is being regularly carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, Report in this regard is

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		being enclosing herewith.
	(e) Mining Plan	
i	Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.	Agreed.
ii	Mining shall be carried out as per the approved mining plan(including Mine Closure Plan)abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).	Agreed.
iii	No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.	Agreed.
iv	Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.	Agreed.
	(f) Land reclamation	
i	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).	Digital Survey of the entire leasehold area /Core zone using Satellite Remote Sensing survey is being undertaken for monitoring land use pattern. The last report was submitted to MOEF & its Regional Office on 15.07.2021.
ii	The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27 th August, 2009 and subsequent amendments.	Shall be complied.

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iii	The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.	Agreed
iv	Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3 rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.	There is no fly ash is generated at the mine.
v	Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.	Agreed
vi	The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas	Alternate charagah land for villages, in lieu of the grazing land has been acquired & handed over to the Collector, Nagaur.

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	for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.	A total of 97.92 Hect. Alternate charagah land has been provided.
	(g) Green Belt	
i	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.	Agreed
ii	Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.	Partially complied and remaining work is in pipeline.
	(h) Public hearing and Human health issues	
i	Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.	Is being complied
ii	The project proponent shall undertake occupational health survey, for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.	Is being complied.
iii	Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on	Is being complied.

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	safety and health aspects.	
iv	Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.	Is being complied.
v	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.11 (M) dated 29 th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	Agreed.
	(i) Corporate Environment Responsibility	
i	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.	Is being complied.
ii	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	Is being complied.
iii	Action plan for implementing EMP and environmental conditions along with	Is being complied.

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	responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.	
iv	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Agreed
	(j) Miscellaneous	
i	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Complied. It was advertised in two local newspaper widely circulated around the project. 1. Danik Bhaskar, Dated 06.08.2022. 2. Danik Navajyoti, Dated 06.08.2022.
ii	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Complied. Copy of clearance letter has been sent to concerned District Collector, District Forest Officer, Deptt. of Mines & Geology, Pradhan-Panchayat Samiti and Sarpanch of concerned Panchayats for their information on 29/30.08.2022
iii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Complied.
iv	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx(ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the	Agreed

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	website of the company	
v	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Agreed
vi	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.I1 (M) dated 29 th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	Agreed
vii	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Is being complied & shall be complied in future also.
viii	The project authorities shall inform to the Regional Office of the MDEFCC regarding commencement of mining operations.	Already complied.
ix	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government	Agreed
x	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee	Agreed
xi	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change	Agreed
xii	Concealing factual data or submission of false/fabricated data may result in revocation	Agreed

S. S. S.

	of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	
xiii	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Agreed
xiv	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Agreed
xv	The Regional Office of this Ministry 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.	Agreed
xvi	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	Agreed

S.D.

Head & In-Charge (Lignite)

(ARUN SINGH)

Head & In-Charge (Lignite)
Rajasthan State Mines & Minerals Ltd.
Khanij Bhawan, Tiliak Marg
JAIPUR-302005



TEAM TEST HOUSE

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Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory

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TEST REPORT

Report No.:	600002389A to 2398A	Date :	20.11.2021
Issued To :	M/s Rajasthan State Mines & Minerals Ltd. Kasnau Matasukh Lignite Mines, Nagaur Nagaur, Rajasthan	Type of Unit :	Mines
Type of Sample :	Ambient Noise Level Monitoring	Sample Collection By	Banwari Lal Kumawat
Date of Sample Collection / Monitoring	27.10.2021	Sampling Plan :	TTH/NOISE/01
Date of Test / Analysis	30.10.2021 to 20.11.2021	Unit's representative :	S. L. Berwal

RESULTS

S. No.	Sampling Location	Noise Level (Day Time) Leq [dB(A)]	Noise Level (Night Time) Leq [dB(A)]
1	Mata Sukh Village	52.7	43.5
2	Canteen	57.9	48.4
3	Near Mine Manager Office	56.9	46.8
4	Contractor Camp	47.2	40
5	Mata Sukh Pit (Development Area)	62.5	52.1
6	Mata Sukh Pit (Dumping Yard)	58.2	49.3
7	Near D. G. Set	64.7	55.5
8	Near Weight Bridge	61.3	52.6
9	Lignite Stock Yard	57.4	48.2
10	Mata Sukh Pit (Lignite Seam)	64	53.9

CPCB NOISE STANDARDS

Area code	Category of area	Limits in Leq dB (A)	
		Day Time	Night Time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence zone	50	40

Notes:-

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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

Purnan Mal Yogi
Senior Analyst

S. L. Berwal
Mines Manager
RSMML KML, Nagaur

Rakesh Maneshwar
Authorized Signatory
(Report No: 600002389A to 2398A)

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TEST REPORT

Report No.:	400003458	Date :	20.11.2021
Issued To :	M/s Rajasthan State Mines & Minerals Ltd. Kasnau Matasukh Lignite Mines, Nagaur Nagaur, Rajasthan	Type of Unit :	Mines
Type of Sample :	Ambient Air Quality Monitoring	Point of Collection	Canteen
Unit's representative :	S. L. Berwal	Sample Collection By	Banwari Lal Kumawat
Sampling Duration	24 (Hrs.)	Sampling Plan :	IS 5182:2000 (Part 14) RA 2014

RESULTS

S. No	Date of Sampling	Nitrogen Dioxide NO ₂ [µg/m ³]	Particulate Matter (PM 2.5) [µg/m ³]	Sulphur Dioxide SO ₂ [µg/m ³]	Particulate Matter (PM 10) [µg/m ³]
1	27.10.2021	14.9	40.56	3.41	70.3
2	28.10.2021	12.18	37.79	4.45	65.89
3	02.11.2021	15.35	28.43	5.41	76.19
4	03.11.2021	14.26	31.78	4.78	72.50
5	09.11.2021	13.85	35.26	5.19	67.43
6	10.11.2021	14.38	37.45	5.23	71.40
7	16.11.2021	12.30	39.53	4.52	76.25
8	17.11.2021	13.27	35.31	4.09	73.32
Limits as per National Ambient Air Quality Standard - 2009		80.00	60.00	80.00	100.00

Notes :-

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Senior Analyst **Mal Yogi**

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Mines Manager
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Rajesh Maheshwan
Authorized Signatory
(Report No: 400003458)

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TEST REPORT

Report No.:	400003456	Date :	20.11.2021
Issued To :	M/s Rajasthan State Mines & Minerals Ltd. Kasnau Matasukh Lignite Mines, Nagaur Nagaur, Rajasthan.	Type of Unit :	Mines
Type of Sample :	Ambient Air Quality Monitoring	Point of Collection	Contractor Camp
Unit's representative :	S. L. Berwal	Sample Collection By	Banwari Lal Kumawat
Sampling Duration	24 (Hrs.)	Sampling Plan :	IS 5182:2000 (Part 14) RA 2014

RESULTS

Sr No	Date of Sampling	Nitrogen Dioxide NO ₂ [µg/m ³]	Particulate Matter (PM 2.5) [µg/m ³]	Sulphur Dioxide SO ₂ [µg/m ³]	Particulate Matter (PM 10) [µg/m ³]
1	27.10.2021	12.74	28.9	2.98	70.3
2	28.10.2021	15.87	31.18	3.12	73.69
3	02.11.2021	16.83	35.90	5.43	75.28
4	03.11.2021	15.40	32.43	4.28	71.45
5	09.11.2021	13.92	36.90	5.61	69.84
6	10.11.2021	14.53	31.45	5.22	73.80
7	16.11.2021	10.69	35.65	4.47	68.97
8	17.11.2021	12.16	35.11	4.16	62.29
Limits as per National Ambient Air Quality Standard, 2009		80.00	60.00	80.00	100.00

Notes :-

- # Parameter No. 1,2,3,6,7 covered under NABL scope and Parameter No. does not cover under NABL scope
- # Parameter No. NONE outsourced for testing.
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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Senior Analyst

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TEST REPORT

Report No.:	400003455	Date :	20.11.2021
Issued To :	M/s Rajasthan State Mines & Minerals Ltd. Kasnau Matasukh Lignite Mines, Nagaur Nagaur, Rajasthan	Type of Unit :	Mines
Type of Sample :	Ambient Air Quality Monitoring	Point of Collection	Near Mines Manager Office
Unit's representative :	S. L. Berwal	Sample Collection By	Banwari Lal Kumawat
Sampling Duration	24 (Hrs.)	Sampling Plan :	IS 5182:2000 (Part 14) RA 2014

RESULTS

S. No.	Date of Sampling	Nitrogen Dioxide NO ₂ [µg/m ³]	Particulate Matter (PM 2.5) [µg/m ³]	Sulphur Dioxide SO ₂ [µg/m ³]	Particulate Matter (PM 10) [µg/m ³]
1	27.10.2021	14.3	43.34	2.96	66.47
2	28.10.2021	10.64	30.24	3.96	73.45
3	02.11.2021	13.68	28.73	4.31	71.25
4	03.11.2021	15.22	34.26	5.72	68.93
5	09.11.2021	13.45	31.29	4.52	65.45
6	10.11.2021	12.92	40.25	5.13	68.28
7	16.11.2021	15.23	34.64	4.43	66.92
8	17.11.2021	9.22	36.67	3.83	78.65
Limits as per National Ambient Air Quality Standard 2009		80.00	60.00	80.00	100.00

Notes :-

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Senior Analyst

Rajesh Maheshwan
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TEST REPORT

Report No.:	400003459	Date :	20.11.2021
Issued To :	M/s Rajasthan State Mines & Minerals Ltd. Kasnau Matasukh Lignite Mines, Nagaur Nagaur, Rajasthan	Type of Unit :	Mines
Type of Sample :	Ambient Air Quality Monitoring	Point of Collection	O.B. Development Area
Unit's representative :	S. L. Berwal	Sample Collection By	Banwari Lal Kumawat
Sampling Duration	24 (Hrs.)	Sampling Plan :	IS 5182:2000 (Part 14) RA 2014

RESULTS

S. No.	Date of Sampling	Nitrogen Dioxide NO ₂ [µg/m ³]	Particulate Matter (PM _{2.5}) [µg/m ³]	Sulphur Dioxide SO ₂ [µg/m ³]	Particulate Matter (PM ₁₀) [µg/m ³]
1	27.10.2021	15.5	38.28	4.14	72.03
2	28.10.2021	15.44	32.06	2.98	78.98
3	02.11.2021	13.92	35.61	4.3	75.22
4	03.11.2021	14.05	39.40	5.42	68.19
5	09.11.2021	16.43	43.25	5.19	65.73
6	10.11.2021	15.19	36.41	4.69	77.45
7	16.11.2021	13.44	33.5	3.64	73.67
8	17.11.2021	12.53	28.42	3.92	76.3
Limits as per National Ambient Air Quality Standard, 2009		80.00	60.00	80.00	100.00

Notes :-

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Senior Analyst Yogi

Rajesh Maheshwan
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TEST REPORT

Report No.:	400003457	Date :	20.11.2021
Issued To :	M/s Rajasthan State Mines & Minerals Ltd. Kasnau Matasukh Lignite Mines, Nagaur Nagaur, Rajasthan	Type of Unit :	Mines
Type of Sample :	Ambient Air Quality Monitoring	Point of Collection	Mata Sukh Pit (D.G. Set)
Unit's representative :	S. L. Berwal	Sample Collection By	Banwari Lal Kumawat
Sampling Duration	24 (Hrs.)	Sampling Plan :	IS 5182:2000 (Part 14) RA 2014

RESULTS

S. No.	Date of Sampling	Nitrogen Dioxide NO ₂ [$\mu\text{g}/\text{m}^3$]	Particulate Matter (PM _{2.5}) [$\mu\text{g}/\text{m}^3$]	Sulphur Dioxide SO ₂ [$\mu\text{g}/\text{m}^3$]	Particulate Matter (PM ₁₀) [$\mu\text{g}/\text{m}^3$]
1	27.10.2021	12.42	37.58	3.71	73.67
2	28.10.2021	15.64	28.64	4.68	67.92
3	02.11.2021	13.85	31.46	6.25	73.85
4	03.11.2021	14.26	35.28	5.71	75.19
5	09.11.2021	15.21	41.39	4.35	71.28
6	10.11.2021	13.48	38.52	5.26	69.23
7	16.11.2021	13.08	31.19	4.16	68.47
8	17.11.2021	13.67	35.53	4.13	35.58
Limits as per National Ambient Air Quality Standard-2009		80.00	60.00	80.00	100.00

Notes :-

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Senior Analyst

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Mines Manager
RSMML KML, Nagaur

Rajesh Maheshwari
Authorized Signatory
(Report No: 400003457)

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TEST REPORT

Report No./ULR No. :	TC502521100002169	Date :	16-11-2021
Issued To :	M/S Rajasthan State Mines & Minerals Ltd Kasnau Matasukh Lignite mines, Nagaur, Nagaur (Rajasthan),	Type of Unit :	Industry
Type of Sample :	Potable and Domestic Water	Date of Sample Collection/Monitoring :	28-10-2021
Point of Collection :	Mine Office Drinking Water	Date of Receipt :	30-10-2021
Date of Test/Analysis :	30-10-2021 to 16-11-2021	Sampling Plan :	IS 3025:1987(Part 1)RA 2014
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Mr S.L Berwal	Condition of Sample :	Fit for testing

RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Requirement (Acceptable Limit) as per IS 10500 : 2012 (RA 2018) Max.	Standard Permissible limits in the absence of Alternate Sources as per IS 10500 : 2012
1	Turbidity [NTU]	BDL (<0.1)	IS 3025 (Part 10) : 1984 RA 2017	1.00	5.00
2	pH	7.93	IS 3025 (Part 11) : 1983 RA 2017	6.50 - 8.50	-
3	Hardness (total) [mg/l]	98.15	IS 3025 (Part 21) : 2009 RA 2019	200.00	600.00
4	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2019	1.0	-
5	Chloride [mg/l]	24.11	IS 3025 (Part 32) : 1988 RA 2019	250.00	1000.00
6	Total Dissolved Solids [mg/l]	210	IS 3025 (Part 16) : 1984 RA 2017	500.00	2000.00
7	Phosphate (total) [mg/l]	BDL(<0.1)	IS 3025 (Part 32) : 1988 RA 2019	-	-
8	Calcium [mg/l]	27.41	IS 3025 (Part 40) : 1991 RA 2019	75.00	200.00

Note:

Continue to next page...

S. L. Berwal
Mines Manager

RSMML KML, Nagaur

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RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Requirement (Acceptable Limit) as per IS 10500 : 2012 (RA 2018) Max.	Standard Permissible limits in the absence of Alternate Sources as per IS 10500 : 2012
9	Magnesium [mg/l]	7.2	IS 3025 (Part 46) : 1994 RA 2019	30.00	100.00
10	Manganese [mg/l]	BDL(<0.01)	IS 3025 (Part 59) : 2006 RA 2017	0.1	0.3
11	Sulphate [mg/l]	28.5	IS 3025 (Part 24) : 1986 RA 2019	200.00	400.00
12	Nitrate [mg/l]	25.26	IS 3025 (Part 34) : 1988 RA 2019	45.00	-
13	Fluoride [mg/l]	0.41	IS 3025 (Part 60) : 2008 RA 2019	1.00	1.50
14	Alkalinity - T [mg/l]	77.6	IS 3025 (Part 23) : 1986 RA 2019	200.00	600.00

Notes :-

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Belgum
Senior Analyst

K.N. Mohan
K.N. Mohan
Authorized Signatory
(Report No: TC502521100002169)

S. L. Berwal
S. L. Berwal
Mines Manager
RSMML KML, Nagaur

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TEST REPORT

Report No./ULR No. :	TC502521100002168	Date :	16-11-2021
Issued To :	M/S Rajasthan State Mines & Minerals Ltd Kasnau Matasukh Lignite mines, Nagaur, Nagaur (Rajasthan),	Type of Unit :	Industry
Type of Sample :	Potable and Domestic Water	Date of Sample Collection/Monitoring :	28-10-2021
Point of Collection :	Driking Water at Canteen	Date of Receipt :	30-10-2021
Date of Test/Analysis :	30-10-2021 to 16-11-2021	Sampling Plan :	IS 3025:1987(Part 1)RA 2014
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Mr S.L Berwal	Condition of Sample :	Fit for testing

RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Requirement (Acceptable Limit) as per IS 10500 : 2012 (RA 2018) Max.	Standard Permissible limits in the absence of Alternate Sources as per IS 10500 : 2012
1	Turbidity [NTU]	BDL (<0.1)	IS 3025 (Part 10) : 1984 RA 2017	1.00	5.00
2	pH	7.74	IS 3025 (Part 11) : 1983 RA 2017	6.50 - 8.50	-
3	Hardness (total) [mg/l]	68.52	IS 3025 (Part 21) : 2009 RA 2019	200.00	600.00
4	Hardness (total) [mg/l]	68.52	IS 3025 (Part 21) : 2009 RA 2019	200.00	600.00
5	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2019	1.0	-
6	Chloride [mg/l]	21.21	IS 3025 (Part 32) : 1988 RA 2019	250.00	1000.00
7	Total Dissolved Solids [mg/l]	156	IS 3025 (Part 16) : 1984 RA 2017	500.00	2000.00
8	Phosphate (total) [mg/l]	BDL(<0.1)	IS 3025 (Part 32) : 1988 RA 2019	-	-

Note:

Continue to next page...

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Mines Manager
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RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Requirement (Acceptable Limit) as per IS 10500 : 2012 (RA 2018) Max.	Standard Permissible limits in the absence of Alternate Sources as per IS 10500 : 2012
9	Calcium [mg/l]	22.96	IS 3025 (Part 40) : 1991 RA 2019	75.00	200.00
10	Magnesium [mg/l]	2.7	IS 3025 (Part 46) : 1994 RA 2019	30.00	100.00
11	Manganese [mg/l]	BDL(<0.01)	IS 3025 (Part 59) : 2006 RA 2017	0.1	0.3
12	Sulphate [mg/l]	17.1	IS 3025 (Part 24) : 1986 RA 2019	200.00	400.00
13	Nitrate [mg/l]	13.93	IS 3025 (Part 34) : 1988 RA 2019	45.00	-
14	Fluoride [mg/l]	0.43	IS 3025 (Part 60) : 2008 RA 2019	1.00	1.50
15	Alkalinity - T [mg/l]	71.78	IS 3025 (Part 23) : 1986 RA 2019	200.00	600.00

Notes :-

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Balram
Senior Analyst

[Signature]
Authorized Signatory
(Report No: TC502521100002168)

[Signature]
S. L. Berwal
Mines Manager
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TEST REPORT

Report No./ULR No. :	TC502521100002170	Date :	16-11-2021
Issued To :	M/S Rajasthan State Mines & Minerals Ltd Kasnau Matasukh Lignite mines, Nagaur, Nagaur (Rajasthan),	Type of Unit :	Industry
Type of Sample :	mine discharge water	Date of Sample Collection/Monitoring :	28-10-2021
Point of Collection :	Mine Discharge Water	Date of Receipt :	30-10-2021
Date of Test/Analysis :	30-10-2021 to 16-11-2021	Sampling Plan :	IS 3025:1987(Part 1)RA 2014
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Mr S.L Berwal	Condition of Sample :	Fit for testing

RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Turbidity [NTU]	BDL (<0.1)	IS 3025 (Part 10) : 1984 RA 2017
2	pH	8.09	IS 3025 (Part 11) : 1983 RA 2017
3	Hardness (total) [mg/l]	1037.04	IS 3025 (Part 21) : 2009 RA 2019
4	Iron [mg/l]	0.03	IS 3025 (Part 53) : 2003 RA 2019
5	Chloride [mg/l]	4724.78	IS 3025 (Part 32) : 1988 RA 2019
6	Total Dissolved Solids [mg/l]	10763	IS 3025 (Part 16) : 1984 RA 2017
7	Phosphate (total) [mg/l]	0.26	IS 3025 (Part 32) : 1988 RA 2019
8	Calcium [mg/l]	103.7	IS 3025 (Part 40) : 1991 RA 2019

Note:

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Email : marketinglab@teamtesthouse.com

RESULTS

S.No	Parameters	Observed Value	Testing Protocol
9	Magnesium [mg/l]	188.99	IS 3025 (Part 46) : 1994 RA 2019
10	Manganese [mg/l]	BDL(<0.01)	IS 3025 (Part 59) : 2006 RA 2017
11	Sulphate [mg/l]	1460	IS 3025 (Part 24) : 1986 RA 2019
12	Nitrate [mg/l]	47.51	IS 3025 (Part 34) : 1988 RA 2019
13	Fluoride [mg/l]	3.44	IS 3025 (Part 60) : 2008 RA 2019
14	Alkalinity - T [mg/l]	649.9	IS 3025 (Part 23) : 1986 RA 2019

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TEST REPORT

Report No./ULR No. :	110000401	Date :	16-11-2021
Issued To :	M/S Rajasthan State Mines & Minerals Ltd Kasnau Matasukh Lignite mines, Nagaur, Nagaur (Rajasthan),	Type of Unit :	Industry
Type of Sample :	Soil Sample	Date of Sample Collection/Monitoring :	28-10-2021
Point of Collection :	Near Mata Sukh Pit	Date of Receipt :	30-10-2021
Date of Test/Analysis :	30-10-2021 to 16-11-2021	Sampling Plan :	Not Available
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Mr S.L Berwal	Condition of Sample :	Fit for testing

RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Electrical Conductivity (EC) [micromho/cm]	1510	Method Manual
2	Nitrogen available [mg/kg]	2.94	Method Manual
3	pH	8.39	Method Manual
4	Potassium as K ₂ O [%]	0.096	IS 1917 (Part 2) : 1992, RA-2006
5	Moisture Content [%]	0.81	Method Manual
6	Phosphorous [%]	0.001	Method Manual
7	Organic Matter [%]	0.13	Method Manual

Notes :-

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Senior Analyst

Authorized Signatory
(Report No: 110000401)

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Mines Manager
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TEST REPORT

Report No./ULR No. :	110000402	Date :	16-11-2021
Issued To :	M/S Rajasthan State Mines & Minerals Ltd Kasnau Matasukh Lignite mines, Nagaur, Nagaur (Rajasthan),	Type of Unit :	Industry
Type of Sample :	Soil Sample	Date of Sample Collection/Monitoring :	28-10-2021
Point of Collection :	Out Side Evaporation Pond.	Date of Receipt :	30-10-2021
Date of Test/Analysis :	30-10-2021 to 16-11-2021	Sampling Plan :	Not Available
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Mr S.L Berwal	Condition of Sample :	Fit for testing

RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Electrical Conductivity (EC) [micromho/cm]	1722	Method Manual
2	Nitrogen available [mg/kg]	4.16	Method Manual
3	pH	8.41	Method Manual
4	Potassium as K ₂ O [%]	0.14	IS 1917 (Part 2) : 1992, RA-2006
5	Moisture Content [%]	0.94	Method Manual
6	Phosphorous [%]	0.0028	Method Manual
7	Organic Matter [%]	0.11	Method Manual

Notes :-

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Pooja Devdas Meena
Senior Analyst

Authorized Signatory
(Report No: 110000402)

S. L. Berwal
Mines Manager
RSMML KML, Nagaur



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TEST REPORT

Report No./ULR No. :	110000403	Date :	16-11-2021
Issued To :	M/S Rajasthan State Mines & Minerals Ltd Kasnau Matasukh Lignite mines, Nagaur, Nagaur (Rajasthan),	Type of Unit :	Industry
Type of Sample :	Soil Sample	Date of Sample Collection/Monitoring :	28-10-2021
Point of Collection :	Near Kashau Pit	Date of Receipt :	30-10-2021
Date of Test/Analysis :	30-10-2021 to 16-11-2021	Sampling Plan :	Not Available
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Mr S.L Berwal	Condition of Sample :	Fit for testing

RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Electrical Conductivity (EC) [micromho/cm]	179.7	Method Manual
2	Nitrogen available [mg/kg]	6.91	Method Manual
3	pH	8.14	Method Manual
4	Potassium as K ₂ O [%]	0.15	IS 1917 (Part 2) : 1992, RA-2006
5	Moisture Content [%]	0.30	Method Manual
6	Phosphorous [%]	0.0088	Method Manual
7	Organic Matter [%]	0.19	Method Manual

Notes :-

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Pooja Devidas Moon
Senior Analyst

Authorized Signatory
(Report No: 110000403)

S. L. Berwal
Mines Manager
RSMML KML, Nagaur