

HALF YEARLY
ENVIRONMENT CLEARANCE COMPLIANCE REPORT
OF
CLUSTER 5
J-11015/288/2010-IA.II(M)
FOR THE PERIOD OF
OCTOBER 2017 TO MARCH 2018



Eastern Coalfields Limited
(A subsidiary of Coal India Ltd.)

EASTERN COALFIELDS LIMITED
HALF YEARLY EC COMPLIANCE REPORT
H/Y ENDING March'2018
CLUSTER NO.5, SODEPUR AREA
EC No. J-11015/288/2010-IA-II.(M) dt. 15-06-2016
Compliance of environment clearance conditions

Period: Half Yearly Report from 01st Oct'2017 to 31st Mar'2018

| Sl no. | Specific Conditions | Compliance status | | | | | | | | | | | | | | | |
|---------------------|---|---|--------------|---------------------------|--|-------------|------|-------|-------------------|-----|---|---------------|-------|-------|---------------------|-----|---|
| i. | The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC. | <p>Regular monitoring of production data is done to comply with the condition. Monthly production from April 2017-September 2017 is tabulated below:</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Name of Mine</th> <th>Annual Peak Capacity(MTY)</th> <th>Production(Te) From 1st April'17-31st March'18</th> </tr> </thead> <tbody> <tr> <td>Parbelia UG</td> <td>0.15</td> <td>0.047</td> </tr> <tr> <td>Parbelia OC Patch</td> <td>0.1</td> <td>0</td> </tr> <tr> <td>Dubeshwari UG</td> <td>0.135</td> <td>0.040</td> </tr> <tr> <td>Dubeshwari OC patch</td> <td>0.1</td> <td>0</td> </tr> </tbody> </table> <p>Regular monitoring of production data is done to comply with the condition.</p> | Name of Mine | Annual Peak Capacity(MTY) | Production(Te) From 1 st April'17-31 st March'18 | Parbelia UG | 0.15 | 0.047 | Parbelia OC Patch | 0.1 | 0 | Dubeshwari UG | 0.135 | 0.040 | Dubeshwari OC patch | 0.1 | 0 |
| Name of Mine | Annual Peak Capacity(MTY) | Production(Te) From 1 st April'17-31 st March'18 | | | | | | | | | | | | | | | |
| Parbelia UG | 0.15 | 0.047 | | | | | | | | | | | | | | | |
| Parbelia OC Patch | 0.1 | 0 | | | | | | | | | | | | | | | |
| Dubeshwari UG | 0.135 | 0.040 | | | | | | | | | | | | | | | |
| Dubeshwari OC patch | 0.1 | 0 | | | | | | | | | | | | | | | |
| ii. | The validity of the EC is for the life of the mine or as specified in the EIA Notification, 2006, whichever is earlier. | Noted and Agreed. | | | | | | | | | | | | | | | |
| iii. | The opencast voids shall be completely backfilled after extraction of available coal reserves and there shall be no residual external dump. | Not Applicable as the mine is underground. | | | | | | | | | | | | | | | |
| iv. | Total amount of OB produced shall be backfilled for both the proposed OC mines. | Not Applicable as the mine is underground. The mine in underground. | | | | | | | | | | | | | | | |
| v. | Coal transportation in pit: Underground, mine- coal tubs at the | Coal from underground is transported to surface through rope haulages and from | | | | | | | | | | | | | | | |

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| | <p>phases are being hauled by tugger Haulage & Opencast mine – coal shall be proposed to be transported from pit to surface depot by tippers, surface to siding ; coal produced from Parbelia UG shall be transported by endless haulage to hoppers at Parbelia Railway Siding existing near the mine pits.They shall be no truck transportation. Coal produced from Parbelia OC Patch will be transported to Parbelia Railway Siding located at 3Kms away. Coal produced from Parbelia UG & OC will be transported by covered trucks to Parbelia Railway Siding and loading to siding. Coal shall be loaded by pay loaders into railway wagons. Transportation of coal from the mine to railway siding should be by mechanically covered trucks.</p> | <p>surface to Parbelia railway siding. Coal is carried to siding by tarpaulin covered truck/trippers. Coal is loaded to railway wagons by payloaders.</p> |
| vi. | The production shall be within the Mining Lease area. | Complied. |
| vii. | The OB shall be completely re-handled at the end of the mining. | Not Applicable as the mine is underground. |
| viii. | There shall be no void. | Not Applicable as the mine is underground. |
| ix. | Coal extraction shall also be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring and coal extraction should be carried out below habitation, H.T.Lines & beneath row, water bodies. | Complied. |
| x. | Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the land owners shall be adequately compensated with mutual agreement with the land owners. | No such case of subsidence has been encountered till now. |
| xi. | Garland drains (size, gradient & length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be resigned keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also provide adequate retention period to allow proper | Not Applicable as the mine is underground. |

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| | settling of silt material. | |
| xii. | Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained. | Fixed water sprinklers shall be provided at Rly siding and at loading/unloading points by June 2018(Work Order has been Awarded). At present mobile water tankers are used to suppress the dust in roads. All approach roads are black topped. |
| xiii. | Mining shall be carried out as per statuette at a safe distance from the river/nalla flowing adjacent to the lease boundary. | Complied. |
| xiv. | The land after mining shall be brought back for agricultural purpose. | Agreed. |
| xv. | Mine water should be treated for discharge into the lagoons. The quality of lagoon water shall be regularly monitored And mitigation measures taken. | Mine discharge water is analyzed on regular basis by CMPDIL and found to be within the specified norms of CPCB. |
| xvi. | High root density tree species shall be selected and planted over areas likely to be affected by subsidence. | Noted and Agreed. |
| xvii. | The CSR cost should be Rs. 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation. | As per the revised CSR policy of CIL 2% of the average profit of preceding 3 years is the norms for CSR expenditure in the entire ECL command areas. The total CSR expenditure of Sodepur Area, ECL during 2017-18 is nearly 20 lakhs and the work includes repairing & maintenance and provision of water filter plant in nearby village school and construction of community hall in nearby village. |
| xviii. | The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analysed and monitored for compliance of conditions, bearing with movement of wildlife and until such time they are closed/phased out. | Noted and Agreed. It shall be complied as per Mine Closure Plan (MCP). |
| xix. | Everybody in the core area should be provided with mask for protection against fugitive dust emissions. | Dust mask for protection against fugitive dust emissions is provided to the personnel working near dust producing sources. |
| xx. | Dust mask to be provided working in the mining area. | Complied. |
| xxi. | The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area. | Agreed. |

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| xxii. | People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mining area. | Complied. Health checkup along with lung diseases is carried out on yearly basis by Area Medical Officer. PME-1335(2017-18) |
| xxiii. | The mining area should be grounded by green belt having thick closed thick canopy of the tree cover. | 6.05 Ha of land has been proposed for plantation for the year 2018-19. |
| xxiv. | The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilized with plantation so as to withstand the peak water flow and prevent mine inundation. | Not Applicable as the mine is underground. |
| xxv. | There shall be no over flow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project. | Not Applicable as the mine is underground. |
| xxvi. | Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flow from soil, OB and mineral dumps. The water so collected shall be regularly watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. | Not Applicable as the mine is underground. |
| xxvii. | Dimensions of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data. | Not Applicable as the mine is underground. |
| xxviii | Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water | No CHP in Cluster-5 However, water sprinkling is done by mobile water tankers at all major points to check dust emissions. |

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| | sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc. | |
| xxix. | Acid Water Treatment Plant, volume of water to be treated and disposal of brine should be provided. | Mine water is not acidic as indicated by the reports of CMPDIL, RI-1. |
| xxx. | Mine Discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment. | Mine water discharge is regularly monitored for TDS level and other parameters. Quality of mine water is within the permissible limits. |
| xxxi. | Drills shall be wet operated. | Water spraying is done before and after drilling. |
| xxxii. | The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3- tier green belt comprising of a mix of native species shall be developed all along the major approach roads. | Roads are repaired and tarred regularly. |
| xxxiii | Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented. | Complied. Controlled blasting is being done as per DGMS permission and conditions. |
| xxxiv | A Progressive a forestation plan shall be implemented covering an area of 455.54 ha at the end of the mining which includes reclaimed excavation area (20.2 Ha), Mine infrastructure and built up area (120 Ha) and barren/ vacant land (315.34 Ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agricultural dept. The density of the trees shall be around 2500 plants/ Ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine | Agreed |
| xxxv. | The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner. | Not Applicable as the mine is underground. |
| xxxvi | Compensatory Ecological & | Not Applicable as the mine is underground. |

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| | Restoration of waste land, other degraded lands and OB dumps in lieu of breaking open the land be carried out. | |
| xxxvi i. | The mining should be phased out in sustainable manner. No extra over burden dumps are permitted. | Not Applicable as the mine is underground. |
| xxxvi ii. | No groundwater shall be used for mining operations. | Complied. |
| xxxix | Of the total quarry area 20.2 ha. The backfilled quarry area of 20.2 ha shall be reclaimed with plantation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha | Not Applicable as the mine is underground. |
| xl. | Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring. | Quarterly monitoring of ground water table is being done by CMPDI to check the water table level. Team of officials from CMPDIL HQ has identified the location for installation of piezometers. |
| xli. | Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.. | Complied. |
| xlii. | If subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners.. | Subsidence is monitored by Surveyor of the mines and till now no such case of subsidence has been encountered. |

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| xliii. | The company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine. | No artificial Ground water recharge measure is present in the cluster at present. However rainwater harvesting has been done at Sodepur area, ECL under which this cluster is present. It will be further done in collieries. |
| xliv. | Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater. | Agreed. There is no workshop and CHP in this cluster.. |
| xlv. | Besides carrying out regular periodic health check-up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up from occupational diseases and hearing impairment, if any, through an specialized agency /institution within the District/State and the results reported to this Ministry and to DGMS. | Noted and Agreed. Complied. Health checkup is carried out on frequently as per norms and reported to DGMS. PME-1335(2017-18) |
| xlvi. | Land ousters shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher. | It is being complied as per R&R Policy of CIL/National R&R Policy. |
| xlvii. | For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MoEF&CC and its concerned Regional office. | Changes in the land use pattern will be tracked by carrying out satellite imagery at every three years' interval. This is being done by CMPDI, Ranchi. |
| xlviii. | A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate Change within 6 months of grant of Environment Clearance. | Complied. |
| xlix. | The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare | Complied. |

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| | measures under CSR to be carried out over the balance life of the mine. | |
| xlx | Corporate Environment Responsibility: | |
| | <p>a) The Environmental Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.</p> <p>b) To have proper checks and balances, the Company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the board of directors of the company and /or shareholders or stakeholders at large.</p> | <p>It is being complied with.</p> <p>a)Environment Policy of CIL: Coal India Limited (CIL) is committed to protect the environment through prevention, mitigation of pollution, proper disposal and recycling of wastes, conservation of biodiversity and bringing awareness among all its stakeholders for continual improvement in environmental performances following best practices.</p> <p>b)The environment policy ensures compliance of EC conditions and other statutory conditions issued by regulatory agencies.</p> <p>c)The Environment Department is headed by GM(Env) at HQ level and Environment Management Cell(EMC) has been established at each area of ECL which is responsible for looking after the compliances of the EC conditions of all the Clusters present in that area. The head of this EMC reports directly to the GM of the area.</p> <p>d)The Environment Audit Cell(EAC) has been established at area level for periodic audit of the Clusters for compliance of the EC conditions and other regulatory compliances. The non-compliances are being reported to the agents of the concerned cluster and also to the GM of the area. A copy of the audit report also being sent to the GM(Env), HQ. If the compliance is not done in the time bound manner then it is further reported to the higher authorities by GM(Env), HQ.</p> |
| B. | General Conditions | Compliance status |
| i. | No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forests & Climate Change. | No change in mining technology will be done without prior approval of the MoEF&CC. |
| ii. | No change in the calendar plan of production for quantum of mineral coal shall be made. | Production is being done according to the prior approved calendar plan and under the limit of EC as given in the Specific Condition no.(i). |

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| iii. | Four ambient air quality monitoring stations shall 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 shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months. | Regular Environmental monitoring is being carried out quarterly basis by CMPDI, Asansol. Monitoring stations have been located in consultation with officials of SPCB in accordance with the direction of the wind. Location of station changes in summer and winter season according to the direction of wind and monitoring is done as per the condition meeting the norms at upstream and downwind direction. |
| iv. | Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO _x) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EPA rules, 1986 shall be furnished as part of compliance report. | Regular Environmental monitoring is being carried out on quarterly basis by CMPDI, Asansol. Same as per General Condition no.(iii) |
| v. | Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs. | Workers on pertinent activity are always being equipped with particular ear plugs. |
| vi | Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents. | Complied. |
| vii. | Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded. | Vehicles are checked for PUC certificates. Vehicles used for transporting coal are covered with tarpaulins and optimally loaded. |

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| viii. | Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognised under EPA Rules, 1986. | Environmental Laboratory with latest equipment has been established at CMPDI, RI – I, Asansol. Quarterly monitoring report of Air, Water, and Noise & Groundwater level is prepared at above laboratory and sent to West Bengal pollution control Board with Environmental Statement (Form-V) & by Six monthly compliance reports to the MoEF regional office Bhubaneswar. |
| ix. | Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training information on safety and health aspects. | Protective wears are being supplied and used by workmen judiciously. |
| x. | Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing. | Occupational health surveillance i.e. Periodic Health Examination (PME) is being done as per norms at Central Hospital, Kalla. PME-1335(2017-18) |
| xi. | A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company. | A separate environmental management cell at Company HQ, headed by GM (Env), and ten executives has been set up. For management at mine level a cell is also functional headed by Nodal Officer (A senior level Executive) Environment, who reports to Area General Manager with unit nodal officer at mine level. GM (Env) and Area General Manager reports directly to Director (Technical) of the company |
| xii. | The funds embarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office. | The funds embarked for environmental protection measures for the year 2017-18 is 25 lakhs and it is kept in separate account and shall not be diverted for other purpose. |
| xiii. | The project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded | Complied |

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| | environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the Ministry of Environment, Forests & Climate Change at http://envfor.nic.in | |
| xiv. | A copy of the environment clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website. | The copy of the clearance letter has been communicated to the Kulti Municipal Corporation and Asansol municipal Corporation of Burdwan Dist.(WB).The copy has also been displayed in Company' website. |
| xv. | A copy of the environment clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, district Industry sector and Collector's Office/Tehsildar's office for 30 days | Copy of EC letter sent to concerned panchayats and receiving copy with seal and signature of the Panchayat is available with the Environment Management Cell (EMC). EC letter displayed on company's website: http://www.easterncoal.gov.in/notices/env_u pdate21102014.pdf |
| xvi. | The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient) and critical sectoral parameters shall also be displayed t the entrance of the project premises and mine office and in corporate office and on company's website | Complied. |
| xvii. | The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Offices of | The six monthly compliance reports will be communicated to MOEF, respective Zonal Office in Bhubaneswar. The present report is the compliance report from Oct 2017 to March 2018. |

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| | CPCB and SPCB. | |
| xviii. | The Regional Office of this Ministry located in the Region shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data / information / monitoring reports. | The project is always ready to co-operate with the Ministry whenever required. |
| xix. | The Environmental statement for each financial year ending 31 March in Form-V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF&CC by e-mail. | The environmental statement for financial year 2016-17 ending 31st March 2017 in Form-V has been already submitted to West Bengal Pollution Control Board and mailed to the respective Regional Offices of the MoEF&CC. |



Arun Kumar (P.C.D.)



Agent Parshel's

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 प्रशासनिक विभाग
 फोन-U10101WB1975GO1030295
 www.easterncoal.gov.in



EASTERN COALFIELDS LIMITED

Office of the Chairman-cum-Managing Director
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 E-Mail: grncivil.ecf@gmail.com
 Date: 05.09.2015

BCL/HQ/GM(Civil)/ WSS/1265

"FAX MESSAGE"

Area General Managers

PARBALIA GROUP

REMINDER

Sub: Mine Water Utilization in CIL- matter regarding.
 Ref: CMD:SECY:D-0482 dated 01.09.2015 & our earlier letter dated 03/09/15

Dear Sir,

Following information are required urgently by CIL/CMPDIL with respect to mine water utilization. The information may please be sent by return Fax by 07.09.2015 evening, without fail.

| Quantity of Mine Water (m ³ /day) | Water Demand of Coal Projects (m ³ /day) | | | Raw mine water supply to coal projects (m ³ /day) | Treated Mine water Supply to Coal Projects (m ³ /day) | Treated Mine water Supply to nearby Areas (m ³ /day) | Balance Mine water Discharged outside (m ³ /day) | Mine water Utilization and total Demand of Coal Projects (%) | | |
|--|---|--------|-------|--|--|---|---|--|-------------|------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9=(1-6-7-8) | 10=(6+7)/5 |
| | NIL | NIL | NIL | NIL | NIL | NIL | NIL | 5445 m ³ /Day | X100 | |
| | | Indu | Domes | Total | | | | | | |
| | | strial | tic | | | | | | | |

Please provide the details of existing treatment facilities also.

NIL. There is no exist treatment facilities available.

Yours faithfully

AE (C) for

WAP/7B

05/09/15

General Manager (Civil)/HoD
 ECL, Hq

Eng. E S M
 PBL Gr.

- 3. To CMD, ECL/TS to D (T)-P&P/ T.S. to D(P) Civil-I, ECL, Hq
- 4. Env.), ECL, Env. Dept., Barachak
- 5. GM(Civil/Welfare)

Eastern Coalfields Limited
 Chairman-cum-Managing Director
 Office, Barachak, Disergarh,
 Barachak, West Bengal-713333
 Civil Engineering Department
 Fax No-U10101WB1975GO1030295
 Website - www.easterncoal.gov.in



EASTERN COALFIELDS LIMITED
 Office of the Chairman-cum-Managing Director
 Sanctoria, P.O.: Disergarh,
 Dist.: Burdwan, West Bengal-713333
 Civil Engineering Department
 CTN-U10101WB1975GO1030295
 Website - www.easterncoal.gov.in
 Telefax: 0341-2523575
 E-Mail: gmcivil.ecl@gmail.com
 Date- 05.09.2015

Ref: ECL/HQ/GM(Civil) WSS/1265

"FAX MESSAGE"

Area General Managers

CHIVAKORE GROUP.

REMINDER

Sub: Mine Water Utilization in CH - matter regarding.
 Ref: CMD:SECY:D-0482 dated 01.09.2015 & our earlier letter dated 03/09/15

Dear Sir,

Following information are required urgently by CIL/CMPDIL with respect to mine water utilization. The information may please be sent by return Fax by 07.09.2015 evening, without fail.

| Average mine water discharge m ³ /day | Quantity of Mine water -sterilized (m ³ /day) | Water Demand of Coal Projects (m ³ /day) | | | Raw mine water supply to coal projects (m ³ /day) | Treated Mine water Supply to Coal Projects (m ³ /day) | Treated Mine water Supply to nearby Areas (m ³ /day) | Balance Mine water Discharged outside (m ³ /day) | Mine water Utilization and total Demand of Coal Projects (%) |
|--|--|---|-------|-------|--|--|---|---|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9=(1-6-7-8) | 10=(6+7)/5 |
| CXL-7 = 1000 GPH approx. 2210 m ³ /day. | NIL | NIL | NIL | NIL | NIL | NIL | NIL | 6000.852 m ³ /day. | X100 |
| 843.852 m ³ /day. | | Indu | Domes | Total | | | | 843.852 m ³ /day. | |
| | | strial | tic | | | | | | |

Please provide the details of existing treatment facilities also.

Pressure Filter at Mine 3 (10000 GPH)

AE CC/ for rd.
 VAS/ 7/9

Yours faithfully

[Signature]
 General Manager (Civil)/HoD
 ECL, Hq

TS to CMD, ECL/TS to D (T)-P&P/ T.S. to D(P)
 Civil-I, ECL, Hq
 Env.), ECL, Env. Deptt., Barachak
 GM(Civil/Welfare)

[Handwritten notes]
 05/09/15

5 Sep. 2015 12:26PM P1/1

FAX NO. :

Eastern Coalfields Limited
 प्रबंध निदेशक का कार्यालय
 ई. को, पबलव- डिसेरगढ़,
 बर्दमान, पश्चिम बंगाल-713333
 अतिथिचिकी विभाग
 ई.एन-U10101WB1975GO1030295
 ई- www.easterncoal.gov.in



EASTERN COALFIELDS LIMITED
 Office of the Chairman-cum-Managing Director
 Sanctoria, P.O.: Disheergarh,
 Dist.: Burdwan, West Bengal-713333
 Civil Engineering Department
 CIN-U10101WB1975GO1030295
 Website - www.easterncoal.gov.in
 Telefax: 0341-2523575
 E-Mail: gmcivil.ecf@gmail.com
 Date- 05.09.2015

To: ECL/HQ/GM(Civil) WSS/1265

"FAX MESSAGE"

To: Area General Managers

B.M.P. GROUP

REMINDER

Sub: Mine Water Utilization in CIL- matter regarding.
 Ref: CMD:SECY:D-0482 dated 01.09.2015 & our earlier letter dated 03/09/15

Dear Sir,

Following information are required urgently by CIL/CMPDIL with respect to mine water utilization. The information may please be sent by return Fax by 07.09.2015 evening. *without fail.*

Avg. Mine water discharge / Day / m³
 410.40 m³ / Day

| Quantity of Mine water discharged (m ³ /day) | Water Demand of Coal Projects (m ³ /day) | | | Raw mine water supply to coal projects (m ³ /day) | Treated Mine water Supply to Coal Projects (m ³ /day) | Treated Mine water Supply to nearby Areas (m ³ /day) | Balance Mine water Discharged outside (m ³ /day) | Mine water Utilization and total Demand of Coal Projects (%) |
|---|---|-------|------------------------------------|--|--|---|---|--|
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9=(1-6-7-8) | 10=(6+7)/5 |
| 68.10 m ³ / Day | 10.00 m ³ / Day | | | Nil | Nil | Nil | 332.3 m ³ / Day | X100 |
| | Industrial | Domes | Total | | | | Nil | |
| | | | 332.3 = 342.3 m ³ / Day | | | | | |

Please provide the details of existing treatment facilities also.

- (1) 7500 gph - Berhali colony
 - (2) 10,000 gph - Ramisayer colony
- AE CC
 Am rd
 VAP 7/A

Yours faithfully

[Signature]
 General Manager (Civil)/HoD
 ECL, Hq
 05/09/15

C.S. to CMD, ECL/TS to D (T-P&P/ T.S. to D(P)
 Civil-I, ECL, Hq
 Env.), ECL, Env. Deptt., Barachak
 GM(Civil/Welfare)

[Signature]
 10/09/15
 S.O.E. (E&M)

TABLE NO.- 5 A
AMBIENT AIR QUALITY REPORT

| Cluster No. | Station No. | Sampling Station | Month | Fortnight | Date of Sampling | Particulate Matter (PM ₁₀) (µg/m ³) | Particulate Matter (PM _{2.5}) (µg/m ³) | Sulphur Dioxide (SO ₂) (µg/m ³) | Nitrogen Dioxide (NO ₂) (µg/m ³) | Remarks |
|-------------|-------------|-----------------------|-------|-----------|------------------|---|--|---|--|---------|
| 5 | 5A1 | In Ranipur village | March | First | 01-Mar-18 | 87.1 | 36.7 | <10.0 | 15.5 | - |
| | 5A2 | In Bhamaria village | March | First | 09-Mar-18 | 86.0 | 36.2 | <10.0 | 14.9 | - |
| | 5A3 | In Digha village | March | First | 05-Mar-18 | 85.8 | 35.4 | <10.0 | 14.7 | - |
| | 5A4 | In Dhangajare village | March | First | 09-Mar-18 | 88.2 | 36.5 | <10.0 | 16.4 | - |
| | 5A5 | In Sanuri village | March | First | 09-Mar-18 | 87.1 | 35.8 | <10.0 | 15.6 | - |

National Ambient Air Quality Standards (NAAQS):

National Ambient Air Quality Standards (NAAQS) for residential, industrial and rural areas for 24 hourly samples:

| Pollutant | PM ₁₀ | PM _{2.5} | SO ₂ | NO ₂ |
|------------------------------------|------------------|-------------------|-----------------|-----------------|
| Concentration (µg/m ³) | 100.0 | 60.0 | 80.0 | 80.0 |

Prepared by Shri Neeraj Kumar, Dy. Manager (Env)..... from analysis report submitted by Jr. Scientific Astt./Scientific Astt.
Report released by Shri Indranil De, Sr. Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 07.04.18. Job No. 110310



**TABLE NO-5 B
MINE WATER QUALITY REPORT**

| Sl. No. | Cluster No. | 5 | | Effluent Water (MOEF Schedule-VI Standard) | Method of Detection | Detection Limit |
|---------|------------------------------------|-------------|--------------|---|-----------------------|-----------------|
| | Station No. | 5MW1 | 5MW2 | | | |
| | Station Name | Parbelia UG | Dubeswari UG | | | |
| | Month | March | March | | | |
| | Fortnight | First | First | | | |
| | Date of Sampling | 05-Mar-18 | 05-Mar-18 | | | |
| 1 | Potential of Hydrogen (pH), Value | 7.42 | 7.68 | 5.5-9.0 | Electrometric | 0.01 |
| 2 | Total Suspended Solids (TSS), mg/l | 20 | 30 | 100.0 | Gravimetric | 10.0 |
| 3 | Total Dissolved Solids (TDS), mg/l | 636 | 770 | Not Specified | Gravimetric | 25.0 |
| 4 | Oil & Grease (O&G), mg/l | <2.0 | <2.0 | 10.0 | Partition Gravimetric | 2.0 |
| 5 | Chemical Oxygen Demand (COD), mg/l | 36 | 44 | 250.0 | Closed Reflux | 4.0 |

Prepared by Shri Neeraj Kumar, Dy. Manager (Env) from analysis report submitted by Jr. Scientific Astd./Scientific Astd.
Report released by Shri Indranil De, Sr. Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 07.04.18. Job No. 110310

TABLE NO.- 5 C
WORK-PLACE NOISE LEVEL REPORT

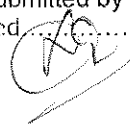
| Cluster No. | Station No. | Station Name | Month | Fortnight | Date of Sampling | Noise Level in Day Time {dB(A)} |
|-------------|-------------|----------------------|-------|-----------|------------------|---------------------------------|
| 5 | 5N1 | Pit-top Parbelia UG | March | First | 01-Mar-18 | 63.3 |
| | 5N2 | Pit-top Dubeswari UG | March | First | 09-Mar-18 | 64.7 |

Environmental standards:

National Ambient Air Quality Standards (NAAQS) in respect of noise for industrial, commercial, residential and silence zones:

| Station Category | Limits for noise (Leq dB(A)) | |
|------------------|------------------------------|-----------------------|
| | Day Time (6am-10pm) | Night Time (10pm-6am) |
| Industrial | 75.0 | 70.0 |
| Commercial | 65.0 | 55.0 |
| Residential | 55.0 | 45.0 |
| Silence | 50.0 | 40.0 |

Prepared by Shri Neeraj Kumar, Dy. Manager (Env) from analysis report submitted by Jr. Scientific Astt./Scientific Astt.
Report released by Shri Indranil De, Sr. Manager (Env), CMPDI, RI-1, Asansol, Signed Dated 07.04.18. Job No. 110310



**TABLE NO.- 5 D
AMBIENT AIR METAL ANALYSIS REPORT**

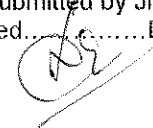
| Cluster No. | Station No. | Station Name | Month | Fortnight | Date of Sampling | Arsenic (As) (ng/m ³) | Cadmium (Cd) (µg/m ³) | Chromium (Cr) (µg/m ³) | Mercury (Hg) (µg/m ³) | Nickel (Ni) (ng/m ³) | Lead (Pb) (µg/m ³) |
|----------------------------|-------------|-----------------------|-------|-----------|------------------|---|-----------------------------------|------------------------------------|-----------------------------------|----------------------------------|--------------------------------|
| Method of Detection | | | | | | Atomic Absorption Spectrophotometric (AAS) | | | | | |
| Detection Limit | | | | | | 1.0 | 0.001 | 0.01 | 0.001 | 0.1 | 0.005 |
| 5 | 5A1 | In Ranipur village | March | First | 01-Mar-18 | <1.0 | <0.001 | <0.01 | <0.001 | <0.1 | <0.005 |
| | 5A2 | In Bhamaria village | March | First | 09-Mar-18 | <1.0 | <0.001 | <0.01 | <0.001 | <0.1 | <0.005 |
| | 5A3 | In Digha village | March | First | 05-Mar-18 | <1.0 | <0.001 | <0.01 | <0.001 | <0.1 | <0.005 |
| | 5A4 | In Dhangajare village | March | First | 09-Mar-18 | <1.0 | <0.001 | <0.01 | <0.001 | <0.1 | <0.005 |
| | 5A5 | In Sanuri village | March | First | 09-Mar-18 | <1.0 | <0.001 | <0.01 | <0.001 | <0.1 | <0.005 |

Environmental standards:

National Ambient Air Quality Standards (NAAQS) for residential, industrial and rural areas for 24 hourly/yearly samples:

| Heavy Metal | Arsenic (As) (ng/m ³) | Cadmium (Cd) (µg/m ³) | Chromium (Cr) (µg/m ³) | Mercury (Hg) (µg/m ³) | Nickel (Ni) (ng/m ³) | Lead (Pb) (µg/m ³) |
|---------------|-----------------------------------|-----------------------------------|------------------------------------|-----------------------------------|----------------------------------|--------------------------------|
| Concentration | 6 | Not specified | Not specified | Not specified | 20 | 0.5 |

Prepared by Shri Neeraj Kumar, Dy. Manager (Env) from analysis report submitted by Jr. Scientific Asst./Scientific Asst.
Report released by Shri Indranil De, Sr. Manager (Env), CMPDI, RI-1, Asansol, Signed Dated 07.04.18. Job No. 110310



**TABLE NO.- 5 A
AMBIENT AIR QUALITY REPORT**

| Cluster No. | Station No. | Sampling Station | Month | Fortnight | Date of Sampling | Particulate Matter (PM ₁₀) (µg/m ³) | Particulate Matter (PM _{2.5}) (µg/m ³) | Sulphur Dioxide (SO ₂) (µg/m ³) | Nitrogen Dioxide (NO ₂) (µg/m ³) | Remarks |
|-------------|-------------|-----------------------|-------|-----------|------------------|---|--|---|--|---------|
| 5 | 5A1 | In Ranipur village | March | Second | 19-Mar-18 | 87.5 | 36.4 | <10.0 | 15.2 | - |
| | 5A2 | In Bhamaria village | March | Second | 21-Mar-18 | 86.4 | 36.5 | <10.0 | 15.1 | - |
| | 5A3 | In Digha village | March | Second | 31-Mar-18 | 86.2 | 35.8 | <10.0 | 14.9 | - |
| | 5A4 | In Dhangajare village | March | Second | 21-Mar-18 | 88.7 | 36.8 | <10.0 | 16.6 | - |
| | 5A5 | In Sanuri village | March | Second | 20-Mar-18 | 87.5 | 36.2 | <10.0 | 15.8 | - |

National Ambient Air Quality Standards (NAAQS):

National Ambient Air Quality Standards (NAAQS) for residential, industrial and rural areas for 24 hourly samples:

| Pollutant | PM ₁₀ | PM _{2.5} | SO ₂ | NO ₂ |
|------------------------------------|------------------|-------------------|-----------------|-----------------|
| Concentration (µg/m ³) | 100.0 | 60.0 | 80.0 | 80.0 |

Prepared by Shri Neeraj Kumar, Dy. Manager (Env) from analysis report submitted by Jr. Scientific Asst./Scientific Asst.
Report released by Shri Indranil De, Sr. Manager (Env), CMPDI, RI-1, Asansol, Signed Dated 24.04.18. Job No. 110310

TABLE NO.- 5 D
WORK-PLACE NOISE LEVEL REPORT

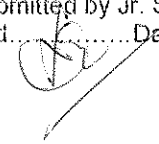
| Cluster No. | Station No. | Station Name | Month | Fortnight | Date of Sampling | Noise Level in Day Time {dB(A)} |
|-------------|-------------|----------------------|-------|-----------|------------------|---------------------------------|
| 5 | 5N1 | Pit-top Parbelia UG | March | Second | 28-Mar-18 | 63.1 |
| | 5N2 | Pit-top Dubeswari UG | March | Second | 26-Mar-18 | 65.4 |

Environmental standards:

National Ambient Air Quality Standards (NAAQS) in respect of noise for industrial, commercial, residential and silence zones:

| Station Category | Limits for noise (Leq dB(A)) | |
|------------------|------------------------------|-----------------------|
| | Day Time (6am-10pm) | Night Time (10pm-6am) |
| Industrial | 75.0 | 70.0 |
| Commercial | 65.0 | 55.0 |
| Residential | 55.0 | 45.0 |
| Silence | 50.0 | 40.0 |

Prepared by Shri Neeraj Kumar, Dy. Manager (Env) from analysis report submitted by Jr. Scientific Astd./Scientific Astd.
Report released by Shri Indranil De, Sr. Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 24.04.18. Job No. 110310



**TABLE NO-5B
MINE WATER QUALITY REPORT**

| Sl. No. | Cluster No. | 5 | Effluent Water (MOEF Schedule-VI Standard) | Method of Detection | Detection Limit |
|---------|--------------------------------------|-----------------|--|-----------------------|-----------------|
| | Station No. | 5MW1 | | | |
| | Station Name | Parbelia UG | | | |
| | Month | March | | | |
| | Fortnight | Second | | | |
| | Date of Sampling | 27-Mar-18 | | | |
| 1 | Colour, Hazen | 4 | Unobjectionable | Platinum Cobalt | 1.0 |
| 2 | Odour | Unobjectionable | Unobjectionable | Physical | - |
| 3 | Total Suspended Solid (TSS), mg/l | 22 | 100 | Gravimetric | 10 |
| 4 | Potential of Hydrogen (pH), value | 7.34 | 5.5-9.0 | Electrometric | 0.01 |
| 5 | Temperature (°C) | 30.7 | Shall not exceed 5°C above the receiving water temperature | Thermometric | 0.1 |
| 6 | Oil & Grease (O&G), mg/l | <2.0 | 10 | Partition Gravimetric | 2.0 |
| 7 | Total Residual Chlorine, mg/l | <0.02 | 1.0 | Colorimetric | 0.02 |
| 8 | Ammonical Nitrogen, mg/l | 0.79 | 50 | Nesslerization | 0.01 |
| 9 | Total Kjeldahl Nitrogen, mg/l | 1.76 | 100 | Macro Kjeldahl | 1.0 |
| 10 | Free Ammonia, mg/l | <0.02 | 5.0 | Spectrophotometric | 0.02 |
| 11 | Biological Oxygen Demand (BOD), mg/l | 8 | 30 | Bioassy | 2.0 |
| 12 | Chemical Oxygen Demand (COD), mg/l | 24 | 250 | Closed Reflux | 4.0 |
| 13 | Arsenic, mg/l | <0.002 | 0.2 | AAS-VGA | 0.002 |
| 14 | Lead, mg/l | <0.005 | 0.1 | AAS-GTA | 0.005 |
| 15 | Hexavalent Chromium, mg/l | 0.04 | 0.1 | Colorimetric | 0.01 |
| 16 | Total Chromium, mg/l | 0.06 | 2.0 | AAS-Flame | 0.04 |
| 17 | Copper, mg/l | 0.04 | 3.0 | AAS-Flame | 0.03 |
| 18 | Zinc, mg/l | 0.03 | 5.0 | AAS-Flame | 0.01 |
| 19 | Selenium, mg/l | <0.002 | 0.05 | AAS-GTA | 0.002 |
| 20 | Nickel, mg/l | <0.01 | 3.0 | AAS-Flame | 0.01 |
| 21 | Fluoride, mg/l | 0.26 | 2.0 | SPADNS | 0.02 |
| 22 | Dissolved Phosphate, mg/l | 1.82 | 5.0 | Molybdovanadate | 0.30 |
| 23 | Sulphide, mg/l | 0.007 | 2.0 | Methylene Blue | 0.005 |
| 24 | Phenolics, mg/l | <0.001 | 1.0 | Chloroform Extraction | 0.001 |
| 25 | Manganese, mg/l | 0.30 | 2.0 | AAS-Flame | 0.02 |
| 26 | Iron, mg/l | 0.14 | 3.0 | AAS-Flame | 0.06 |
| 27 | Nitrate Nitrogen, mg/l | 3.6 | 10 | Spectrophotometric | 0.5 |
| 28 | Cadmium, mg/l | <0.0005 | 2.0 | AAS-GTA | 0.0005 |
| 29 | Total Dissolved Solids, mg/l | 686 | Not Specified | Gravimetric | 25.0 |

Prepared by Shri Neeraj Kumar, Dy. Manager (Env),from analysis report submitted by Jr. Scientific Ast./Scientific Ast. Report released by Shri Indranil De, Sr. Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 24.04.18. Job No. 110310

**TABLE NO-5C
MINE WATER QUALITY REPORT**

| Sl. No. | Cluster No. | 5 | Effluent Water (MOEF Schedule-VI Standard) | Method of Detection | Detection Limit |
|---------|--------------------------------------|-----------------|--|-----------------------|-----------------|
| | Station No. | 5MW2 | | | |
| | Station Name | Dubeswari UG | | | |
| | Month | March | | | |
| | Fortnight | Second | | | |
| | Date of Sampling | 27-Mar-18 | | | |
| 1 | Colour, Hazen | 3 | Unobjectionable | Platinum Cobalt | 1.0 |
| 2 | Odour | Unobjectionable | Unobjectionable | Physical | - |
| 3 | Total Suspended Solid (TSS), mg/l | 32 | 100 | Gravimetric | 10 |
| 4 | Potential of Hydrogen (pH), value | 7.74 | 5.5-9.0 | Electrometric | 0.01 |
| 5 | Temperature (°C) | 31.5 | Shall not exceed 5°C above the receiving water temperature | Thermometric | 0.1 |
| 6 | Oil & Grease (O&G), mg/l | <2.0 | 10 | Partition Gravimetric | 2.0 |
| 7 | Total Residual Chlorine, mg/l | <0.02 | 1.0 | Colorimetric | 0.02 |
| 8 | Ammonical Nitrogen, mg/l | 0.82 | 50 | Nesslerization | 0.01 |
| 9 | Total Kjeldahl Nitrogen, mg/l | 1.62 | 100 | Macro Kjeldahl | 1.0 |
| 10 | Free Ammonia, mg/l | <0.02 | 5.0 | Spectrophotometric | 0.02 |
| 11 | Biological Oxygen Demand (BOD), mg/l | 6 | 30 | Bioassay | 2.0 |
| 12 | Chemical Oxygen Demand (COD), mg/l | 28 | 250 | Closed Reflux | 4.0 |
| 13 | Arsenic, mg/l | <0.002 | 0.2 | AAS-VGA | 0.002 |
| 14 | Lead, mg/l | <0.005 | 0.1 | AAS-GTA | 0.005 |
| 15 | Hexavalent Chromium, mg/l | 0.03 | 0.1 | Colorimetric | 0.01 |
| 16 | Total Chromium, mg/l | 0.07 | 2.0 | AAS-Flame | 0.04 |
| 17 | Copper, mg/l | 0.03 | 3.0 | AAS-Flame | 0.03 |
| 18 | Zinc, mg/l | 0.03 | 5.0 | AAS-Flame | 0.01 |
| 19 | Selenium, mg/l | <0.002 | 0.05 | AAS-GTA | 0.002 |
| 20 | Nickel, mg/l | <0.01 | 3.0 | AAS-Flame | 0.01 |
| 21 | Fluoride, mg/l | 4.4 | 2.0 | SPADNS | 0.02 |
| 22 | Dissolved Phosphate, mg/l | 1.88 | 5.0 | Molybdovanadate | 0.30 |
| 23 | Sulphide, mg/l | 0.005 | 2.0 | Methylene Blue | 0.005 |
| 24 | Phenolics, mg/l | <0.001 | 1.0 | Chloroform Extraction | 0.001 |
| 25 | Manganese, mg/l | 0.28 | 2.0 | AAS-Flame | 0.02 |
| 26 | Iron, mg/l | 0.13 | 3.0 | AAS-Flame | 0.06 |
| 27 | Nitrate Nitrogen, mg/l | 3.8 | 10 | Spectrophotometric | 0.5 |
| 28 | Cadmium, mg/l | <0.0005 | 2.0 | AAS-GTA | 0.0005 |
| 29 | Total Dissolved Solids, mg/l | 738 | Not Specified | Gravimetric | 25.0 |

Prepared by Shri Neeraj Kumar, Dy. Manager (Env)from analysis report submitted by Jr. Scientific Aast./Scientific Aast. Report released by Shri Indranil De, Sr. Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 24.04.18. Job No. 110310