



**Western Coalfields Limited**  
(मिनिरात्र कंपनी)(A Miniratna Company)  
(कोल इंडिया लिमिटेड की अनुषंगी कंपनी)  
(A subsidiary of Coal India Limited)



**ISO : 9001:2015 & ISO : 14001:2015 & OHSAS : 18001:2007 Certified Company**

उपक्षेत्रीय प्रबंधक का कार्यालय

उकनी-जूनाड उपक्षेत्र : वणी नार्थ क्षेत्र

मु. पो. उकनी, तह. वणी, जी. यवतमाल (महाराष्ट्र) पिन : 445304

**OFFICE OF THE SUB AREA MANAGER**

UKNI DEEP – JUNAD SUB AREA: WANI NORTH AREA

AT. PO., UKNI DEEP, TAH. WANI, DISTT. YAVATMAL, (M.S.) PIN 445 304

संदर्भ क्र. वेकोली/वनाक्षे/उ.क्षे.प्र./उकनी-जूनाड/नागरिकी/2025-26

563

दिनांक:-06/10/2025

7/11

To

Addl. Principal Chief Conservator of Forests,  
Ministry of Environment, Forests & Climate change,  
Regional Office, (WCZ),  
Ground floor, east wing,  
New Secretariat building, Civil lines,  
Nagpur – 440001(M.S.)

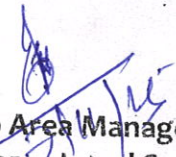
Sub- Submission of **Six-Monthly Compliance Report** of conditions stipulated in Environmental Clearance for M/s. WCL, **Ukni deep Opencast Mine (3.50 MTPA)** for the period **APRIL-2025 to SEPTEMBER 2025**.

Dear Sir,

With reference to the above subject matter, please find enclosed herewith **Six-Monthly Compliance Report** of conditions stipulated in Environmental Clearance for M/s. WCL, **Ukni deep Opencast Mine (3.50 MTPA)** for the period **APRIL-2025 to SEPTEMBER 2025**.  
This is for your kind information please.

Thanking you,

Yours sincerely,

  
Sub Area Manager  
Ukni deep – Junad Sub Area

Copy to:-

1. A.G.M., Wani North Area
2. G.M. (ENV), Coal estate –Nagpur
3. Regional Officer, MPCB, 1<sup>st</sup> floor, Udyog Bhawan,  
Rly. Station road, Chandrapur-442401
4. S.O.E (Civil), Ukni deep – Junad Sub Area



## **Six Monthly Compliance Report of conditions Stipulated in Environmental Clearance**

**Ukni deep Open Cast Mine**

(Letter No. J-11015/237/2010-IA,II(M) dtd. 15.01.2014 -  
Expansion of coal production from 2.20 MTPA to 3.50 MTPA &  
expansion of Mine lease-hold Area from 940 Ha. To 1285.12 Ha.)

**Wani North Area**

**APRIL 2025 to SEPTEMBER -2025**



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**BY SPEED POST**

No. J-11015/237/2010-IA.II (M)  
**Government of India**  
**Ministry of Environment & Forests**

देश/राज्य/क्षेत्र/प्रकार/दिनांक

WCL/GM(Env)/HQ/Nagpur

पत्र/Rec-111... दिनांक/Date 20/1/14

Paryavaran Bhawan,  
CGO Complex, Lodhi Road  
New Delhi -110003

Dated: 15 January, 2014

To,

The Chief General Manager  
**M/s Western Coalfields Ltd.,**  
Coal Estate, Civil Lines,  
Nagpur - 440001  
Maharashtra

**Sub.: Ukni Deep OCP (Expansion of prod. from 2.20 MTPA to 3.50 MTPA and Expn. from ML area from 940 ha to 1285.12 ha) of M/s Western Coalfields Ltd., dist. Yavatmal, Maharashtra - Environment Clearance - reg.**

Sir,

This has reference to letter No. 43011/23/2010 dated 23.06.2010 of Ministry of Coal forwarding the application for Terms of Reference (TOR) and this Ministry's letter dated 28.10.2010 granting TOR to the above mentioned Project and Reference is also invited to the letter no. WCL/ENV/HQ/11-H/557 dated 13.12.2011 and subsequent letters dated 24.02.2012; e-mails dated 02.06.2012; 14.06.2012; 17.08.2012; 27.08.2012; 21.12.2012; and letters dated 27.07.2013 and 27.08.2013 submitting therewith the final EIA/EMP for Environmental Clearance for the above mentioned subject.

2. The Ministry of Environment & Forests has considered the application. The proposal was considered in the EAC meetings held on 19<sup>th</sup> -20<sup>th</sup> March 2012; 14<sup>th</sup> -15<sup>th</sup> May 2012 and recommended in 4<sup>th</sup>-5<sup>th</sup> February, 2013. The compliance report from the Regional Office of the MoEF for the project proposal was further considered in the EAC meeting held on 03-04 October, 2013 and on 12-13 December, 2013 wherein it was recommended for granting Environmental Clearance. It is noted that the application is for environmental clearance for **Ukni Deep OCP (Expansion of prod. from 2.20 MTPA to 3.50 MTPA and Expn. from ML area from 940 ha to 1285.12 ha)** of M/s Western Coalfields Ltd., dist. Yavatmal, Maharashtra. The proponent informed that:

- i. This is an Opencast mine with the capacity of 3.50 MTPA (Peak) and from 940 ha to 1285.12 ha.
- ii. It was informed that the earlier EC for 1.10 MTPA with an ML area of 940 ha was obtained on 10.8.1990 and expansion to 2.20 MTPA in the same ML area of 940 ha was obtained on 20.5.2005. This is an expansion project with the expansion of 63%.
- iii. The main linkage is MAHAGENCO.
- iv. It was informed that the proposal is for expansion in production capacity from 2.20 MTPA to 3.50 MTPA and expansion in ML area from 940 ha to 1285.12 ha.

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- v. The Project Report of Ukni Deep OC Project was approved in 224<sup>th</sup> Meeting of the Board of Directors of WCL held on 29<sup>th</sup> April, 2010.
- vi. The Progressive Mine Closure Plan is an integral part of the approved project Report.
- vii. The Final Mine Closure Plan as per MOC guidelines with a provision of @ Rs. 6.00 lakh per ha will be prepared 5 years before the actual closure of the mine.
- viii. There are seasonal nullhas flowing adjacent to the proposed mine.
- ix. Out of the total Geological Reserves of 33.32 Mt, the mineable reserve is 24.37 Mt. The Percent Extraction would be 73%.
- x. There is one Composite Seam with the thickness of Seams to be worked on Top Section – 7.75 m and the Bottom seam 9.25 m. The Stripping Ratio is 1:8.90. The Average Gradient is 1 in 3 to 1 in 6. The Maximum thickness of Seams would be ranging from 8.50 m to 9.50 m
- xi. The Method of Mining would be by Opencast with Shovel – Dumper Combination
- xii. The Life of Mine is 16 years
- xiii. The Land Usage of the project would be Pre-mining: Out of the total – 1285.12 ha; the land already in possession – 929.59 ha; Land to be acquired -355.53 ha; Agricultural Land – 350.53 ha; Govt. Land – 5.00 ha. The Post Mining (1285.12 ha) land usage would be: Plantation 779.00 ha; Void/Water Body – 153.00 ha; Public Use – 96.00 ha and Undisturbed – 257.12 ha
- xiv. It was informed that plantation over an area of 101 ha has been developed on the existing OB dump. The quarry would be operated as two quarries- Q-I and Q-II. The total balance mineable reserves of 24.37 MT include 9.65 MT from Q-I and 14.72 MT from Q-II. Mining would be opencast by shovel-dumper combination. Ultimate working depth is 114-206m.
- xv. Grade of coal is E.
- xvi. The total water requirement is 970 m<sup>3</sup>/d which includes 460 m<sup>3</sup>/d is for mine operations and 510 m<sup>3</sup>/d is for domestic use.
- xvii. Water table is in the range of 19-19.2m (pre-monsoon) and 17.05 -17.15m bgl (post-monsoon). River Wardha flowing at a distance of 3km forms the main drainage of the area. Capital cost of the project is Rs 311.6091 crores.
- xviii. Balance life of the mine is 16 years. The project involves R&R of 264 PAFs.
- xix. Details of OB: There will be four external OB Dumps over an area of 446.00 ha with the height of 90.00 m and with the Quantity of 117.52 Mm<sup>3</sup>. The year of backfilling would be from 9<sup>th</sup> Year. There will be one internal dump over an area of 180.00 ha with the height upto ground level and with the quantity of 104.14 Mm<sup>3</sup>
- xx. The Details of Final Mine Void would be over an area of 153.00 ha with the depth of 206.00 m.
- xxi. Details of Transportation of Coal would be : In Pit by Dumpers; from Surface to Siding by Tippers; Siding to Loading by Pay Loaders
- xxii. The Capital Cost of the project would be Rs. 319.9694 Crores (Additional). Rs. 1347.93 per tonne; Sale Price: Rs. 975.50 per tonne.
- xxiii. The CSR Cost would be RS. 5.00 per tonne; The R&R Cost : Rs. 15.87 Crores
- xxiv. The no. of PAFs will be finalized after detailed Socio- economic Survey.
- xxv. The Environmental Management Cost: Capital Expenditure – Rs.81.19 Lakhs; Additional Provision – Rs. 30.00 Lakhs; Revenue Expenditure – Rs. 246.29 Lakhs; Additional Revenue Provision- @ Rs. 3.30 per tonne
- xxvi. **Forestry issues:** There is no forest area is a involved.
- xxvii. There is no National Park, eco-sensitive Zone within 10 km radius.
- xxviii. There is no Court Cases pending.
- xxix. **Public Hearing issues:** The Public Hearing was held on 10.08.2011. The issues raised during Public Hearing include Pollution control measures; Construction of roads; Health,

Electricity & drinking water facilities; Plantation; Social Development works; Employment etc.

- xxx. The Project Proponent assures to take necessary remedial measure.
- xxxi. The TOR was given for the proposal on 28.10.2010. The per cent of expansion proposed is to the tune of 63%.
- xxxii. The EAC in its meeting held on 19-20 March, 2012 had recommended the project for granting EC. However, the proponent was asked to submit the compliance report form the Regional Office of the MoEF for further deliberation.
- xxxiii. The Certificate of compliance of earlier EC from MoEF, Regional office, Bhopal has been received vide their letter no. 3-45/2005(ENV)/1588 dated 01.10.2013. The EAC deliberated on the compliance report in its meeting held on 3<sup>rd</sup> - 4<sup>th</sup> October, 2013 and in 12-13 December, 2013. The compliance report indicated that several conditions are either partly complied or not complied. However, the proponent submitted that it has undertaken several steps and prepared Action Plan in order to comply with the stipulated conditions. The Committee has asked the Proponent to submit the Action Plan duly vetted by the RO, MoEF for further consideration. The EAC deliberated on the revised compliance report and noted, inter alia, the following:

- a. The mine water after it is pumped out and treated in sedimentation tank on surface is used within the mine premises for watering the mine area, roads, green belt development etc. The average pumping is 11500 kld. from that 430 kld is used within the mine premises and remaining 11070 kld is led into local nullah.
- b. Water meter in Surface Sedimentation tank will be installed by December, 2013 for recording of actual storage for recording of actual & its utilization.
- c. Regarding the fugitive dust monitoring it is submitted that the SPM & PM -10 are regularly monitored at two locations every fortnight at Weighbridge & CHP. The observations are within the limit.
- d. Centralized Environmental Laboratory has been established by CMPDIL, RI- IV (Regional Institute of CMPDIL a subsidiary of CIL and ISO certified Consultant for giving total support to all the coal producing subsidiary of CIL) at Nagpur. The Laboratory is housed in WCL Building for which rent is paid by CMPDIL. The pollution monitoring and analyzing equipments have been reimbursed to CMPDIL. The schedule of monitoring every fortnight is communicated to State Pollution Control Board.

3. The proposal was considered in the EAC meetings held on 19<sup>th</sup> -20<sup>th</sup> March 2012; 14<sup>th</sup> - 15<sup>th</sup> May 2012 and recommended in 4<sup>th</sup>-5<sup>th</sup> February, 2013. The compliance report from the Regional Office of the MoEF for the project proposal was further considered in the EAC meeting held on 03-04 October, 2013 and on 12-13 December, 2013 wherein it was recommended for granting Environmental Clearance. The Ministry of Environment & Forests hereby accords Environmental Clearance for the above-mentioned **Ukni Deep OCP (Expansion of prod. from 2.20 MTPA to 3.50 MTPA and Expn. from ML area from 940 ha to 1285.12 ha) of M/s Western Coalfields Ltd., dist. Yavatmal, Maharashtra** under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto subject to the compliance of the terms and conditions mentioned below as mentioned below:

#### A. Specific Conditions:

- i. The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.

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- ii. All the conditions made by DGMS should be adhered to.
- iii. The mine water after it is pumped out and treated in sedimentation tank on surface could be used within the mine premises for watering the mine area, roads, green belt development etc.
- iv. Mine discharge after proper settling should be made available for agricultural purpose through a properly developed distribution network. The project authorities should meet the water requirement of nearby villages in case the village wells go dry due to dewatering of the mine.
- v. Water meter in Surface Sedimentation tank will be installed by December, 2013.
- vi. Toe wall as well as garland drain be constructed as per DGMS guidelines.
- vii. The external OB dumps are to be constructed in benches keeping the individual bench slopes at natural angle of repose conforming to the DGMS Permission.
- viii. Garland drains all along the periphery of external OB dumps be constructed before onset of every monsoon and all silt and sediments along with water may be allowed to accumulate in the said garland drains which be cleaned again before onset of next monsoon.
- ix. The biological reclamation of external OB dumps should be taken up once the dumps get inactive.
- x. There should be no external OB dump at the end of mining. OB should be backfilled in the existing void in post mining stage. Grass should be planted on temporary OB dump. The temporary OB dump should be rehandled and backfilled up to ground level. The land should be used as Agriculture Land.
- xi. 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 stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.
- xii. The production shall be within the same Mining Lease area.
- xiii. The OB shall be completely re-handled at the end of the mining.
- xiv. The void area will be converted into water body. The rest of the area will be back filled upto the ground level and covered with about a meter thick top soil and put to use.
- xv. Garland drains be provided.
- xvi. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.
- xvii. The land after mining shall be brought back for agriculture purpose.
- xviii. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.
- xix. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.
- xx. The transportation of Coal in the Pit would be by Dumpers, from surface to Siding by Tippers; from siding to loading would be by Pay Loaders.
- xxi. There shall be no overflow 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.
- xxii. OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional office located at Bhopal on yearly basis.
- xxiii. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall

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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.

- xxiv. Dimension 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.
- xxv. Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.
- xxvi. Drills shall be wet operated.
- xxvii. 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,
- xxviii. Controlled blasting shall be practiced with use of delay detonators and only during daytime. The proponent would need to repair the cracks in the houses if it occurred on account of blasting. The mitigative measures for control of ground vibrations and to arrest the flying rocks and boulders shall be implemented.
- xxix. A Progressive afforestation plan shall be implemented covering an area of 779 ha at the end of mining, which includes reclaimed external OB dump 446 ha, Backfilled area 180 ha, Infrastructure 4 ha, Township area 3 ha and Green belt 145 ha by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per 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.
- xxx. An estimated 221.66 Mm<sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 117.52 Mm<sup>3</sup> of OB will be dumped in four external OB Dumps in an earmarked area covering 446 ha of land. 104.14 Mm<sup>3</sup> of OB will be dumped in internal dump covering an area of 180 ha. The maximum height of external OB dump for hard OB will not exceed 90 m and that for soft OB shall not exceed 60 m. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self- sustaining and compliance status shall be submitted to MOEF and its Regional Office on yearly basis.
- xxxi. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
- xxxii. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
- xxxiii. The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.
- xxxiv. No groundwater shall be used for mining operations.
- xxxv. Out of the total 1285.12 ha, external OB dump area 446 ha, excavation area of 180 ha, infrastructure area 55 ha water body 153 ha, Township 34 ha, Greenbelt 145 ha shall be reclaimed with plantation and a void of 153 ha at a depth of 40 m which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilised with plantation/afforestation 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.
- xxxvi. 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 and to the Central Pollution Control Board quarterly within one month of monitoring.

- xxxvii. 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.
- xxxviii. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- xxxix. 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 for occupational diseases and hearing impairment, if any, through a specialised agency/institution within the District/State and the results reported to this Ministry and to DGMS.
- xl. Land oustees 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.
- xli. 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 and its concerned Regional office.
- xl.ii. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests within 6 months of grant of Environmental Clearance.
- xl.iii. The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.
- xliv. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.
- xl. v. Corporate Environment Responsibility:
  - a. The Company shall have a well laid down Environment Policy approved by the Board of Directors.
  - b. The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
  - c. The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
  - d. 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.

**B. General Conditions:**

- i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.
- ii. No change in the calendar plan of production for quantum of mineral coal shall be made.
- iii. Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and

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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.

- iv. Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>) 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 the 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.
- 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.
- 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<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- 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.
- viii. Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EPA Rules, 1986.
- ix. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
- 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.
- 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.
- xii. The funds earmarked 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.
- xiii. The Project authorities shall 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 within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at <http://envfor.nic.in>.
- xiv. A copy of the environmental 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.
- xv. A copy of the environmental clearance letter shall be 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.
- 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

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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<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.

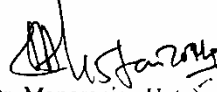
- xvii. The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.
  - xviii. The Regional 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.
  - xix. The Environmental statement for each financial year ending 31 March in For -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 by e-mail.
4. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.
  5. The proponent shall establish an Environmental Audit Cell, which should be responsible and accountable to ensure compliance of all conditions stipulated in the EC.
  6. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
  7. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
  8. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.
  9. The above conditions will 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 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.

  
(Dr. Manoranjan Hofa)  
Director

**Copy to:**

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Maharashtra, 15<sup>th</sup> Floor, New Admn. Bldg., Madam Cama Road, MUMBAI – 400032..

3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arera Colony, Bhopal – 462016.
4. Member Secretary, Maharashtra State Pollution Control Board, Kalapataru Point, 3<sup>rd</sup> & 4<sup>th</sup> Floors, Sion, Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai – 400002.
5. Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. Dr. R.K. Garg, Advisor, Coal India Limited, SCOPE Minar, Core-I, 4<sup>th</sup> Floor, Vikas Marg, Laxminagar, New Delhi.
8. District Collector, Yavatmal, Government of Maharashtra.
9. Monitoring File    10. Guard File    11. Record File    12. Notice Board.

  
(Dr. Manoranjan Hota)  
Director

# MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437  
Fax: 24023516  
Website: <http://mpcb.gov.in>  
Email: [cac-cell@mpcb.gov.in](mailto:cac-cell@mpcb.gov.in)



Kalpataru Point, 2nd, 3rd  
and 4th floor, Opp. Cine  
Planet Cinema, Near Sion  
Circle, Sion (E),  
Mumbai-400022

RED/L.S.I (R35)/ Rev. RED/I.S./(88.3)  
No:- Format1.0/CAC/UAN No.MPCB-  
CONSENT-0000243163/CO/2507003116

Date: 24/07/2025

To,  
M/s Western Coalfields Limited,  
Ukni Opencast Mine, Wani North Area,  
At Post-Ukni, Tal Wani, Dist-Yavatmal.



**Sub: 1st Consent to Operate + Renewal of Consent to Operate with amalgamation.**

- Ref:**
1. Earlier Consent to Operate issued to you vide No. Format1.0/CAC/UAN No.MPCB-CONSENT-0000159831/CR/2305000853 dtd. 12/05/2023
  2. Earlier Consent to Establish for Expansion issued to you vide No. Format1.0/CAC/UAN No.0000236062/CE/2505004109 dtd. 29/05/2025.
  3. Minutes of 5th CAC Meeting of 2024-25 (Booklet No. 5) dtd. 30.07.2024 & 2nd CAC Meeting of 2025-26 (Booklet No. 2) dtd. 20.05.2025
  4. Minutes of 4th CAC Meeting of 2025-26 (Booklet No. 4) dtd. 01.07.2025.

Your application No.MPCB-CONSENT-0000243163 Dated 05.04.2025

For: Grant of Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 and Rule 18(7) of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The consent to operate is granted for a period up to 31/03/2027**
2. **The capital investment of the project is Rs.377.52 Crs. (As per undertaking submitted by pp Existing CI is Rs. 327.0652 Crs + Expansion in C.I. is Rs. 50.4548 Crs.)**
3. **Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	Coal	3.5	MTPA

4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

<i>Sr No</i>	<i>Description</i>	<i>Permitted (in CMD)</i>	<i>Standards to</i>	<i>Disposal Path</i>
1.	Trade effluent	5372	As per Schedule-I	Recycle to the maximum extent for Dust Suppression & Fire Fighting and remaining on land for plantation/Irrigation/Gardening.
2.	Domestic effluent	27.2	As per Schedule-I	On land for plantation/ Irrigation/ Gardening

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

<i>Sr No.</i>	<i>Stack No.</i>	<i>Description of stack / source</i>	<i>Number of Stack</i>	<i>Standards to be achieved</i>
1	0	0	0	As per Schedule -II

6. **Non-Hazardous Wastes:**

<i>Sr No</i>	<i>Type of Waste</i>	<i>Quantity</i>	<i>UoM</i>	<i>Treatment</i>	<i>Disposal</i>
1	Overburden	1175200	m3/month	Landfill	Backfilling and Reclamation of Land

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for Collection, Segregation, Storage, Transportation, Treatment and Disposal of hazardous waste:**

<i>Sr No</i>	<i>Category No./ Type</i>	<i>Quantity</i>	<i>UoM</i>	<i>Treatment</i>	<i>Disposal</i>
1	5.1 Used or spent oil	60.00	KL/A	Recycle	Send to authorised Recycler/Reprocessor
2	5.2 Wastes or residues containing oil	9	MT/A	Incineration	CHWTSDF
3	35.3 Chemical sludge from waste water treatment	60	MT/A	Landfill	CHWTSDF

8. The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
9. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities
10. The industry shall obtain necessary permission from the Directorate of Industrial Safety and Health (DISH).
11. PP shall carry out over burden dump management as per CPCB guidelines
12. PP shall carry out plantation as per EC condition before ensuing monsoon.
13. PP shall carry out plantation as per EC condition before ensuing monsoon.
14. The applicant shall not carry out any excess production without obtaining Consent of the Board and without obtaining Environmental Clearance wherever it applicable.
15. PP shall ensure time bound compliance of conditions as imposed as per BG regime.



16. The applicant shall comply with the conditions of the Environmental Clearance granted by MoEFCC,GoI vide letter No.J-11015/237/210-IA.II(M) dtd. 15.01.2014.
17. This consent is issued pursuant to the decision of the 4th CAC Meeting of 2025-26 (Booklet No. 4) dtd. 01.07.2025.
18. The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the consent.
19. The industry shall create an Environment Cell by appointing an Environmental Engineer OR Expert for looking after day-to-day activities related to Environment OR Pollution control.

This consent is issued on the basis of information/documents submitted by the Applicant/Project Proponent, if it has been observed that the information submitted by the Applicant/Project Proponent is false, misleading or fraudulent, the Board reserves its right to revoke the consent & further legal action will be initiated against the Applicant/Project Proponent.



*Disnazy*

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Signed by: **Dr. Avinash Dhakne**  
Member Secretary  
For and on behalf of,  
**Maharashtra Pollution Control Board**  
ms@mpcb.gov.in  
2025-07-24 22:20:53 IST

#### Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	4830083.00	MPCB-DR-33575	24/04/2025	RTGS

**Total Consent Fee Consider for 1st CTO + CTR and amalgamation: Balance consent fee of Rs. 1534130/- (as per UAN No. UAN No. MPCB-CONSENT-0000159831) + Fee paid as CTR Application vide UAN No. MPCB-CONSENT-0000194410 Rs. 1719877/- + Fee paid as per 1st CTO application is Rs. 4830083 /- = Rs. 80,84,090 /-. Penal charges for 605 Days delay in submission of 62.0 lakhs B.G. of Rs. 1233205/- recovered from paid fee. Now balance consent fee of Rs. 905,765 /- with Board and same shall be consider at the time of next renewal of consent.**

#### Copy to:

1. Regional Officer, MPCB, Chandrapur and Sub-Regional Officer, MPCB, Chandrapur  
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Sion, Mumbai
3. CAC desk- For record and website up-dation purpose.

### **SCHEDULE-I**

#### **Terms & conditions for compliance of Water Pollution Control:**

1. A] ETP having Capacity 150 CMD provided comprises of Collection tank- Oil Skimmer-Sedimentation tank-Hopper bottom tank-Clear water sump and SDB. Provided Sedimentation tank for treatment of 5372 CMD Mine water discharge.
- B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent:

<b>Sr.No</b>	<b>Parameters</b>	<b>Limiting concentration not to exceed in mg/l, except for pH</b>
(1)	pH	5.5 to 8.5
(2)	Oil & Grease	10
(3)	BOD (3 days 27°C )	30
(4)	Total Suspended solids	100
(5)	Total Dissolved solids	2100
(6)	COD	250
(7)	Phenolic	1
(8)	Nitrate Nitrogen	10
(9)	Chloride	600
(10)	Sulphate	1000

- C] The treated effluent shall be recycled for secondary purposes to the maximum extent and remaining shall be discharged on land for gardening within premise. In no case, effluent shall find its way to outside factory premises.
2. A] As per your application, you have proposed to provided decentralized Septic Tank followed by Soak pit for the treatment of 27.2 CMD of sewage.
  - B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

<b>Sr.No</b>	<b>Parameters</b>	<b>Standards (mg/l)</b>	
1	BOD (3 days 27°C )	Not to exceed	100 mg/l
2	Suspended Solids	Not to exceed	100 mg/l

- C] The treated domestic effluent shall be soaked in a soak pit, which shall be got cleaned periodically. Overflow, if any, shall be used on land for gardening / plantation only. In no case treated / untreated sewage shall find it's way outside the premises.
3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification there of & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.

4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

<b>Sr. No.</b>	<b>Purpose for water consumed</b>	<b>Water consumption quantity (CMD)</b>
1.	Industrial Cooling, spraying in mine pits or boiler feed	1671.80
2.	Domestic purpose	34.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	6927.80
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0.00

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.



## **SCHEDULE-II**

### **Terms & conditions for compliance of Air Pollution Control:**

1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

Stack No.	Source	APC System provided/proposed	Stack Height(in mtr)	Type of Fuel	Sulphur Content(in %)	Pollutant	Standard
0	0		0.00	0 0 -- NA--	-	0	-

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
5. Control Equipments
- Coal handling plant shall be provided with GI sheet enclosures & automatic water sprinkler and shall be operated continuously.
  - Scientific spraying of water on all working area, dump area, stock piles with the help of appropriate dust suppression system.
  - Minerals transportation shall be done by installing conveyors wherever possible & mechanically covered closed trucks shall be used for transportation.Overloading of dumpers shall be avoided to prevent spillages.
  - The applicant shall carry out tree plantation along road side, around dumps or compulsory afforestation as per proposal approved by Forest Department. The tree plantation programme shall be taken up well in advance of the actual mining activity, so that green belt of sufficient width & height is developed between mining area/road and surrounding environment.
  - Black topped metal roads provided shall be well maintained to prevent dust formation.
  - Slope of the over burden shall have slope not more than 28° to the horizontal. The overburden shall be covered by vegetation for stabilization.
  - Correct type & quantity of explosive shall be used to avoid excess dust formation & vibration in the surrounding area.
6. Standards for Ambient Air Pollutants:

The Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM), Sulphur dioxide (SO<sub>2</sub>) and Oxides of Nitrogen (NO<sub>x</sub>) concentration in downwind direction considering predominant wind direction, at a distance of 500 metres from the following dust generating sources shall not exceed the standards specified in the table given below:

Dust Generating Sources:

Loading or unloading, Haul Road, coal transportation road, Coal handling plant (CHP), Railway Sliding, Blasting, Drilling, Overburden dumps, or any other dust generating external sources like coke ovens (hard as well as soft), briquette industry, nearby road etc.



<b>Pollutant</b>	<b>Time weighted average</b>	<b>Concentration in Ambient Air</b>
Suspended Particulates Matter (SPM)	Annual Average	360 µg/m <sup>3</sup>
	24 hours	500 µg/m <sup>3</sup>
Respirable Particulate Matter (size less than 10 µm) (RPM)	Annual Average	180 µg/m <sup>3</sup>
	24 hours	250 µg/m <sup>3</sup>
Sulphur Dioxide (SO <sub>2</sub> )	Annual Average	80 µg/m <sup>3</sup>
	24 hours	120 µg/m <sup>3</sup>
Oxides of Nitrogen as NO <sub>x</sub>	Annual Average	80 µg/m <sup>3</sup>
	24 hours	120 µg/m <sup>3</sup>

- i. In case of any residential or commercial or industrial place falls within 500 metres of any dust generating sources, the National Ambient Air Quality Standards notified vide MOEFCC GOI notification dtd 16.11.2009 as ammended shall be made applicable.
- ii. The applicant shall provide minimum three ambient air quality monitoring stations within mining area which should be monitored for SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub>, HC, CO etc. The Annual Arithmetic Mean of minimum 104 measurements in a year taken twice a week 24 hourly at uniform interval shall conform to the National Ambient Air Quality Standards prescribed under Air (Prevention and Control of Pollution) Act, 1981 and Environment (Protection) Act, 1986. The records of results of monitoring done shall be made available for inspection to the officers of the Board.

7. The applicant shall take adequate measures for control of noise levels from its own sources as follows:

<b>Sr. No</b>	<b>Location</b>	<b>Permissible Norms [in dB (A)]</b>	<b>Desired minimum thickness of green belt (m)</b>
1.	Along Road side	65 (Commercial Area)	20
2.	In colonies	55 (Residential Area)	20
3.	Near Opencast Mines	75 (Industrial Area)	10
4.	Near CHPs	75	30
5.	Near Shaft	75	20
6.	Near Mine exhaust fan	75	> 50

8. Other conditions:

- i Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess standards laid down, such information shall be forthwith reported to Board, concerned Police station, office of Directorate of Health services, Dept. of explosives, Inspectorate of Factories & Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.

**SCHEDULE-III**  
**Details of Bank Guarantees:**

<b>Sr. No.</b>	<b>Consent (C2E/ C2O /C2R)</b>	<b>Amt of BG Imposed</b>	<b>Submission Period</b>	<b>Purpose of BG</b>	<b>Compliance Period</b>	<b>Validity Date</b>
1	C2R	Rs. 2.0 Lakh	15 days	Regular monitoring of ground water level and quality should be carried out 6 Monthly basis by establishing the network of existing wells and constructing new piezometers during mining operations	Regular Activity	31.03.2028
2	C2R	Rs.5.0 Lakh	15 days	Catch drain and Siltation ponds of appropriate size should be constructed to arrest silt and sediment flow from soil, OB and mineral dumps. Water so collected should be utilized for watering of the mining area, roads green belt developers etc.	Regular Activity	31.03.2028
3	C2R	Rs.5.0 Lakh	15 days	Coal transportation shall be done by covered/ closed trucks. Overloading of shall be avoided to prevent spillages.	Regular Activity	31.03.2028
4	C2R	Rs.5.0 Lakh	15 days	Convert existing water sprinkling arrangement into chemical fogging arrangement (MgCl <sub>2</sub> ) and operate same regularly	Regular Activity	31.03.2028
5	C2R	Rs.5.0 Lakh	15 days	Adoption of Tyre wash system to mining transportation at entry and exit point of mining area. Operate same regularly	Regular Activity	31.03.2028
6	C2R	Rs.5.0 Lakh	15 days	Adoption of Bioswales technology on the road sides. Bioswales is a land scape element of construction design, primarily a run off conveyance system by the sides of road, to remove dust ,silt and debris.	Regular Activity	31.03.2028
7	C2R	Rs.5.0 Lakh	15 days	PP shall install & operate existing CAAQMS	Regular Activity	31.03.2028
8	C2R	Rs.5.0 Lakh	15 days	Over burden (OB) should be stacked at earmarked dumpsites only and should not be kept active for long period. Proper terracing of OB should be carried out so that the overall slope will come down to 28°. Over Burden shall be disposed by way of backfilling.	Regular Activity	31.03.2028

Sr. No.	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
9	C2R	Rs.25.0 Lakh	15 days	Operation and Maintenance of pollution control system so as to maintain consented standards prescribed in consent and towards compliance of consent conditions and Environment Clearance conditions.	Regular Activity	31.03.2028

**\*\*Existing BG obtained for above purpose if any, may be extended for period of validity as above.**

**If the above Bank Guarantee is not submitted within stipulated period, then 12% interest will be levied as a penalty as per circular dtd 29/02/2024 No.**

**BO/MPCB/AS(T)/Circular/B-240229FTS0122**

#### **BG Forfeiture History**

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
NA						

#### **BG Return details**

Srno.	Consent (C2E/C2O/C2R)	BG imposed	Purpose of BG	Amount of BG Returned
NA				

#### **SCHEDULE-IV**

##### **General Conditions:**

1. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
2. If the MIDC pipeline is broken/ overflowing chamber, in such cases industry shall not discharge their treated effluent into MIDC drain, it shall be sent to CETP by tanker.
3. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
4. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
5. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipment, the production process connected to it shall be stopped.
6. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
7. The firm shall submit to this office, the 30th day of September every year, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.
8. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the H&OW(M&TM) Rules 2016, which can be recycled/processed/ reused/ recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/ reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
9. The industry should comply with the Hazardous & Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous & Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
10. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
11. The applicant shall make an application for renewal of the consent at least 60 days before the date of the expiry of the consent.
12. Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act,1981 and Environmental Protection Act,1986 and industry specific standard under EP Rules 1986 which are available on MPCB website([www.mpcb.gov.in](http://www.mpcb.gov.in)).
13. The industry shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent condition towards Environment Protection.



14. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
15. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
16. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
17. Conditions for D.G. Set
  - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
  - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
  - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
  - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
  - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
  - f) D.G. Set shall be operated only in case of power failure.
  - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
  - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
18. The industry should not cause any nuisance in surrounding area.
19. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
20. The applicant shall maintain good housekeeping.
21. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end
22. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
23. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipment provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.

24. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises
25. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
26. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dtd. 18.11.2009 as amended.

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This certificate is digitally & electronically signed.

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Monitoring the implementation of Environmental Safeguards  
Ministry of Environment, Forests & Climate change  
West Central Zone, Nagpur  
Monitoring Report  
Part – I

**DATA SHEET**

1. Project type: River / valley / Mining / Industry/ Thermal / Nuclear / other (specify) : Mining
  2. Name of the project : Ukni deep OC Mine
  3. Clearance letter (s)/ OM no. and date : J-11015/237/2010-IA,II(M) dtd. 15.01.2014
  4. Location :
    - a) District (s) : Yavatmal
    - b) State (s) : Maharashtra
    - c) Latitude / Longitude : Log. 79°-2'-30" to 79°-04'-30"(E).  
Lat. 20°-10'-00" to 20°-02'-30"(N).
  5. Address for correspondence :
    - a) address of Concerned Project Chief: Engineer (with pin code & telephone / telex / fax numbers) : **Sub Area Manager**, Ukni deep-Junad Sub Area, PO. Ukni deep, Tah. Wani, Dist. Yavatmal, Maharashtra – 445 304.  
Tel. No. 07293-241717/ Fax.No.07239-241357.
    - b) address of Executive Project Engineer/ Manager (with pin code/fax number) : **Mine Manager**, Ukni deep-Junad Sub Area, PO. Ukni deep, Tah. Wani, Dist. Yavatmal, Maharashtra – PIN- 445304.  
Tel.No. 07293-241718/ Fax.No.07239-241357.
  6. Salient features :
    - a) of the project : Copy enclosed.
    - b) of the environmental management plans : Copy enclosed.
  7. Breakup of the project area :
    - a) Submergence area: forest & non-forest : As per EMP –
- 
- | Type of Land | Required as per EMP (ha) | Actual acquired (ha) as on 30.09.2025 |
|--------------|--------------------------|---------------------------------------|
| Forest Land  | ---                      | ---                                   |
| Agriculture  | 1272.22                  | 1268.49                               |
| Govt. Land   | 12.90                    |                                       |
| <b>Total</b> | <b>1285.12</b>           | <b>1268.49</b>                        |
- 
- Only Land Loser – 317
- b) Others :
    - Breakup of the project affected population with enumeration of those losing houses/dwelling units only agricultural land only, both dwelling units & agricultural land & landless labourers/ artisan
    - a) SC, ST/Adivasis : 07 Nos
    - b) Others : 310 Nos.
  - 8.



## 9. Financial details:

- a) Project cost as originally planned and subsequent revised estimates and the year of price reference. : Rs. 327.06 Cr (Total Capital Investment as per updated PR dated May 2018)
- b) Allocation made for environmental management plans with item wise and year wise break-up. : Capital Head: Rs. 265 Lakhs. (as per updated PR dated May 2018)
- c) Benefit cost ratio/Internal rate of Return and the year of assessment. : N.A.
- d) Whether (c) includes the cost of environmental management as shown in the above : Yes
- f) Actual expenditure incurred on the environmental management plans so far. : Capital - Rs. 99.00 Lakhs.  
Revenue - Rs. 1191.03 Lakhs.


**EXPENDITURE:-****Capital:-**


Account Head	FY 2025-26	Progressive as on 30.09.2025 (Fig. In lakhs)
Air Pollution Control - Dust Suppression work-	Nil	85.27
Water Pollution Control :- Effluent Treatment Plant for workshop and Sedimentation Tank for mine pumped out water.	Nil	13.73
Other	----	-----
<b>Total-</b>	<b>Nil</b>	<b>99.00</b>

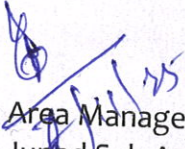
**Revenue:-**

Account Head	FY 2025-26	Progressive as on 30.09.2025 (Fig. In lakhs)
Air Pollution Control Works-	7.55	285.00
Water pollution Control Works	---	120.01
Afforestation.	0.25	223.46
Monitoring (MPCB analysis charges & consent fees ) a) ETP samples charges. b) Consent to Operate & Establish c) Public hearing charges.	Nil	131.47
Legal expenses /Statutory expenses	Nil	424.00
Other	Nil	7.09
<b>Total-</b>	<b>7.80</b>	<b>1191.03</b>

10. Forest land requirement
- a) The status of approval for diversion of forest land for non-forestry use : N.A.
  - b) The status of clearing felling. : N.A.
  - c) The status of compensatory afforestation, if any. : N.A.
  - d) Comments on the viability & sustainability of compensatory afforestation programme in the light of actual field experience so far. : N.A.
11. The status of clear felling in non-forest areas (such as submergence area of reservoir, approach roads), if any with quantitative information. : N.A.
12. Status of construction
- a) Date of commencement (Actual and/ or planned) : 08-04-1993
  - b) Date of completion (Actual and/of planned) : Planned for future expansion.
13. Reasons for the delay if the project is yet to start. : N.A.

  
Colliery Manager (Min)  
Ukni deep OCM

  
S.A.E.(Civil)/NO(Env)  
Ukni -Junad Sub Area

  
Sub Area Manager  
Ukni -Junad Sub Area

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## **SALIENT FEATURES OF THE PROJECT**

1.	Date of Sanction	: 24.11.2018
2	Sanction of Capital (Rs. In Crore)	: Rs. 327.06 Cr (Total Capital Investment as per updated PR dated May 2018)
3.	Duration of construction in years	: 9
4	Extractable coal reserves (in MT)	: 24.37 (as per EC)
5	Target Capacity As Per PR (in MT/Yr)	: 3.50 (As per EC)
6	Life in years as per PR	: 08
7	Coal seam	: Mayo Seam
8	Average thickness	: 8.00 (Top) & 9.30 (Bottom)
8	Gradient of the seam	: 1 in 3 to 1 in 6
9	Stripping ratio	: 1:11.06 (Ukni deep Deep) 1:3.7 (Ukni deep PR)
10	Quality of Grade of coal	: G 11
	GCV	: 4125 k.cal/kg
11	Quarry Depth (P.R)	: Initial-114 MTRS. Final-206 MTRS.
11A	Present quarry depth	: 182 Mtrs.
12	Quarry Area (P.R)	: On surface=332.5 Ha On floor= 213.5 Ha
13	Average strike length of quarry	: 2.950 km
13A	Present strike length	: 3.2 Km
14	Width of Quarry(PR)	: On surface=560.00 mtrs. On floor = 425.00 mtrs.
15A	Present width of quarry	: On surface=1144 mtrs. On floors= 665 mtrs.
16	Over Burden (in mm <sup>3</sup> ) (PR)	: 173.03 Mm <sup>3</sup> .
17	Overall stripping Ratio (As per P.R)	: 11.06
18	Present stripping Ratio	: 1: 9.477
19	Man power as per P.R.	: 716
20	Present Manpower	: 789
21	OMS (PR)	: 10.581
22	Present OMS	: 6
23	Present Average daily employment	: 600



**WESTERN COALFIELD LIMITED**  
**UKNI DEEP OPENCAST MINE: WANI NORTH AREA**

**SIX MONTHLY ENVIRONMENTAL COMPLIANCE REPORT**  
**FOR THE PERIOD OF APRIL 2025 to SEPTEMBER 2025**

**PART-I**

Name of the Project-	<b>Ukni deep Opencast Project.</b>
Address for correspondence	Near Ukni deep Village, At Post- Ukni Deep, Tah-Wani, Dist.-Yavatmal (M.S.)
MOEF Clearance Letter No & Date	Letter No. J-11015/237/2010-IA, II(M) dtd. 15.01.2014 for 3.50 MTPA of coal production.
Date of commencement of the project work-	<b>08.04.1993.</b>

**STATUS OF LAND ACQUISITION: -**

Type of Land	Required as per EMP (ha)	Actual acquired (ha)
<b>Forest Land</b>	---	---
<b>Agriculture</b>	1272.22	1268.49
<b>Govt. Land</b>	12.90	
<b>Total</b>	<b>1285.12</b>	<b>1268.49</b>

**STATUS OF LEGAL COMPLIANCE: -**

<b>a. Consent under water (Prevention and control of pollution) Act.</b>	Consent to Operate is granted by MPCB vide Consent order No.: Format 1.0/CAC/UAN No. MPCBCONSENT – 0000243163/CO/2507003116 dated 24.07.2025 Valid up to 31.03.2027
<b>b. Consent under water (Prevention and control of Pollution) cess Act.</b>	- do -
<b>c. Environment (Protection) Act.</b>	Environment Audit Statement for the year 2024-25 has been submitted online on MPCB web portal
<b>d. Forest (Conservation) Act.</b>	N.A.



**STATUS OF ENVIRONMENT****AIR POLLUTION CONTROL: -**

a. No. of ambient air monitoring stations.	4 Nos.
b. Name of the location-	1) Workshop -WNUOA - 1 CORE ZONE 2) Bhalar Township- WNUOA-2 Buffer Zone 3) Ukni deep Village - WNUOA-3 Buffer Zone 4) Pimpri village - WNUOA-4 Buffer Zone <b>FUGITIVE DUST MONITORING DATA</b> 1) <b>WEIGHBRIDGE &amp; 2) CHP</b>
c. Ambient air quality status for the parameters prescribed by state Pollution Control Board. (Average 95%-time weighted value)	Detailed reports of sampling & analysis of Ambient Air Quality carried out as per statues through CMPDIL, Nagpur for the period <b>APRIL-25 TO SEPTEMBER-25</b> has been enclosed

**WATER POLLUTION CONTROL: -**

a. No. of stations and frequency of monitoring.	Three, fortnightly.
b. Description of locations	1) Mine Water discharge effluent quality WNUOW-1 2) Discharge effluent quality (ETP) WNUOW-2 3) STP (Bhalar Township) WNUOW-3
c. Average Concentrations of major pollutants prescribed by State Pollution Control Board (fig. in mg/lit except ph):-	Detailed reports of sampling & analysis of Water Quality carried out as per statues through CMPDIL, Nagpur for the period <b>APRIL 2025 to SEPTEMBER 2025</b> has been enclosed

**NOISE POOLLUTION CONTROL: -**

a. No. of noise monitoring stations	: 2 Nos. (Fortnightly)
b. Description of locations	: 1) CHP (WNUON-1) 2) Colony (Bhalar) WNUON-2
c) Noise level prescribed by by State Pollution Control Board.	Detailed reports of Noise level carried out as per statues through CMPDIL, Nagpur for the period <b>APRIL-25 TO SEPTEMBER-25</b> has been enclosed



**PART – III**  
**STATUS OF IMPLEMENTATION OF PROVISIONS OF EMP**

**LAND USE STATUS: -**

S.N.	Particulars	Current Period APRIL-2025 to SEPTEMBER-2025	Progressive Up to SEPTEMBER- 2025
1)	Area excavated (ha)	0.00	295.00
2)	Topsoil removed (Mm3)	0.051	16.449
3)	OB removed (Mm3)	4.545	214.363
4)	OB back filled (Mm3)	Nil	5.487
5)	Area recovered for Reclamation (Physical area)	-	-
6)	Area reclaimed biologically (Tree Plantation on backfilled area)	-	-

**PRODUCTION: -**

Target Capacity – 3.50 MTY.

Present Capacity /Coal Production- 0.954 MT (up to 30.09.2025)

Year	Coal Production - Million Tonnes
2018-19	1.616
2019-20	1.379
2020-21	1.538
2021-22	1.500
2022-23	1.756
2023-24	1.838
2024-25	1.557
2025-26 (up to SEP-2025)	0.954

**Afforestation:**

S.N.	Locations	Current period	Progressive
1)	OB Dump & embankment	----	98 Ha
2)	Safety Zones	----	43.8Ha
3)	Backfilled Area	----	----
4)	Other Area	----	35.6 Ha
	<b>Total</b>	----	177.4 Ha

Area Under Plantation (Progressive)	177.4 Ha.
No. of Plants per hectare	2500/Hect.
Species planted up to date	Teak, Bamboo, Sivan, Khair, Nim, Sisam, Maharuk, Pimpal, Subabul, Bijja, Raintree, Nilgiri, ulmor, Fanas, Karanj, Casis, Glarasies, Emli, & Mango.



**REHABILITATION AND RESETTLEMENT:-**

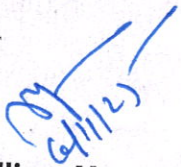
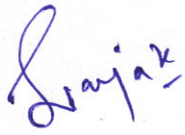
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S.N.	Particulars	SC	ST	OTHER
1.	No. of land outsees	326.00		
2.	No. of land outsee rehabilitated	----		
3.	No. of PAP's/PAFs to be resettled	Nil		
4.	No. of PAPs/PAFs resettled	41 Nos. families.		
5.	Area of new site (ha)			
6.	Status of development	(Approach road & surface drain provided by WCL		
7.	Civic amenities provided at new resettlement site-		DO.	

Organizational set up at project level:

**Name and designation of the persons:**

- 1) Shri. M.SHANKRA SWAMI, SAM, Ukni deep OC mine, UJSA.
- 2) Shri. SANTOSH Kumar VERMA, Colliery Manager, Ukni deep OC mine
- 3) Shri. Shreyansh Nayak, S.A.E (C)/N.O.(Env.), Ukni deep OCM/UJSA.

  
Colliery Manager  
Ukni deep OCM  
S.A.E (Civil)/NO(Env.)  
Ukni -Junad Sub Area  
Sub Area Manager  
Ukni -Junad Sub Area



**EXPANSION OF UKNI DEEP OC**  
**COMPLIANCE OF CONDITIONS OF ENVIRONMENTAL CLEARANCE (EC)**

Vide Letter No: J-11015/237/2010-IA. II (M) dated 15.01.2014 for 3.50 MTPA

S. N	MOEF Environmental Clearance Condition	Compliance.
1	2	3
<b>A.</b>	<b>SPECIFIC CONDITIONS:</b>	
i.	The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.	: The maximum production of coal from the mine has not exceeded its prescribed limit of <b>3.50MTPA</b> and nor proposed to exceed in future.
ii.	All the conditions made by DGMS should be adhered to.	: All the conditions made by DGMS are being followed and will continue to be followed.
iii.	The mine water after it is pumped out and treated in sedimentation tank on surface could be used within the mine premises for watering the mine area, roads, green belt development etc.	: At present, in the existing Ukni OC mine, the mine water after it is pumped out on surface, is treated in surface Sedimentation tank and thereafter is used for: - (i) Dust suppression through mobile water tankers playing within the mine area & surface roads. (ii) Spraying of water through rain guns/fixed type Water Sprinklers (iii) For watering of plants etc. The same will continue to be maintained during the Operation of Ukni Deep OC also.
iv.	Mine discharge after proper settling should be made available for agricultural purpose through a properly developed distribution network. The project authorities should meet the water requirement of nearby villages in case the village wells go dry due to dewatering of the mine.	: At present in the existing Ukni OC, strata seepage water first gets accumulated in the mine sump where adequate stagnation time is available for initial settlement of suspended particles. The supernatant water from the mine sump is then pumped out and discharged on to sedimentation tank made on the surface and clear water after further settling is discharged in to local Nallahs/ streams which are presently being used by the nearby villagers for their agriculture etc. The same will continue to be maintained during the operation of Ukni Deep OC also. In case of requests coming from any village in the vicinity, whenever their wells go dry, project authorities are supplying water through truck mounted tankers and will continue to maintain the same in future also.
v.	Water meter in Surface Sedimentation tank will be installed by December-2013.	: The modification and repair work of existing sedimentation tank in Ukni OCM has been completed. At present V-notch has been fitted.
vi.	Toe wall as well as garland drain be constructed as per DGMS guidelines.	: R.C.C. Toe wall has been constructed at the toe of O.B. Dump No (7) for a length of 350.00 Mtr, and garland drains have been made around O.B. dumps and periphery of mine as per statutory guidelines.

Contd.2

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S.N	MOEF Environmental Clearance Condition	Compliance.
1	2	3
vii.	The external OB dumps are to be constructed in benches Keeping the individual bench slopes at natural angle of repose conforming to the DGMS Permission.	: External O.B. dumps are being made bench wise, and slope of each bench is kept at natural angle of repose as per the conditions laid down by DGMS.
viii.	Garland drains all along the periphery of external OB dumps be constructed before onset of every monsoon and all silt and sediments along with water may be allowed to accumulate in the said garland drains which be cleaned again before onset of next monsoon.	: Garland drains of size 3.50 x 2.00m are made around the periphery of external O.B. dumps before onset of monsoon to arrest silt and sediments from the respective dump sites. The above garland drains are cleaned before onset of next monsoon.
ix.	The biological reclamation of external OB dumps should be taken up once the dumps get inactive.	: External O.B. dump no. 1, 4 & 5 have been biologically reclaimed and vegetation grown has become self-sustaining. In future biological reclamation shall be done of the external dumps once it gets inactive.
x.	There should be no external OB dumps at the end of mining. OB should be backfilled in the existing void in post mining stage. Grass should be planted on temporary OB dump should be re-handled and backfilled up to ground level. The land should be used as Agriculture Land.	: Noted for compliance. It shall be implemented at the time of closure / end of mining. [Mine is in operation & its final stage is yet to be arrived]
xi.	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.	: Presently the mine is <b>2.00 Km</b> away from the Wardha river.
xii.	The production shall be within the same Mining lease area.	: The production of coal shall be made well within the mining lease area as specified in the EC letter issued by MOEF dated 15.01.2014.
xiii.	The OB shall be completely re-handled at the end of the mining.	: It shall be implemented at the time of mine closure/end of mining.
xiv.	The void area will be converted into water body. The rest of the area will be back filled up to the ground level and covered with about a meter thick top soil and put to use.	: Noted for compliance. It shall be implemented at the time of closure / end of mining. [Mine is in operation & its final stage is yet to be arrived]
xv.	Garland drains be provided.	: Garland drains of appropriate size have been provided along the periphery of mine area and around the external O.B. dumps.



S.N	MOEF Environmental Clearance Condition	Compliance.																																																							
1	2	3.																																																							
xvi.	Appropriate embankment shall be provided along the side of the river / nallah flowing near or adjacent to the mine.	: Presently the mine is 2.00Km away from the Wardha river.																																																							
xvii.	The land after mining shall be brought back for agriculture purpose.	: It shall be implemented at the time of mine closure/end of mining.																																																							
xviii.	Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.	: Water pumped out from the mine after settlement in sump is being treated into surface Sedimentation tank before discharging into local nallah. The quality of treated water is being monitored fortnightly by CMPDIL, and mitigation measures are being taken accordingly.																																																							
xix.	The CSR cost should be Rs.5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.	: As per the existing modified CSR policy of the Company, the fund for the C.S.R. should be allocated based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs 2.00 per tonne of coal production of previous year, whichever is higher.																																																							
xx.	The transportation of Coal in the pit would be by Dumpers, from surface to siding by Tippers, from siding to loading would be by pay Loaders.	: At present, in the existing Ukni OC mine, coal is being transported from pit of the mine to surface by dumpers, from surface to siding by tippers and from siding to wagons by pay loaders. The system will continue to be maintained.																																																							
xxi.	There shall be no overflow 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.	: Presently the mine is about 2.00Km away from the Wardha river. Also garland drains have been made around the OB dumps to arrest any erosion to natural streams. Plantation has been already done over available sites and the same will be implemented in the future also.																																																							
xxii.	OB shall be tacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional office located at Bhopal on yearly basis.	: OB Excavated from the quarry area has been dumped on surface a. The details area of dumps as follows:- <table><tr><th>S.N</th><th>Dump No</th><th>Height (M)</th><th>Area (In Ha.)</th><th>Status of reclamation.</th></tr><tr><td>1</td><td>1</td><td>40.00</td><td>36.12</td><td>Partially Biologically reclaimed.</td></tr><tr><td>2</td><td>4</td><td>45.00</td><td>17.50</td><td>Biologically reclaimed.</td></tr><tr><td>3</td><td>5</td><td>38.00</td><td>96.30</td><td>Partially Biologically reclaimed.</td></tr><tr><td></td><td>5(A)</td><td>55.00</td><td>68.72</td><td>Partially biologically reclaimed.</td></tr><tr><td>4</td><td>6</td><td>21.57</td><td>25.20</td><td></td></tr><tr><td></td><td>6(A)</td><td>9.40</td><td>16.00</td><td></td></tr><tr><td>5</td><td>10A</td><td>30.00</td><td>6.50</td><td></td></tr><tr><td>6</td><td>11</td><td>60.00</td><td>30.00</td><td></td></tr></table> The details area of active dumps are as given below:- <table><tr><th>S.N</th><th>Dump No</th><th>Height (M)</th><th>Area (In Ha.)</th><th>Status of reclamation.</th></tr><tr><td>1</td><td>22</td><td>45</td><td>186.00</td><td>Partially biologically reclaimed.</td></tr></table>	S.N	Dump No	Height (M)	Area (In Ha.)	Status of reclamation.	1	1	40.00	36.12	Partially Biologically reclaimed.	2	4	45.00	17.50	Biologically reclaimed.	3	5	38.00	96.30	Partially Biologically reclaimed.		5(A)	55.00	68.72	Partially biologically reclaimed.	4	6	21.57	25.20			6(A)	9.40	16.00		5	10A	30.00	6.50		6	11	60.00	30.00		S.N	Dump No	Height (M)	Area (In Ha.)	Status of reclamation.	1	22	45	186.00	Partially biologically reclaimed.
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S.N	MOEF Environmental Clearance Condition	Compliance.
1	2	3
xxiii.	Catch drains and Siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development, etc. The drains shall be regularly de-silted 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.	: Catch drains of size 3.5m x 2 m have been provided around periphery of the OB dump as well as soil dumps to arrest silt and sediment flows from the respective dump sites. In case of OB benches in the quarry, cross drainage has been provided which carries silt and sediments into different sumps made at the floor which accumulates all the silts and act as first stage settling pond. The water then is pumped out through pumps on to the surface and discharged into surface settling tank/sedimentation pond of size 30m x 10m x 2m. The clear water from the surface sedimentation tank is used for watering the mine area, roads and green belt development. The catch drains mentioned above are regularly de-silted and maintained properly. In addition, catch drains of size 4m x 2.5m have also been provided around the periphery of the excavated area, which carries surface run off and the drains are regularly de-silted
xxiv.	Dimension 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.	: R.C.C. retaining wall has been constructed at the toe of dump no 7 for 350 mtr length having dimension of 0.20 mtr x 1.05 mtr to check the siltation. As indicated above, the run off from the OB dumps are collected in the catch drains made around the periphery of the dumps (dimensions of catch drains given above in the previous point no. xxiii) for collecting run off and Siltation from OB benches different sumps as detailed out above, is in operation and acts as main settling/ Siltation pond more over the O.B. Benches are continuously moving front. The capacity of this sump has been made to cater the entire peak rainfall in the catchments area



S.N	MOEF Environmental Clearance Condition	Compliance.																											
1	2	3																											
xxv.	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling systems shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	: Crushers of suitable capacity are provided at CHP. Water sprinkling system is provided at feeder breaker, Conveyor and transfer points etc in addition the dust suppression measures like covering of crusher house, covering of conveyor gantry, fixed type Water Sprinkler/Rain Guns in the CHP area etc. have also been provided to control fugitive dust emission. In addition, plantation in the CHP area has also been developed.																											
xxvi.	Drills shall be wet operated.	: Drills have been provided with dust extractors and are operated only during daytime.																											
xxvii.	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.	: Repairing of coal transportation road is regularly being done as per requirement and condition of road. Black Topping has been done over coal transportation roads of permanent nature. Adequate green belt has also been developed along the major approach roads.																											
xxviii.	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The proponent would need to repair the crack in the houses if it occurred on account of blasting. The mitigative measures for control of ground vibrations and to arrest the flying rocks and boulders shall be implemented.	: Controlled blasting is carried out after due permission from DGMS so as to control ground vibrations and arrest fly rock and strictly as per conditions laid down by DGMS. The blasting is carried out only in daytime.																											
xxix.	A progressive afforestation plan shall be implemented covering an area of 779 ha at the end of mining, which includes reclaimed external OB dump 446ha, Backfilled area 180ha, Infrastructure 4ha, Township area 3 ha and green belt 145ha by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per hect. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tire avenue plantation along the main approach roads to the mine.	: Afforestation is being developed in the mine lease area covering various infrastructures, along haul road (Permanent type), coal transportation road, O.B. dumps, township area etc. The density of trees is around 2500 plants/ha plantation carried out so far is given below. <table border="1"> <thead> <tr> <th>S.N.</th><th>Location</th><th>Area of Plantation</th></tr> </thead> <tbody> <tr> <td>1)</td><td>O.B. Dumps</td><td>98 Ha</td></tr> <tr> <td>2)</td><td>Mine Lease Area:-</td><td></td></tr> <tr> <td></td><td>a) Avenue</td><td>26.00 Ha.</td></tr> <tr> <td></td><td>b) Rationalisation Area</td><td>43.80 Ha</td></tr> <tr> <td></td><td>c) CHP</td><td>3.60 Ha</td></tr> <tr> <td></td><td>d) Workshop</td><td>2.00 Ha.</td></tr> <tr> <td></td><td>e) Infrastructure</td><td>4.00 Ha.</td></tr> <tr> <td></td><td><b>Total</b></td><td><b>177.4 Ha.</b></td></tr> </tbody> </table> <p>Afforestation plan shall be implemented in balance life of mine in consultation with DFO / Agriculture</p>	S.N.	Location	Area of Plantation	1)	O.B. Dumps	98 Ha	2)	Mine Lease Area:-			a) Avenue	26.00 Ha.		b) Rationalisation Area	43.80 Ha		c) CHP	3.60 Ha		d) Workshop	2.00 Ha.		e) Infrastructure	4.00 Ha.		<b>Total</b>	<b>177.4 Ha.</b>
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	c) CHP	3.60 Ha																											
	d) Workshop	2.00 Ha.																											
	e) Infrastructure	4.00 Ha.																											
	<b>Total</b>	<b>177.4 Ha.</b>																											



		Department
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Contd.6  
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S.N	MOEF Environmental Clearance Condition	Compliance.
1	2	3
xxx.	An estimated 221.66Mm <sup>3</sup> of OB <sup>+</sup> will be generated during the entire life of the mine. Out of which 117.52 Mm <sup>3</sup> of OB will be dumped in four external OB Dumps in an earmarked area covering 446ha of land. 104.14Mm <sup>3</sup> of OB will be dumped in internal dumps covering an area of 180ha. The maximum height of external OB dumps for hard OB will not exceed 90m and that for soft OB shall not exceed 60m. The maximum slop of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self-sustaining and compliance status shall be submitted to MOEF and its Regional Office on yearly basis.	: Presently the height of O.B. dumps is 90.00 Mtr (Max) and slope is well within 28°. Also, the plantation already done over O.B. dumps has become self-sustained. The quantities mentioned in this condition are for the entire life of the mine and can be achieved only when the mining will come to the end as per the approved project report of Ukni Deep OC. Similarly with the progress of mining activities in Ukni Deep OC, reclamation activities will be continued as per the plan.
xxxi.	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.	: The EIA/EMP as approved is already having a plan for the reclamation of degraded land and the same shall be implemented.
xxxii.	Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.	: The EIA/EMP as approved is already having a plan of reclamation of degraded land and the same shall be implemented.
xxxiii.	The mine should be phased out in sustainable manner. No extra overburden dumps are permitted.	: The EIA/EMP as approved is already having a plan of operation, and mine operations are being carried out in line with the plan in phase



		wise and sustainable manner. No extra over burden dumps are made.
xxxiv.	No groundwater shall be used for mining operations.	: Ground water is not used for mining operation
xxxv.	Out of the total 1285.12ha, external OB dump area 446ha, excavation area of 218 ha, infrastructure area 55 ha, water body 153ha, Township 34 ha, Green belt 145ha shall be reclaimed with plantation and a void of 153 ha at a depth of 40 m which is proposed to be converted in to a water body shall be gently sloped and the upper benches shall be terraced and stabilized with plantation / afforestation 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.	: The quantities mentioned in this condition are for the entire life of the mine and can be achieved only when the mining will come to the end as per the approved project report of Ukni Deep OC. The mine i.e. Ukni OC will get dovetailed in Ukni Deep OC. In the existing mine External OB dumps in parts have been reclaimed and the details have been given in previous paragraphs. Similarly with the progress of mining activities in Ukni Deep OC, reclamation activities will be continued as per the plan and adhering to the stipulations.

Contd.7.

1/7/11

S.N	MOEF Environmental Clearance Condition	Compliance.												
1	2	3												
xxxvi	Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. 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 & forest and to the Central Pollution Control Board quarterly within one month of monitoring.	: The monitoring of ground water level is regularly being carried out four times a year, by establishing a network of existing wells as well as through piezometers in the bore wells already in use. Data thus collected is regularly being submitted to the MoEF&CC and Pollution Control Board.												
xxxvii	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 requirements of nearby village(s) in case the village wells dry due to dewatering of mine.	: To augment the ground water recharge, the project/mine authority has adopted various groundwater recharge measures. Existing Rainwater Harvesting and Artificial Recharge Details <table border="1"> <thead> <tr> <th colspan="3">EXISTING ROOF TOP RAINWATER HARVESTING/ARTIFICIAL RECHARGE STRUCTURE</th></tr> <tr> <th>Sr. no</th><th>Location</th><th>Roof Top Area (m<sup>2</sup>)</th></tr> </thead> <tbody> <tr> <td colspan="3">Existing Rooftop rainwater harvesting structure</td></tr> <tr> <td>1</td><td>Rooftop Rainwater Harvesting structure at</td><td>1200</td></tr> </tbody> </table>	EXISTING ROOF TOP RAINWATER HARVESTING/ARTIFICIAL RECHARGE STRUCTURE			Sr. no	Location	Roof Top Area (m <sup>2</sup> )	Existing Rooftop rainwater harvesting structure			1	Rooftop Rainwater Harvesting structure at	1200
EXISTING ROOF TOP RAINWATER HARVESTING/ARTIFICIAL RECHARGE STRUCTURE														
Sr. no	Location	Roof Top Area (m <sup>2</sup> )												
Existing Rooftop rainwater harvesting structure														
1	Rooftop Rainwater Harvesting structure at	1200												



			Area General Manager Office, Wani North Area, WCL	
		2	Rooftop Rainwater Harvesting Structure at VVIP Guest House, Wani North Area, WCL	866
		3	Rooftop Rainwater Harvesting Structure at Vocational Training Centre (GVTC), Wani North Area, WCL	730
		Artificial Groundwater Recharge Structure		
		<b>S. No</b>	<b>Location</b>	<b>Dimension</b>
		1	Recharge Pond Welhala village	Water Spread Area – 2000sq mtr Depth-1m
		2	Recharge Pond at Nilapur Village	Water Spread Area- 12340sq. mtr Depth- 1m
		3	Abandoned Quarry of Sector IV, Kolarpimpri OC Mine, acting as recharge structure	360000 sq. mtr
xxxix	Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.	:	There is no exclusive colony meant for this project and residential accommodations for the manpower employed in the project have been provided at Bhalar Township, which is having sewage Treatment Plant (STP) of capacity 0.6 MLD. An Effluent Treatment Plant (ETP) of capacity 0.15 MLD is under upgradation for the workshop catering to the need of the project.	
xxxiv	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 for occupational diseases and hearing impairment, if any, through a specialized agency/institution within the District/State and the results reported to this Ministry and to DGMS.	:	Periodical medical examination is being carried out of each employee once in every 3 years to detect any disease so that appropriate action can be taken. Health check up of 10% workers engaged in active mining operation shall be carried out to detect occupational disease and hearing impairment. Report of the same shall be submitted to MOEF and DGMS.	

Contd.8

S.N	MOEF Environmental Clearance Condition	Compliance.
1	2	3
xl.	Land oustees shall be compensated as per	Compensation has been paid & will be paid to

//8//



	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.		land oustees as per R&R policy of CIL
xli.	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 and its concerned Regional office.	:	Monitoring of land use pattern is regularly being done on satellite imagery by CMPDIL, Ranchi. The reports are regularly uploaded in the company website and also it is submitted to MOEF&CC and its concerned Regional office.
xlii.	A detailed Final Mine closure plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forest within 6 months of grant of Environmental Clearance.	:	The mine closure plan prepared as per the guideline of Ministry of Coal has already been approved by WCL Board on 06.02.2014 and Escrow Account has been opened with the corpus.  <b>Escrow A/C no.: 897107600002363</b> <b>Balance as on 31.03.2025 : Rs.</b> <b>1,19,10,85,820.94 /-</b>
xliii.	The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.	:	The various civil work and welfare works are being carried out under CSR every year in the adjacent villages in consultation of Gram-panchayat and local administrations. The same will continue to be carried during the balanced life also.
xliv.	The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.	:	The issues which were raised by local villagers during Public Hearing have been solved.
xlvi.	Corporate environment Responsibility:	:	
	a. The Company shall have a well laid down Environment Policy approved by the Board of Directors.	:	Corporate Environment policy of CIL approved by Board of Directors, CIL exists.
	b. The Environment policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	:	---Agreed-----
	c. The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	:	Hierarchical system is as follows- Company-level - D.T. Assisted by GM (Env)/HOD. Area Level – AGM Assisted by ANO (Env). Sub Area/Unit Level- Sub Area manager Assisted by N.O.(Env)

Contd.9

S. N	MOEF Environmental Clearance Condition	Compliance.
1	2	3

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	d. To have proper checks and balance, 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.	:	-----Agreed-----
<b>B.</b>	<b>GENERAL CONDITONS:</b>	:	
i.	No. Change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	:	Noted. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forests and climate change.
ii.	No change in the calendar plan of production for quantum of mineral coal shall be made.	:	Noted. No change in the calendar plan of production for quantum of mineral coal in excess of EC shall be made.
iii.	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> 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.	:	Four ambient air quality monitoring stations have already been established for monitoring PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> . Monitoring is being done fortnightly on all stations. Location of the stations was 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 are being carried out once in six months.
iv.	Data on ambient air quality (PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> ) 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 Control Board and the central Pollution Control Board once in Six months. Random verification of Samples through analysis from independent laboratories recognized under the EPA rules, 1986 shall be furnished as part of compliance report.	:	Data regarding ambient air quality and heavy metals and other monitoring data are submitted regularly to the ministry including its concerned Regional Office and to the Maharashtra pollution Control Board and the central Pollution Control Board
v.	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operation, operation of HEMM, etc shall be provided with ear plugs/muffs.	:	In order to keep the noise level below 85 dBA in the work environment, regular maintenance of HEMM is being done and protective gears viz. Ear plugs and muffs are being provided to the employees.

Contd.10

S.N	MOEF Environmental Clearance Condition	Compliance.
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1	2	3
vi.	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GDR 422 (E) dated 19 <sup>th</sup> May 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time before discharge, oil and grease trap shall be installed before discharge of workshop effluents.	: Mine pumped out water after initial sedimentation in the mine sump is collected in to surface sedimentation pond for further settlement. The quality of treated effluent from sedimentation pond is monitored every fortnight. Similarly, the effluents from the Workshop are treated in ETP of 0.15 MLD capacity fitted with Oil and Grease Trap and clear water is also regularly monitored. It may be mentioned here that there is no discharge of effluent from Workshop in to any surface water body.
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.	: The vehicles namely Jeeps, Trucks, Ambulance, Pick-up Vans and hired vehicles are having valid PUC Certificate. from RTO authorized agencies. Proper check-up and maintenance and monitoring of Hydraulic HEMM is being done regularly.
viii.	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Board and data got analyzed through a laboratory recognized under EPA Rules, 1986.	: Centralized Environmental laboratory has been established CMPDIL, RI-IV (Regional institute of CMPDIL, a subsidiary of CIL and ISO certified consultant for giving total support to all the coal producing subsidiary of CIL) at Nagpur for catering to the needs of WCL exclusively. The schedule of monitoring every fortnight is communicated to SPCB to the respective Regional Offices in advance.
ix.	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	: Protective health & safety gears are provided to workmen exposed to dust, namely, Dust Mask, Helmets, Safety Boots, and Goggles, as per DGMS specifications. The workers are regularly given training as well as Re-training/Refresher training on safety & health aspects (Statutory requirement under Mines Act).
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.	: Periodical medical examination is carried out for each employee once in every 3 year to detect any disease so that, appropriate action can be taken and its record is maintained.

Contd.11



S.N	MOEF Environmental Clearance Condition	Compliance.
1	2	3
xi.	A separate environmental management cell with suitable qualified personnel shall be set up under the control of Senior Executive, who will report directly to the Head of the company.	: At project level, Environmental Management Cell is headed by Sub Area Manager and is assisted directly by Project Nodal Officer (Environment)/ Sr. Manager (Civil). At Area level, AGM heads the cell assisted by Area Nodal Officer (Environment), GM(Environment) heads the Environment Department at HQ /Corporate level with a multidisciplinary team of qualified and trained Engineers.
xii.	The funds earmarked 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 have been earmarked for environmental protection measures are kept in separate account and are not used for any other purpose. The expenditure both under Capital & Revenue for the current year as well as progressive is enclosed with this report.
xiii.	The Project authorities shall 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 within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State pollution Control Board and may also be seen at the website of the ministry of Environment & Forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	: The advertisement has been published in the news paper (English – The Hitavada, Marathi – Lokmat).
xiv.	A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if nay, from whom any suggestion/representation has been received while processing the prdposal. A copy of the clearance letter shall also be displayed on company's website.	: A copy of the environmental clearance letter has already been marked to concerned Sarpanch of the Village Panchayat. The receipt of the same by Sarpanch of Ukni Gram-panchayat is enclosed vide letter No. WCL/WNA/SAM/CIVIL/UOC/2013-14/599 dt 06.02.2014
xv.	A copy of the environmental clearance letter shall be 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/Tahsildar's Office for 30 days.	: Not applicable.

Contd.12

S.N	MOEF Environmental Clearance Condition	Compliance.
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1	2	3
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 PM10, OM2.5, SO2 and NOx (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	: EC letter has already been uploaded in the WCL web site. The Environmental quality monitoring data, Annual Environment (Audit) Statement and land Reclamation Monitoring reports (Carried out through satellite Monitoring) are also uploaded in company's website regularly updated.
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 Office's of CPCB and the SPCB.	: -----Agreed-----
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.	: -----Noted----- All necessary co-operation will be extended to regional Office, Nagpur.
xix.	The Env. statement for each financial year ending 31 <sup>st</sup> 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 by e-mail.	: -----Agreed----- Environment Statement (Form V) for the FY 2024-25 has been submitted in Maharashtra Pollution Control Board web portal.

Colliery Manager  
Ukni deep OCM  
Wani North Area

S.O.E (Civil) / N.O.(Env)  
Ukni-Junad Sub Area  
Wani North Area

Sub Area Manager  
Ukni-Junad Sub Area  
Wani North Area





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## ENVIRONMENTAL MONITORING REPORT

### UKNI DEEP OC

WANI NORTH AREA


WESTERN COALFIELDS LTD.

JOB NO. 4094423068



APRIL 2025

Environment Laboratory  
NABL Accredited vide Cert. No. TC-7102  
CMPDI  
REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014  
AN ISO 9001:2015 COMPANY

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>		<b>Test Report</b>			
TEST REPORT NO.		RIN/TR/APRIL-25/29		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED	SPM: IS 5182 Part-4, PM-10: IS-5182 Part 23, PM2.5: IS-5182 Part 24, NO2: IS 5182 Part-06, SO2:IS 5182 Part-2				
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN : LQR 47	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-04-25 TO 15-05-25	

WORKSHOP PREMISES   WNUOA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	5	2	6	10	
13-04-2025	14-04-2025	275	182	42	14	12	CLEAR/LIGHT BREEZE
27-04-2025	28-04-2025	293	197	51	18	15	CLEAR/LIGHT BREEZE
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECember 2000		600	300	-	120	120	

BHALAR TOWNSHIP   WNUOA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
04-04-2025	05-04-2025	86	30	10	BDL	CLEAR/LIGHT BREEZE	
05-04-2025	06-04-2025	71	27	8	BDL	CLEAR/CALM	
11-04-2025	12-04-2025	82	30	10	BDL	CLEAR/LIGHT BREEZE	
12-04-2025	13-04-2025	88	33	11	BDL	CLEAR/LIGHT BREEZE	
18-04-2025	19-04-2025	91	36	11	BDL	CLEAR/LIGHT BREEZE	
19-04-2025	20-04-2025	68	19	7	BDL	CLEAR/CALM	
25-04-2025	26-04-2025	76	22	8	BDL	CLEAR/LIGHT BREEZE	
26-04-2025	27-04-2025	87	29	9	BDL	CLEAR/LIGHT BREEZE	
NAAQS, 2009		100	60	80	80		

UKNI VILLAGE   WNUOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
07-04-2025	08-04-2025	79	28	9	BDL	CLEAR/MODERATE BREEZE	
21-04-2025	22-04-2025	64	18	7	BDL	CLEAR/LIGHT BREEZE	
NAAQS, 2009		100	60	80	80		

PIMPRI VILLAGE   WNKOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
02-04-2025	03-04-2025	82	26	9	BDL	CLOUDY/LIGHT BREEZE	
03-04-2025	04-04-2025	77	22	7	BDL	CLOUDY/LIGHT BREEZE	
09-04-2025	10-04-2025	89	28	10	BDL	CLEAR/LIGHT BREEZE	
10-04-2025	11-04-2025	70	24	9	BDL	CLEAR/LIGHT BREEZE	
16-04-2025	17-04-2025	67	19	7	BDL	CLEAR/CALM	
17-04-2025	18-04-2025	75	23	9	BDL	CLEAR/CALM	
23-04-2025	24-04-2025	68	18	8	BDL	CLEAR/CALM	
24-04-2025	25-04-2025	70	26	8	BDL	CLEAR/CALM	
NAAQS, 2009		100	60	80	80		

lab signature

Analysed by

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
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**FUGITIVE DUST MONITORING**


TEST REQUIRED	SPM: IS 5182 Part-4, PM-10: IS-5182 Part 23 & PM2.5: IS-5182 Part 24		
SAMPLE DESCRIPTION	Air sample(Fugitive)		
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-04-25 TO 15-05-25

WEIGH BRIDGE				WNUOF1
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )		ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	
FROM	TO	5	5	
23-04-2025	24-04-2025	439	319	CLEAR/LIGHT BREEZE

CHP		WNOF2		
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )		ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	
FROM	TO	5	5	
23-04-2025	24-04-2025	444	337	CLEAR/LIGHT BREEZE



Analysed by


Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report		 TC-7102	
SAMPLE DESCRIPTION	Water sample				
Test Required	pH: IS 3025 -Part 11, TSS: IS 3025-Part 17, COD: APHA (24rd Edition) 5220 C , O&G: IS 3025-Part 39 & BOD: IS 3025 (Part 44)				
SAMPLING METHOD	LSOP 5	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:			16-04-25 TO 15-05-25

MINE WATER DISCHARGE: WNUOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
13-04-2025	7.07	24	36	BDL
27-04-2025	7.30	28	44	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNUOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
13-04-2025	7.51	24	40	BDL
27-04-2025	7.58	30	40	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

STP DISCHARGE: WNUOW3		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS (in mg/l)	BOD(in mg/l)
DETECTION LIMIT	10	2
13-04-2025	26	12
27-04-2025	28	14
GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS GSR 801E EPA 1993	100	30

*Labindhane*  
Analysed by

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
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**NOISE LEVEL MONITORING DATA**

SAMPLE DESCRIPTION	NOISE SAMPLE	
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT	
SAMPLING METHOD	LSOP 6	

CHP: WNUON1		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'25	07-04-2025	67.6	66.1
APRIL'25	20-04-2025	68.1	65.2
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNUON2		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'25	07-04-2025	44.3	42.2
APRIL'25	20-04-2025	43.4	41.3
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45

  
Yogesh Pidurkar  
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## ENVIRONMENTAL MONITORING REPORT

### UKNI DEEP OC

WANI NORTH AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423068



MAY 2025

Environment Laboratory  
NABL Accredited vide Cert. No. TC-7102  
CMPDI  
REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

AN ISO 9001:2015 COMPANY

Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report		 TC-7102	
TEST REPORT NO.		RIN/TR/MAY-25/29		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2:IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN :	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		LQR 47	
				16-05-25 TO 15-06-25	

WORKSHOP PREMISES   WNUOA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	5	2	6	10	
13.05.2025	14.05.2025	264	172	40	13	10	CLEAR/LIGHT BREEZE
27.05.2025	28.05.2025	287	193	54	20	16	CLEAR/LIGHT BREEZE
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECember 2000		600	300	-	120	120	


BHALAR TOWNSHIP   WNUOA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
04.05.2025	05.05.2025	80	29	11	BDL		CLEAR/LIGHT BREEZE
05.05.2025	06.05.2025	71	24	9	BDL		CLEAR/CALM
11.05.2025	12.05.2025	85	32	11	BDL		CLEAR/LIGHT BREEZE
12.05.2025	13.05.2025	77	26	10	BDL		CLEAR/LIGHT BREEZE
18.05.2025	19.05.2025	95	35	11	BDL		CLEAR/LIGHT BREEZE
19.05.2025	20.05.2025	86	29	10	BDL		CLEAR/CALM
25.05.2025	26.05.2025	70	24	9	BDL		CLEAR/LIGHT BREEZE
26.05.2025	27.05.2025	82	27	10	BDL		CLEAR/LIGHT BREEZE
29.05.2025	30.05.2025	79	29	9	BDL		CLEAR/LIGHT BREEZE
30.05.2025	31.05.2025	86	31	10	BDL		CLEAR/LIGHT BREEZE
NAAQS, 2009		100	60	80	80		

UKNI VILLAGE   WNUOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
07.05.2025	08.05.2025	61	20	7	BDL		CLOUDY/LIGHT BREEZE
21.05.2025	22.05.2025	89	28	10	BDL		CLOUDY/LIGHT BREEZE
NAAQS, 2009		100	60	80	80		

PIMPRI VILLAGE   WNKOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
02.05.2025	03.05.2025	75	23	8	BDL		CLEAR/CALM
03.05.2025	04.05.2025	83	35	10	BDL		CLEAR/CALM
09.05.2025	10.05.2025	67	20	7	BDL		CLEAR/CALM
10.05.2025	11.05.2025	79	27	9	BDL		CLEAR/CALM
16.05.2025	17.05.2025	77	26	9	BDL		CLOUDY/LIGHT BREEZE
17.05.2025	18.05.2025	82	31	10	BDL		CLOUDY/LIGHT BREEZE
23.05.2025	24.05.2025	63	17	7	BDL		RAINY/MODERATE BREEZE
24.05.2025	25.05.2025	79	27	9	BDL		CLOUDY/LIGHT BREEZE
27.05.2025	28.05.2025	84	29	10	BDL		CLOUDY/LIGHT BREEZE
28.05.2025	29.05.2025	76	20	9	BDL		CLOUDY/LIGHT BREEZE
NAAQS, 2009		100	60	80	80		



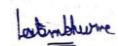
Analysed by

Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report		 TC-7102	
SAMPLE DESCRIPTION	Water sample				
Test Required	pH: IS 3025 -(Part 11), TSS: IS 3025-(Part 17), COD: APHA (24th Edition) 5220 C , O & G: IS 3025-(Part 39) & BOD: IS 3025 (Part 44)				
SAMPLING METHOD	LSOP 5	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:			16-05-25 TO 15-06-25

MINE WATER DISCHARGE: WNUOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
13.05.2025	7.68	38	48	BDL
29.05.2025	7.82	28	36	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNUOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
13.05.2025	7.85	26	36	BDL
29.05.2025	7.94	24	32	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

STP DISCHARGE: WNUOW3		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS (in mg/l)	BOD(in mg/l)
DETECTION LIMIT	10	2
13.05.2025	26	14
29.05.2025	20	12
GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS GSR 801E EPA 1993	100	30

  
Analysed by




<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
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**NOISE LEVEL MONITORING DATA**

SAMPLE DESCRIPTION	NOISE SAMPLE	
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT	
SAMPLING METHOD	LSOP 6	

CHP: WNUON1		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
MAY'25	10.05.2025	68.7	67.4
MAY'25	26.05.2025	59.7	58.3
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNUON2		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
MAY'25	10.05.2025	46.3	45.2
MAY'25	26.05.2025	44.1	43.2
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45

  
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## ENVIRONMENTAL MONITORING REPORT

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WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 4094423068



JUNE 2025




Environment Laboratory

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>		<b>Test Report</b>			
TEST REPORT NO.		RIN/TR/JUNE-25/29		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2: IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN : LQR 47	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-06-25 TO 15-07-25	

WORKSHOP PREMISES WNUOA1						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				
		SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>
FROM	TO	5	5	2	6	10
6/14/2025	6/15/2025	264	172	40	13	10
6/28/2025	6/29/2025	324	214	59	24	18
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECember 2000		600	300	-	120	120


BHALAR TOWNSHIP WNUOA2						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
6/4/2025	6/5/2025	92	37	12	BDL	Cloudy sky / Light breeze
6/5/2025	6/6/2025	84	28	10	BDL	Cloudy sky / Light breeze
6/11/2025	6/12/2025	76	30	8	BDL	Cloudy sky / Light breeze
6/12/2025	6/13/2025	91	36	9	BDL	Cloudy sky / Light breeze
6/18/2025	6/19/2025	78	28	12	BDL	Cloudy sky / Light breeze
6/19/2025	6/20/2025	80	34	11	BDL	Cloudy sky / Calm
6/25/2025	6/26/2025	74	32	8	BDL	Clear sky / Light breeze
6/26/2025	6/27/2025	70	28	13	BDL	Clear sky / Light breeze
NAAQS, 2009		100	60	80	80	

UKNI VILLAGE WNUOA3						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
6/14/2025	6/15/2025	55	18	9	BDL	CLEAR SKY / LIGHT BREEZE
6/28/2025	6/29/2025	83	36	12	BDL	CLEAR SKY / LIGHT BREEZE
NAAQS, 2009		100	60	80	80	

PIMPRI VILLAGE WNKOA3						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
6/2/2025	6/3/2025	60	22	9	BDL	Cloudy sky / Light breeze
6/3/2025	6/4/2025	82	34	12	BDL	Cloudy sky / Light breeze
6/9/2025	6/10/2025	69	32	12	BDL	Cloudy sky / Light breeze
6/10/2025	6/11/2025	73	34	11	BDL	Cloudy sky / Light breeze
6/18/2025	6/19/2025	67	36	9	BDL	Cloudy sky / Light breeze
6/19/2025	6/20/2025	82	30	8	BDL	Cloudy sky / Calm
6/25/2025	6/26/2025	70	21	11	BDL	Clear sky / Light breeze
6/26/2025	6/27/2025	70	29	10	BDL	Clear sky / Light breeze
NAAQS, 2009		100	60	80	80	

  
Analysed by



Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report			
SAMPLE DESCRIPTION	Water sample				
Test Required	pH: IS 3025 -(Part 11), TSS: IS 3025-(Part 17), COD: APHA (24th Edition) 5220 C , O & G: IS 3025-(Part 39) & BOD: IS 3025 (Part 44)				
SAMPLING METHOD	LSOP 5	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-06-25 TO 15-07-25	

MINE WATER DISCHARGE: WNUOW1		ANALYSIS RESULTS		
DATE OF SAMPLE COLLECTION	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
6/14/2025	7.65	28	52	BDL
6/28/2025	7.84	32	60	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNUOW2		ANALYSIS RESULTS		
DATE OF SAMPLE COLLECTION	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
6/14/2025	8.04	26	40	BDL
6/28/2025	7.96	22	52	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

STP DISCHARGE: WNUOW3		ANALYSIS RESULTS	
DATE OF SAMPLE COLLECTION	TSS (in mg/l)	BOD(in mg/l)	
DETECTION LIMIT	10	2	
6/14/2025	28	14.4	
6/28/2025	22	12.6	
GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS GSR 801E EPA 1993	100	30	



Analysed by

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
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**NOISE LEVEL MONITORING DATA**

SAMPLE DESCRIPTION	NOISE SAMPLE	
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT	
SAMPLING METHOD	LSOP 6	

CHP: WNUON1		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JUNE'25	6/12/2025	68.4	66.1
JUNE'25	6/28/2025	68.9	66.3
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNUON2		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JUNE'25	6/12/2025	43.6	41.2
JUNE'25	6/28/2025	43.4	41.2
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45

  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>		<b>Test Report</b>			
TEST REPORT NO.		RIN/TR/JULY-25/29		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2: IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN :	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		LQR 47	
				16-07-25 TO 15-08-25	

WORKSHOP PREMISES				WNUOA1			
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	5	2	6	10	
06-07-2025	07-07-2025	276	187	56	19	12	CLEAR SKY / LIGHT BREEZE
20-07-2025	21-07-2025	265	169	48	20	13	CLEAR SKY / LIGHT BREEZE
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

BHALAR TOWNSHIP WNUOA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
01-07-2025	02-07-2025	67	22	10	BDL		Cloudy sky / Light breeze
02-07-2025	03-07-2025	69	29	9	BDL		Cloudy sky / Light breeze
07-07-2025	08-07-2025	75	32	8	BDL		Cloudy sky / Light breeze
08-07-2025	09-07-2025	62	27	9	BDL		Cloudy sky / Light breeze
12-07-2025	13-07-2025	76	21	10	BDL		Cloudy sky / Light breeze
13-07-2025	14-07-2025	84	22	12	BDL		Cloudy sky / Calm
21-07-2025	22-07-2025	59	18	9	BDL		Clear sky / Light breeze
22-07-2025	23-07-2025	60	32	12	BDL		Clear sky / Light breeze
27-07-2025	28-07-2025	71	29	10	BDL		Rainy sky / Light breeze
28-07-2025	29-07-2025	63	23	8	BDL		Rainy sky / Light breeze
NAAQS, 2009		100	60	80	80		

UKNI VILLAGE WNUOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
03-07-2025	04-07-2025	52	24	8	BDL		Rainy sky / Light breeze
04-07-2025	05-07-2025	56	17	7	BDL		Rainy sky / Light breeze
09-07-2025	10-07-2025	60	16	9	BDL		Rainy sky / Light breeze
10-07-2025	11-07-2025	51	18	10	BDL		Rainy sky / Light breeze
17-07-2025	18-07-2025	72	39	8	BDL		Cloudy sky / Calm
18-07-2025	19-07-2025	74	30	8	BDL		Cloudy sky / Calm
23-07-2025	24-07-2025	68	27	9	BDL		Cloudy sky / Calm
24-07-2025	25-07-2025	59	22	6	BDL		Cloudy sky / Calm
29-07-2025	30-07-2025	58	26	7	BDL		Cloudy sky / Calm
30-07-2025	31-07-2025	72	34	9	BDL		Cloudy sky / Calm
NAAQS, 2009		100	60	80	80		

PIMPRI VILLAGE WNKOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
FROM	TO	5	2	6	10		
01-07-2025	02-07-2025	76	28	9	BDL		Cloudy sky / Light breeze
02-07-2025	03-07-2025	66	24	12	BDL		Cloudy sky / Light breeze
07-07-2025	08-07-2025	74	21	12	BDL		Cloudy sky / Light breeze
08-07-2025	09-07-2025	69	29	11	BDL		Cloudy sky / Light breeze
12-07-2025	13-07-2025	68	30	9	BDL		Cloudy sky / Light breeze
13-07-2025	14-07-2025	73	32	8	BDL		Cloudy sky / Calm
21-07-2025	22-07-2025	79	35	11	BDL		Clear sky / Light breeze
22-07-2025	23-07-2025	75	32	10	BDL		Clear sky / Light breeze
27-07-2025	28-07-2025	52	24	12	BDL		Rainy sky / Light breeze
28-07-2025	29-07-2025	59	18	11	BDL		Rainy sky / Light breeze
NAAQS, 2009		100	60	80	80		

  
Analysed by



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
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**FUGITIVE DUST MONITORING**


TEST REQUIRED	SPM: IS 5182 Part-4, PM-10: IS-5182 Part 23 & PM2.5: IS-5182 Part 24		
SAMPLE DESCRIPTION	Air sample(Fugitive)		
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-07-25 TO 15-08-25

WEIGH BRIDGE WNUOF1				
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )		ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	
FROM	TO	5	5	
25-07-2025	26-07-2025	421	256	CLOUDY SKY / LIGHT BREEZE

CHP WNOF2				
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )		ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	
FROM	TO	5	5	
25-07-2025	26-07-2025	412	298	CLOUDY SKY / LIGHT BREEZE



Analysed by

Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report			
SAMPLE DESCRIPTION	Water sample				
Test Required	pH: IS 3025 -(Part 11), TSS: IS 3025-(Part 17), COD: APHA (24th Edition) 5220 C , O & G: IS 3025-(Part 39) & BOD: IS 3025 (Part 44)				
SAMPLING METHOD	LSOP 5	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-07-25 TO 15-08-25	

MINE WATER DISCHARGE: WNUOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
07-07-2025	7.75	18	44	BDL
21-07-2025	7.89	28	52	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNUOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
07-07-2025	8.02	28	52	BDL
21-07-2025	7.88	18	44	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

STP DISCHARGE: WNUOW3		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS (in mg/l)	BOD(in mg/l)
DETECTION LIMIT	10	2
07-07-2025	32	14.6
21-07-2025	26	11.8
GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS GSR 801E EPA 1993	100	30



Analysed by



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
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**NOISE LEVEL MONITORING DATA**

SAMPLE DESCRIPTION	NOISE SAMPLE	
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT	
SAMPLING METHOD	LSOP 6	

CHP: WNUON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JULY'25	14-07-2025	68.1	66.4
JULY'25	28-07-2025	68.6	66.3
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNUON2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JULY'25	14-07-2025	43.5	40.7
JULY'25	28-07-2025	43.5	41.2
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45



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## ENVIRONMENTAL MONITORING REPORT

### UKNI DEEP OC

WANI NORTH AREA


WESTERN COALFIELDS LTD.

JOB NO. 4094423068



AUGUST 2025

Environment Laboratory  
NABL Accredited vide Cert. No. TC-7102  
CMPDI  
REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014  
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Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report			
TEST REPORT NO.		RIN/TR/AUG-25/29		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2:IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN :	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		LQR 47	
				16-08-25 TO 15-09-25	

WORKSHOP PREMISES				WNUOA1			
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m³)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	5	2	6	10	
07-08-2025	08-08-2025	302	215	58	22	14	clear sky / light breeze
25-08-2025	26-08-2025	236	154	45	18	11	rainy / light breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECember 2000		600	300	-	120	120	


BHALAR TOWNSHIP			WNUOA2			
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
03-08-2025	04-08-2025	74	39	12	BDL	clear sky / light breeze
04-08-2025	05-08-2025	80	32	10	BDL	clear sky / light breeze
10-08-2025	11-08-2025	75	37	13	BDL	clear sky / light breeze
11-08-2025	12-08-2025	89	34	11	BDL	clear sky / light breeze
19-08-2025	20-08-2025	65	22	7	BDL	rainy / light breeze
20-08-2025	21-08-2025	60	19	9	BDL	rainy / light breeze
26-08-2025	27-08-2025	58	25	8	BDL	rainy / light breeze
27-08-2025	28-08-2025	64	32	7	BDL	rainy / light breeze
NAAQS, 2009		100	60	80	80	

UKNI VILLAGE		WNUOA3				
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
05-08-2025	06-08-2025	66	35	10	BDL	clear sky / light breeze
06-08-2025	07-08-2025	72	38	11	BDL	clear sky / light breeze
12-08-2025	13-08-2025	69	36	10	BDL	clear sky / light breeze
13-08-2025	14-08-2025	70	32	8	BDL	clear sky / light breeze
21-08-2025	22-08-2025	55	30	7	BDL	rainy / light breeze
22-08-2025	23-08-2025	59	24	8	BDL	rainy / light breeze
28-08-2025	29-08-2025	62	18	9	BDL	rainy / light breeze
29-08-2025	30-08-2025	66	22	7	BDL	rainy / light breeze
NAAQS, 2009		100	60	80	80	

PIMPRI VILLAGE		WNKOA3				
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
03-08-2025	04-08-2025	69	22	8	BDL	clear sky /light breeze
04-08-2025	05-08-2025	79	34	11	BDL	clear sky /light breeze
10-08-2025	11-08-2025	82	37	9	BDL	clear sky /light breeze
11-08-2025	12-08-2025	75	33	8	BDL	clear sky /light breeze
19-08-2025	20-08-2025	60	21	8	BDL	rainy / light breeze
20-08-2025	21-08-2025	54	33	10	BDL	rainy / light breeze
26-08-2025	27-08-2025	60	24	7	BDL	rainy / light breeze
27-08-2025	28-08-2025	66	30	9	BDL	rainy / light breeze
NAAQS, 2009		100	60	80	80	

  
Analysed by



Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report			
SAMPLE DESCRIPTION	Water sample				
Test Required	pH: IS 3025 -(Part 11), TSS: IS 3025-(Part 17), COD: APHA (24th Edition) 5220 C , O & G: IS 3025-(Part 39) & BOD: IS 3025 (Part 44)				
SAMPLING METHOD	LSOP 5	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:			16-08-25 TO 15-09-25


MINE WATER DISCHARGE: WNUOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
07-08-2025	7.62	20	32	BDL
25-08-2025	7.54	16	24	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNUOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
07-08-2025	7.98	18	32	BDL
25-08-2025	8.10	22	40	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

STP DISCHARGE: WNUOW3		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS (in mg/l)	BOD(in mg/l)
DETECTION LIMIT	10	2
07-08-2025	28	12.06
25-08-2025	24	10.02
GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS GSR 801E EPA 1993	100	30



Analysed by


<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7102
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**NOISE LEVEL MONITORING DATA**

SAMPLE DESCRIPTION	NOISE SAMPLE	
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT	
SAMPLING METHOD	LSOP 6	

CHP: WNUON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
		20	20
AUG'25	12-08-2025	69.1	68.2
AUG'25	29-08-2025	68.4	66.5
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNUON2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
		20	20
AUG'25	12-08-2025	43.5	40.6
AUG'25	29-08-2025	43.7	41.5
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45

  
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## ENVIRONMENTAL MONITORING REPORT

### UKNI DEEP OC

WANI NORTH AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423068



SEPTEMBER 2025

Environment Laboratory  
NABL Accredited vide Cert. No. TC-7102  
CMPDI  
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JARIPATKA, NAGPUR, PIN – 440 014  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>		<b>Test Report</b>			
TEST REPORT NO.		RIN/TR/SEPT-25/29		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED	SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2: IS 5182 (Part-2)				
SAMPLE DESCRIPTION	AIR SAMPLE		SAMPLING PLAN :	LQR 47	
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:			16-09-25 TO 15-10-25	


WORKSHOP PREMISES WNUOA1						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>
FROM	TO	5	5	2	6	10
07-09-2025	08-09-2025	189	112	36	14	BDL
20-09-2025	21-09-2025	230	126	42	11	BDL
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120

BHALAR TOWNSHIP WNUOA2						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
01-09-2025	02-09-2025	65	30	10	BDL	Cloudy sky / light breeze
02-09-2025	03-09-2025	72	32	9	BDL	Cloudy sky / light breeze
08-09-2025	09-09-2025	56	21	7	BDL	Cloudy sky / light breeze
09-09-2025	10-09-2025	69	30	10	BDL	Cloudy sky / light breeze
12-09-2025	13-09-2025	70	29	11	BDL	Cloudy sky / light breeze
13-09-2025	14-09-2025	68	25	7	BDL	Cloudy sky / light breeze
22-09-2025	23-09-2025	77	24	9	BDL	Cloudy sky / light breeze
23-09-2025	24-09-2025	65	26	10	BDL	Cloudy sky / light breeze
26-09-2025	27-09-2025	52	22	12	BDL	Cloudy sky / light breeze
27-09-2025	28-09-2025	46	18	8	BDL	Cloudy sky / light breeze
NAAQS, 2009		100	60	80	80	

UKNI VILLAGE WNUOA3						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
03-09-2025	04-09-2025	45	25	7	BDL	rainy / light breeze
04-09-2025	05-09-2025	62	24	8	BDL	rainy / light breeze
10-09-2025	11-09-2025	55	26	6	BDL	rainy / light breeze
11-09-2025	12-09-2025	66	22	8	BDL	clear sky / light breeze
17-09-2025	18-09-2025	46	20	7	BDL	rainy / light breeze
18-09-2025	19-09-2025	48	17	9	BDL	rainy / light breeze
23-09-2025	24-09-2025	49	18	10	BDL	rainy / light breeze
24-09-2025	25-09-2025	52	26	11	BDL	rainy / light breeze
29-09-2025	30-09-2025	54	23	8	BDL	rainy / light breeze
30-09-2025	01-10-2025	55	18	9	BDL	clear sky / light breeze
NAAQS, 2009		100	60	80	80	

PIMPRI VILLAGE WNKOA3						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
		PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
FROM	TO	5	2	6	10	
01-09-2025	02-09-2025	68	32	9	BDL	Cloudy sky / light breeze
02-09-2025	03-09-2025	70	30	8	BDL	Cloudy sky / light breeze
08-09-2025	09-09-2025	75	39	7	BDL	Cloudy sky / light breeze
09-09-2025	10-09-2025	69	24	10	BDL	Cloudy sky / light breeze
12-09-2025	13-09-2025	62	26	11	BDL	Cloudy sky / light breeze
13-09-2025	14-09-2025	73	30	9	BDL	Cloudy sky / light breeze
22-09-2025	23-09-2025	69	29	8	BDL	Cloudy sky / light breeze
23-09-2025	24-09-2025	74	28	6	BDL	Cloudy sky / light breeze
26-09-2025	27-09-2025	75	34	7	BDL	Cloudy sky / light breeze
27-09-2025	28-09-2025	69	32	11	BDL	Cloudy sky / light breeze
NAAQS, 2009		100	60	80	80	

  
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Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report			
SAMPLE DESCRIPTION		Water sample			
Test Required		pH: IS 3025 -(Part 11), TSS: IS 3025-(Part 17), COD: APHA (24th Edition) 5220 C , O & G: IS 3025-(Part 39) & BOD: IS 3025 (Part 44)			
SAMPLING METHOD		LSOP 5	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-09-25 TO 15-10-25

MINE WATER DISCHARGE: WNUOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
08-09-2025	7.65	26	52	BDL
21-09-2025	7.55	18	32	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNUOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS (in mg/l)	COD(in mg/l)	O & G(in mg/l)
DETECTION LIMIT	2	10	4	2
08-09-2025	7.45	16	36	BDL
21-09-2025	7.65	24	44	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

STP DISCHARGE: WNUOW3		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS (in mg/l)	BOD(in mg/l)
DETECTION LIMIT	10	2
08-09-2025	32	12.02
21-09-2025	24	10.06
GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS GSR 801E EPA 1993	100	30



Analysed by

Environment Laboratory CMPDI RI-IV, NAGPUR	Test Report	
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**NOISE LEVEL MONITORING DATA**

SAMPLE DESCRIPTION	NOISE SAMPLE
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT
SAMPLING METHOD	LSOP 6

CHP: WNUON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
		20	20
SEPT'25	11-09-2025	68.5	66.1
SEPT'25	29-09-2025	68.4	67.1
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNUON2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
		20	20
SEPT'25	11-09-2025	43.5	41.2
SEPT'25	29-09-2025	44.5	42.1
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45

  
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## **ENVIRONMENTAL MONITORING REPORT w.r.t. HEAVY METALS IN AMBIENT AIR**

### **WANI NORTH AREA**

**WESTERN COALFIELDS LTD.**



**HALF YEARLY (APR 25 - SEPT 25)**

**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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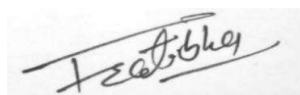
<b>Environment Laboratory</b> <b>CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b> <b>Ambient Air Quality Monitoring Data For</b> <b>Heavy Metals</b>	 TC-7102
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TEST REPORT NO.	RIN/TR/JUNE /HM82	DATE OF ISSUE	25-09-2025
NAME OF CUSTOMER	GM(ENV.),WCL(HQ), NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/14-I/206-220 DATED: 25.03.2022		
TEST REQUIRED	Heavy metals (As, Pb, Ni, Cr & Cd ) in air samples (ASTM D 4185)		
NAME OF AREA	WANI NORTH	SAMPLING METHOD : LSOP 4	
NAME OF PROJECT	UKNI OC	SAMPLING PLAN : LQR 47	
No. of Pages	1		

Sl No.	Name of location	Location Code	Date of sampling
1	WORKSHOP PREMISES	WNUOA-1	13-04-2025
2	BHALAR TOWNSHIP	WNUOA-2	04-04-2025
3	UKNI VILLAGE	WNUOA-3	07-04-2025

Sl. No.	Parameter	Method of analysis	Detection limit	Observed Value			National Ambient Air Quality Standard NAAQS, 2009
				WNUOA-1	WNUOA-2	WNUOA-3	
1	Arsenic, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.0007 \mu\text{g}/\text{m}^3$	BDL	BDL	BDL	$0.006 \mu\text{g}/\text{m}^3$ (Annual average)
2	Lead, $\mu\text{g}/\text{m}^3$	IS 5182 PART 22	$7.0 \mu\text{g}/\text{m}^3$	BDL	BDL	BDL	$1.0 \mu\text{g}/\text{m}^3$ (24 Hourly average)
3	Nickle, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.007 \mu\text{g}/\text{m}^3$	BDL	BDL	BDL	$0.02 \mu\text{g}/\text{m}^3$ (Annual average)
4	Total Chromium, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.0045 \mu\text{g}/\text{m}^3$	BDL	BDL	BDL	**
5	Cadmium, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.0015 \mu\text{g}/\text{m}^3$	BDL	BDL	BDL	**
6	Mercury, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.0007 \mu\text{g}/\text{m}^3$	BDL	BDL	BDL	**

BDL: BELOW DETECTION LIMIT



SCIENTIFIC ASSISTANT



AMOL KAMBLE  
AUTHORIZED SIGNATORY

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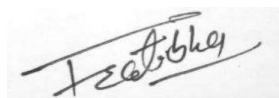
<b>Environment Laboratory</b> <b>CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b> <b>Ambient Air Quality Monitoring Data For</b> <b>Heavy Metals</b>	 TC-7102
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TEST REPORT NO.	RIN/TR/JUNE /HM90	DATE OF ISSUE	25-09-2025
NAME OF CUSTOMER	GM(ENV.),WCL(HQ), NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/14-I/206-220 DATED: 25.03.2022		
TEST REQUIRED	Heavy metals (As, Pb, Ni, Cr & Cd ) in air samples (ASTM D 4185)		
NAME OF AREA	WANI NORTH	SAMPLING METHOD : LSOP 4	
NAME OF PROJECT	UKNI OC	SAMPLING PLAN : LQR 47	
No. of Pages	1		

Sl No.	Name of location	Location Code	Date of sampling
1	WEIGH BRIDGE	WNUOF-1	23-04-2025
2	CHP	WNUOF-2	23-04-2025

Sl. No.	Parameter	Method of analysis	Detection limit	Observed Value		National Ambient Air Quality Standard NAAQS, 2009
				WNUOF-1	WNGOA-2	
1	Arsenic, $\mu\text{g}/\text{m}^3$	ASTM D 4185	0.0007 $\mu\text{g}/\text{m}^3$	BDL	BDL	0.006 $\mu\text{g}/\text{m}^3$ (Annual average)
2	Lead, $\mu\text{g}/\text{m}^3$	IS 5182 PART 22	7.0 $\mu\text{g}/\text{m}^3$	BDL	BDL	1.0 $\mu\text{g}/\text{m}^3$ (24 Hourly average)
3	Nickle, $\mu\text{g}/\text{m}^3$	ASTM D 4185	0.007 $\mu\text{g}/\text{m}^3$	0.0078	0.0077	0.02 $\mu\text{g}/\text{m}^3$ (Annual average)
4	Total Chromium, $\mu\text{g}/\text{m}^3$	ASTM D 4185	0.0045 $\mu\text{g}/\text{m}^3$	BDL	BDL	**
5	Cadmium, $\mu\text{g}/\text{m}^3$	ASTM D 4185	0.0015 $\mu\text{g}/\text{m}^3$	BDL	BDL	**
6	Mercury, $\mu\text{g}/\text{m}^3$	ASTM D 4185	0.0007 $\mu\text{g}/\text{m}^3$	BDL	BDL	**

BDL: BELOW DETECTION LIMIT



SCIENTIFIC ASSISTANT



AMOL KAMBLE  
AUTHORIZED SIGNATORY

1	This Report refers to the values related to the items tested.
2	This Report cannot be reproduced in part or full without written permission of the management.
3	** This parameter not regulated as per NAAQS



**REPORT ON**  
**MONITORING OF GROUND WATER LEVEL**  
**OF**  
**UKNI DEEP OC MINES,**  
**WANI NORTH AREA**

**WESTERN COALFIELDS LTD.**



**PERIOD- MAY 2025 (PRE MONSOON) & AUGUST 2025 (MONSOON)**



**M/s Anacon Laboratories Pvt. Ltd., Nagpur**

**MoEF&CC (GOI) Recognized Laboratory**  
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Report No. ANqr /PD/20A/2023/199

**2025-26**

## **Certificate**

Groundwater level monitoring has been conducted with due diligence, and a comprehensive report on the monitoring of groundwater levels in all observation wells has been prepared as per the scope of work outlined in work order no. वेकोलि/मुख्यालय/पर्यावरण//14-L/1122-1148, dated 19.04.2025 for the Aug 2025 (Monsoon) Period.

The report includes the monitoring of groundwater levels and water quality analysis of observation wells pertaining to the UKNI DEEP OC MINES, Wani North area of Yeotmal District, M.S.

The groundwater level monitoring was meticulously carried out by Anacon Laboratories Pvt. Ltd., and the analysis of the samples was performed by Anacon Laboratories Pvt. Ltd., a NABL Accredited Laboratory. (NABL Certificate no. TC-12998)

Anacon Laboratories Pvt. Ltd. gratefully acknowledges the full cooperation rendered by the concerned WCL officials, which facilitated the timely completion of the project.



**Krupali Raut**  
(Geologist)



**Gyanchand Bohra**  
NABET Accredited EIA Expert  
for Hydrogeology & Geology

Nagpur  
Aug -2025



**(Dr. D. G. Garway)**  
**Head of Organization**  
**Anacon Laboratories Pvt. Ltd., Nagpur**

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I-TABLE	UKNI DEEP OC MINES,	PERIOD- MAY 2025 (PRE MONSOON) & AUGUST 2025 (MONSOON)	8
PHOTOGRAPHS	UKNI DEEP OC MINES,	PHOTOGRAPHS	



*Gaurav*





## INTRODUCTION

Western Coalfields Limited (WCL) is one of the eight Subsidiary Companies of Coal India Limited (CIL) which is under administrative control of Ministry of Coal. The Company incorporated under the Companies Act, 1956 has its registered office at Coal Estate, Civil Lines, Nagpur-440001. WCL has been conferred "Mini-ratna" status on 15 March 2008. It has mining operation spread over the states of Maharashtra (in Nagpur, Chandrapur & Yeotmal Districts) and Madhya Pradesh (in Betul and Chhindwara Districts). It has been divided into 10 administrative areas. The Company is a major source of supplies of coal to the industries located in Western India in the States of Maharashtra, Madhya Pradesh, Gujarat and also in Southern India in the States of Andhra Pradesh, Tamil Nadu, Karnataka and Kerala. A large numbers of Power Houses under Maharashtra, Madhya Pradesh, Gujarat, Karnataka, Punjab and Uttar Pradesh - Electricity Boards are major consumers of its coal along with cement, steel, chemical, fertilizer, paper and brick Industries in these states.

M/s Anacon Laboratories Pvt. Ltd. has been awarded the Work of "Groundwater level Monitoring ( i.e. bore well / piezometer Water levels ) and Water quality analysis ( as per IS10500 ) for 76 projects / mines of WCL ( situated in the state of Madhya Pradesh – Chhindwara & Betul districts and Maharashtra – Nagpur, Chandrapur & Yeotmal districts) for one year as per condition stipulated in Environmental Clearance letters issued by MoEF & CC & NOC issued by CGWA" vide work order वेकोलि/मुख्यालय/पर्यावरण//14-L/1122-1148, dated 19.04.2025 for the Aug 2025 (Monsoon) Period.

This Ground Water Level Monitoring report is prepared UKNI DEEP OC MINES, of Wani North area of WCL for 2 seasons i.e. **PERIOD-MAY 2025(PRE MONSOON) & AUG 2025(MONSOON)**. These mines are located in Wani North Area of Yeotmal District, Maharashtra.

## GENERAL HYDROGEOLOGICAL CONDITION

Deccan Trap Basalt is the predominant water bearing formation, followed by Gondwana formation having Sandstone and Shale sequence. Penganga and Quaternary Alluvium aquifers are spread in limited areas. Archean aquifers are limited and have less significance in the area.

### ARCHEAN

Achaeans, which comprise granites, granitic gneisses and schists, occur in Umarkhed taluka. These rocks as such have limited ground water potential. In these rocks only weathered portions and jointed zones possess water-bearing capacity and ground water occurs under unconfined condition in the area.

### VINDHYAN

In Vindhyan, Limestones are water bearing formation while Sandstone, due to their hard and compact nature, have poor ground water potential and occur in southeastern peripheral parts of Wani taluka. The Limestones as such are massive but wherever they are cavernous they are capable of holding water. The ground water occurs under unconfined condition in the area.

## **GONDWANA**

The Gondwana consists of Kamthi and Barakar Sandstone and Shale and occupy north-south extending elongated stretch in parts of Maregaon and Wani talukas. Sandstone is usually friable and possesses primary porosity due to its granular nature. They are most productive water bearing formations in the district. The ground water occurs under semi confined to confined conditions in the area and water bearing zones have been encountered down to depth of 470 m.

## **DECCAN TRAP BASALT**

Deccan Trap Basalt is widely spread and forms important water bearing formation, which occupies almost entire district except south eastern part. On the whole, Deccan Trap Basalt exhibits a multi aquifer system. Based on the Litholog of 51 exploratory wells and Piezometers, it is observed that weathered Vesicular Basalt mainly forms the predominant shallow aquifer down to the depth of 20 m bgl. Massive Basalt is also encountered at the top thereby forming poor yielding aquifer and also restricting the ground water recharge to the underlying porous Vesicular Basalt. Fractured Basalt is also observed in certain places with limited to significant thickness. In Deccan Trap Basalt phreatic aquifer generally occurs down to 25 m, however, fracture zones have occurred within 80 m range except at few places where it occurs down to 158 m also.

## **ALLUVIUM**

Alluvium occurs in patches along the banks of Wardha and Penganga rivers and their major tributaries and consists of clay and silt with lenticular bodies of sand and gravel. In Ralegaon area, it is observed that sand zones are found in the depth range of 20-25 m bgl, while the top 15-16 m is full of clay and silt. Ground water in Alluvium occurs both under unconfined and 8 semi-confined conditions.



*D. Gaurav*

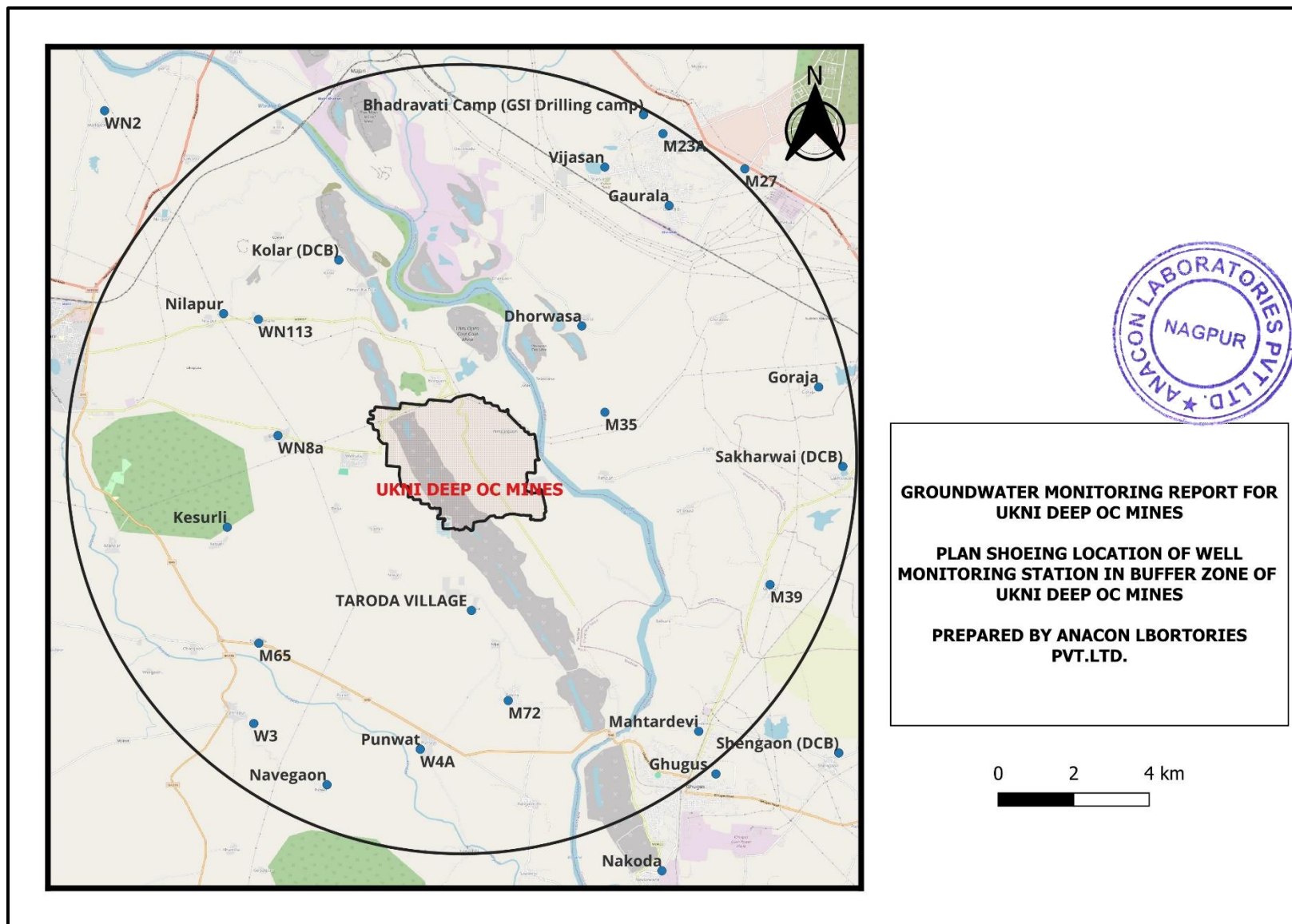
**UKNI DEEP OC MINES,  
WANI NORTH AREA  
WESTERN COALFIELDS LTD.**

**PERIOD- MAY 2025 (PRE MONSOON) & AUG 2025 (MONSOON)**



A handwritten signature in blue ink, appearing to read "D. Gaurav".





**FIGURE-I : GROUND WATER MONITORING STATION (OBSERVATION WELLS IN AND AROUND OF UKNI DEEP OC MINE )**



*Agarwal*

**Table- IA: Groundwater level monitoring data of dugwells/piezometers in buffer zone of Ukni Deep OC , Ward North Area, WCL**

Sr. No	Well No.	Name of village	Well location	Latitude	Longitude	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to Water Level ( m bgl)		Utility / Owner	Formation Tapped
										May-25	Aug-25		
1	W3	Sirpur	700 m W of village in field, near to Mendholi road junction	19°57'33.3283 058629647"	79°0'28.97774 07693123"	210	4.21	7.05	0.27	4.80	1.10	DOMESTIC	LIMESTONE
2	W4	Punwat	W of village, low lying area, Twin wells 50m apart	19°57'9.94109 204433613"	79°3'0.776787 366426096"	216	4.57	4.93	0.67	4.10	1.70	DOMESTIC	BASALT
3	W4A	Punwat 2	Near Hospital	19°57'9.85"	79°3'0.75"	221	2.3	8	0.34	3.80	2.70	DOMESTIC	BASALT
4	W7	Navegaon	About of 300 m N of village, adjacent to Sirpur road	19°56'37.5497 120752541"	79°1'35.73452 78628395"	220	3.81	4.67	0.24	4.30	2.50	DOMESTIC	BASALT
5	W38	Mahtardevi	S of the village, adjacent to village road	19°57'26.2228 297765034"	79°7'14.66092 40236034"	212	2.47	15.12	0.67	8.00	2.60	IRRIGATION	SHELLY LIMESTONE
6	WN6	Nilapur	About 800 m W of village, adjacent to Wani road	20°3'47.19768 29585572"	79°0'1.446359 86976027"	197	4.95	9.2	0.34	4.20	1.30	D/I	
7	WN8a	Bhalar	Near bus stop. Well of Sri. Arun Maruti Goble	20°1'56"	79°0'51"	215	1.55	8.6	0.73	5.50	1.90	D/I	
8	WN13	Kesurli	N of village, near Hanuman Mandir	20°0'32.39059 62013654"	79°0'4.785185 15303108"	198	2.8	8.5	0.33	4.70	2.30	D/I	
10	WN5	Kolar (DCB)	E of village, adjacent to nalla well of Nilkant Pijurkar	20°4'36.126217 532636"	79°1'46.45401 26850829"	211	1.82	10.52	0.15	6.60	1.50	D/I	
11	WN113	Bramhani	-	20°3'41.92"	79°0'33.17"	-	5.80	12.00	0.90	10.00	4.90	-	-

Sr. No	Well No.	Name of village	Well location	Latitude	Longitude	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to Water Level ( m bgl)		Utility / Owner	Formation Tapped
										May-25	Aug-25		
12	M23	Bhadravati Camp (GSI Drilling camp)	N of village (outside) , about 70 m E of Kesurli road after G.S.I drilling camp	20°6'48.679351 2288855"	79°6'24.29876 37521275"	221	2.68	12.25	0.82	6.10	4.10	DOMESTIC	SHELLY LIMESTONE
13	M23A	Bhadravati killa word	Vivekanand Madhyamik vidhalaya	20°6'31.391431 2007597"	79°6'42.02757 81246596"	224	2.49	17.74	0.54	8.00	3.20	IRRIGATION	SHELLY LIMESTONE
14	M26	Gaurala	C of village, near OHT	20°5'25.72710 36416739"	79°6'47.63153 62670925"	202	2.59	8.81	0.51	4.40	2.10	IRRIGATION	BASALT
15	M32B	Dhorwasa	W of village, adjacent to road & near to embankment	20°3'36"	79°5'28"	204	2.62	9.54	0.54	4.65	2.40	IRRIGATION	BASALT
16	M41B	Vijasan	Near ZP school of Balwadi	20°6'0.901283 823739618"	79°5'48.96162 71474631"	213	2.74	12.59	0.82	6.30	3.70	DOMESTIC	SHELLY LIMESTONE
17	M35	Pipri	1.5 km NE of village, adjacent to Bhadravati road, near to road culvert infield	20°2'17.27"	79°5'49.07"	215	1.98	9.38	GL	6.40	3.20	IRRIGATION	SHELLY LIMESTONE
18	M36	Goraja	SE of village ( 60 m outside ) near Hanuman Mandir	20°2'40.24"	79°9'4.01"	208	2.22	15.15	0.55	7.80	3.30	IRRIGATION	BASALT
19	M38	Sakharwai (DCB)	C of village, near ZP school	20°1'27.85"	79°9'25.94"	204	2.16	9.42	0.36	5.10	2.40	IRRIGATION	BASALT
20	M39	Mursa	W of village Ghugus road in field near road junction for Bensan	19°59'39.98"	79°8'19.71"	221	2.32	10.85	0.7	4.30	1.80	DOMESTIC	BASALT



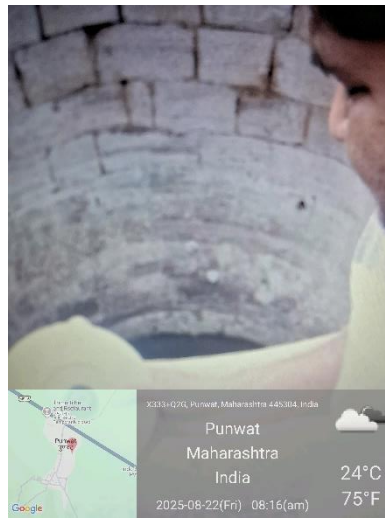
Sr. No	Well No.	Name of village	Well location	Latitude	Longitude	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to Water Level ( m bgl)		Utility / Owner	Formation Tapped
										May-25	Aug-25		
21	M65	BETWEEN CHARGAON AND SHELU	IN THE CENTER OF THE VILLAGE	19°58'46.59"	79°0'33.54"	205	3.6	8.7	0.5	5.30	4.00	IRRIGATION	BASALT
22	M68	TARODA VILLAGE	OUT SIDE THE VILLAGE IN AGRICULTURE LAND	19°59'16.44"	79°3'47.46"	210	4	9.3	0.4	6.90	1.60	IRRIGATION	SHELLY LIMESTONE
23	M72	KUMBHARI	SOUTH 100M TO THE BHASKAR KIRANA STORE	19°57'54.26"	79°4'20.97"	220	3.6	11.2	0.5	7.60	2.60	IRRIGATION	SHELLY LIMESTONE



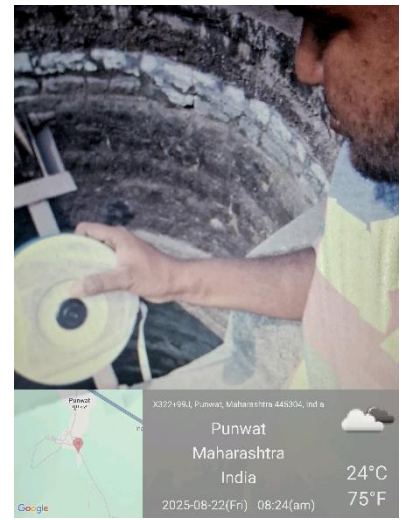
*Dgauray*



**W3-Sirpur**



**W4-Punwat**



**W4A-Punwat2**



**W38-Mahtardevi**



**W7- Navegaon**



**WN6-Nilapur**



**WN5-Kolar (DCB)**



**wn8a-Bhalar**



**WN113-Bramhani**



**M23a-Bhadravati killa word**





**M23-Bhadravati Camp  
(GSI Drilling  
camp)**



**M32B-Dhorwasa**



**M35-Pipri**



**WN95-GORAJ**



**M41B-Vijasan**



**M38-Sakharwai (DCB)**



**M39-Mursa**



**M68-MADHELI**



**WN13-Kesurli**



**M65-BETWEEN CHARGAON AND SHELU**



**M72-KUMBHARI**





# Anacon Laboratories



TC-12998

## Test Report

ULR No.-TC129982500003814F

Test Report No.: ALPL/23062025/03- 1

Dated 23 .06.2025

Page 1 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006	<b>Sample Inward No.</b>	ALPL/11062025/W-1/49-1	<b>Analysis Start</b>	11.06.2025
	<b>Inward Date</b>	11.06.2025	<b>Analysis End</b>	23.06.2025
	<b>Reference</b>	WCL/HQ/ENV/14-L/ 1122-1148 dt.19 Apr 2025		
	<b>Inv. No.</b>	24		
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (WANI AREA)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 26.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Sirpur (Well No-W3)	
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).				

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical					
	Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	122.32
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	93.13
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	33.6
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	21.87
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	5.22
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.46
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	11.49
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	316
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	174
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical					
	Group- Residues In Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron (as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

Authorized Signatory

Snehal Raut  
Technical Manager

Dhanashree Hiwaj  
Sr. Technical Assistant

Chinmay Ganay  
Deputy Quality Manager

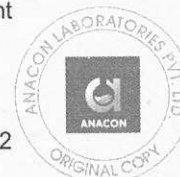
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# Anacon Laboratories



TC-12998

## Test Report

ULR No-TC12998250003814F

Test Report No: ALPL/23062025/03- 1

Dated 23.06.2025

Page 2 of 2

Page 2 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006		<b>Sample Inward No.</b> ALPL/11062025/W-1/49-1 <b>Inward Date</b> 11.06.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 24	<b>Analysis Start</b> 11.06.2025 <b>Analysis End</b> 23.06.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (WANI AREA)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 26.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Sirpur (Well No.-W3)	
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)				

## TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues In Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.45
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

**NOTE:** ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● BLQ= below limit of quantification. ● LOQ= limit of quantification. ● Environmental condition – Satisfactory & Clear ● Statement of conformity issued on the basis of decision rule as per quality procedure (QP/7.8/05). ● pH Value was measured at 25°C.

**REMARKS:** As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is complying with IS 10500 (2012).

Verified By

Dhanashree Hiwani  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.-TC129982500003815F

Test Report No.: ALPL/23062025/03- 2

Dated 23 .06.2025

Page 1 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006		<b>Sample Inward No.</b> ALPL/11062025/W-1/49-2 <b>Inward Date</b> 11.06.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt.19 Apr 2025 <b>Inv. No.</b> 24		<b>Analysis Start</b> 11.06.2025 <b>Analysis End</b> 23.06.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (WANI AREA)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 26.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Punwat (Well No-W4)	
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).					

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical					
	Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	238.82
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	172.46
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	120.8
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	28.18
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	8.42
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	8.16
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	32.67
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	820
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	418
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical					
	Group- Residues In Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron (as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

Snehal Raut  
Technical Manager

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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TC-12998

## Test Report

ULR No-TC129982500003815F

Test Report No.: ALPL/23062025/03- 2

Dated 23.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006	<b>Sample Inward No.</b> ALPL/11062025/W-1/49-2 <b>Inward Date</b> 11.06.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 24	<b>Analysis Start</b> 11.06.2025 <b>Analysis End</b> 23.06.2025
	<b>Sample Description</b> Ground Water <b>Sample Details As Provided By Client</b> Ground Water (WANI AREA) <b>Purpose of analysis</b> Drinking <b>Quantity Received</b> 1 Ltr	
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava <b>Sampling Method-</b> ANtd/7.2/MON-01	<b>Sampling Date</b> 26.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Punwat (Well No.-W4)
<b>Tests Required</b> Cadmium (as Cd), Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)		

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues In Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.26
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

NOTE: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● BLQ= below limit of quantification. ● LOQ= limit of quantification. ● Environmental condition – Satisfactory & Clear ● Statement of conformity issued on the basis of decision rule as per quality procedure (QP/7.8/05). ● pH Value was measured at 25°C.

REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No.1,4,12 & 14.

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.-TC12998250003816F

Test Report No.: ALPL/23062025/03- 3

Dated 23 .06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006	<b>Sample Inward No.</b> ALPL/11062025/W-1/49-3 <b>Inward Date</b> 11.06.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt.19 Apr 2025 <b>Inv. No.</b> 24	<b>Analysis Start</b> 11.06.2025 <b>Analysis End</b> 23.06.2025
	<b>Sample Description</b> Ground Water <b>Sample Details As Provided By Client</b> Ground Water (WANI AREA) <b>Purpose of analysis</b> Drinking <b>Quantity Received</b> 1 Ltr	
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01	<b>Sampling Date</b> 26.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Punwat (Well No-W4A)
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).		

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	163.1
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	92.14
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	68
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	24.78
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	5.62
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.26
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	17.28
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	487
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	276
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues In Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron (as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

Authorized Signatory

Snehal Raut  
Technical Manager

Dhanashree Hiwari  
Sr. Technical Assistant

Chinmay Garway  
Deputy Quality Manager

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TC-12998

## Test Report

ULR No-TC12998250003816F

Test Report No.: ALPL/23062025/03- 3

Dated 23.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006		<b>Sample Inward No.</b>	ALPL/11062025/W-1/49-3	<b>Analysis Start</b>	11.06.2025
		<b>Inward Date</b>	11.06.2025	<b>Analysis End</b>	23.06.2025
		<b>Reference</b>	WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025		
		<b>Inv. No.</b>	24		
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (WANI AREA)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b>	26.05.2025	<b>Sampling Location</b> Punwat 2 (Well No.-W4A)	
		<b>Sampling Time</b>	Not Mentioned		
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)					

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues In Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.16
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the test Sr. No.14.

Verified By

*[Signature]*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.-TC12998250003817F

Test Report No.: ALPL/23062025/03- 4

Dated 23 .06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S.), 440006	<b>Sample Inward No.</b> ALPL/11062025/W-1/49-4 <b>Inward Date</b> 11.06.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 <b>Inv. No.</b> dt.19 Apr 2025 24	<b>Analysis Start</b> 11.06.2025 <b>Analysis End</b> 23.06.2025
	<b>Sample Description</b> Ground Water <b>Sample Details As Provided By Client</b> Ground Water (WANI AREA) <b>Purpose of analysis</b> Drinking <b>Quantity Received</b> 1 Ltr	
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01	<b>Sampling Date</b> 26.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Navegaon (Well No-W7)
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).		

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical					
	Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	145.62
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	78.34
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	66.4
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	27.21
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	5.25
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.47
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	17.95
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	496
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	278
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical					
	Group- Residues In Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron (as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

Authorized Signatory

Snehal Raut  
Technical Manager

Dhanashree Hiwanj  
Sr. Technical Assistant

Chinmay Garway  
Deputy Quality Manager

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TC-12998

### Test Report

ULR No-TC12998250003817F

Test Report No.: ALPL/23062025/03- 4

Dated 23.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006		<b>Sample Inward No.</b> ALPL/11062025/W-1/49-4 <b>Inward Date</b> 11.06.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 24	<b>Analysis Start</b> 11.06.2025 <b>Analysis End</b> 23.06.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (WANI AREA)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 26.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Navegaon (Well No.-W7)	
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)				

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues In Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.15
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

NOTE: ● Please see watermark "Original Test Report" to confirm the authenticity of this report ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● BLQ= below limit of quantification. ● LOQ= limit of quantification. ● Environmental condition – Satisfactory & Clear ● Statement of conformity issued on the basis of decision rule as per quality procedure (QP/7.8/05). ● pH Value was measured at 25°C.

REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the test Sr. No. 14.

Verified By

Dhanashree Hiwanj  
 Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
 Deputy Quality Manager

-----END OF REPORT-----

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### Test Report



TC-12998

ULR No.-TC129982500003834F

Test Report No.: ALPL/23062025/03- 21

Dated 23 .06.2025

Page 1 of 2

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006	Sample Inward No.	ALPL/11062025/W-1/49-21	Analysis Start	11.06.2025
	Inward Date	11.06.2025	Analysis End	23.06.2025
	Reference	WCL/HQ/ENV/14-L/ 1122-1148 dt.19 Apr 2025		
	Inv. No.	24		

Sample Description Ground Water	Sample Details As Provided By Client Ground Water (WANI AREA)	Purpose of analysis Drinking	Quantity Received 1 Ltr
Sampling By Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01	Sampling Date 28.05.2025 Sampling Time Not Mentioned	Sampling Location Mahtardevi (Well No-W38)	

Tests Required Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO<sub>3</sub>), Odour, pH, Sulphate (as SO<sub>4</sub>), Total dissolved solids, Turbidity, Total hardness (as CaCO<sub>3</sub>), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron (as B), Copper (as Cu).

#### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	151.45
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	175.91
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	108.8
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	37.90
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	7.87
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.78
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	32.29
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	817
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	428
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues In Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron (as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

*Kartik*

Snehal Raut  
Technical Manager

*Dhanashree*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay*

Chinmay Garway  
Deputy Quality Manager

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TC-12998

## Test Report

ULR No-TC129982500003834F

Test Report No.: ALPL/23062025/03- 21

Dated 23.06.2025

Page 2 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440006		<b>Sample Inward No.</b> ALPL/11062025/W-1/49-21 <b>Inward Date</b> 11.06.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 24		<b>Analysis Start</b> 11.06.2025 <b>Analysis End</b> 23.06.2025			
<b>Sample Description</b> Ground Water		<b>Sample Details As Provided By Client</b> Ground Water (WANI AREA)		<b>Purpose of analysis</b> Drinking		<b>Quantity Received</b> 1 Ltr	
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivast Sampling Method- ANtd/7.2/MON-01			<b>Sampling Date</b> 28.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Mahtardevi (Well No.-W38)		
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)							

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues In Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.31
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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**REMARKS :** As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No.4,7,12 & 14.

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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TC-12998

## Test Report

ULR No.- TC129982500003074F

Test Report No.: ALPL/10062025/03-24

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-1/61-24	<b>Analysis Start</b> 21.05.2025
		<b>Inward Date</b> 21.05.2025	<b>Analysis End</b> 28.05.2025
		<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025	
		<b>Inv. No.</b> 4	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)	<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava <b>Sampling Method-</b> ANtd/7.2/MON-01		<b>Sampling Date</b> 03.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Kolar(DCB) (Well No.- WN5)
<b>Tests Required:</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu), Cadmium (as Cd).			

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	168.92
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	157.68
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	65.6
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	0.37
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	26.73
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	8.94
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.44
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	41.03
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	619
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	274
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron ( as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)

● Please refer last Page for Note and remarks.

*Snehal Raut*

Snehal Raut  
Technical Manager

Verified By

*Dhanashree Hiwari*

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*

Chinmay Garway  
Deputy Quality Manager

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TC-12998

### Test Report

ULR No.- TC129982500003074F

Test Report No.: ALPL/10062025/03-24

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-1/61-24 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 4	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)		<b>Purpose of analysis</b> Drinking
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava <b>Sampling Method-</b> ANtd/7.2/MON-01		<b>Sampling Date</b> 03.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Quantity Received</b> 1 Ltr
<b>Tests Required:</b> Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)			

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues in Water					
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.12
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 12 & 14

Verified By,

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003087F

Test Report No.: ALPL/10062025/03-37

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-1/61-37 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 4	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)	<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 01.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Nilpur (Well No.- WN6)
<b>Tests Required:</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron (as B), Copper (as Cu), Cadmium (as Cd).			

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	186.4
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	142.89
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	131.2
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	0.14
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	20.89
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	11.26
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	6.57
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	19.28
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	824
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	414
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron ( as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)

● Please refer last Page for Note and remarks.

*Snehal Raut*  
Snehal Raut

Verified By

*Dhanashree Hiwaj*  
Dhanashree Hiwaj

Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*  
Chinmay Garway

Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003087F

Test Report No.: ALPL/10062025/03-37

Dated 10.06.2025

Page 2 of 2

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b>	ALPL/21052025/W-1/61-37	<b>Analysis Start</b>	21.05.2025
	<b>Inward Date</b>	21.05.2025	<b>Analysis End</b>	28.05.2025
	<b>Reference</b>	WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025		
	<b>Inv. No.</b>	4		
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 01.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Nilpur (Well No.- WN6)	
<b>Tests Required:</b> Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)				

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical		Group- Residues in Water			
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	BLQ(LOQ-0.02)
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 4,12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003088F

Test Report No.: ALPL/10062025/03-38

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b>	ALPL/21052025/W-1/61-38	<b>Analysis Start</b>	21.05.2025
		<b>Inward Date</b>	21.05.2025	<b>Analysis End</b>	28.05.2025
		<b>Reference</b>	WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025		
		<b>Inv. No.</b>	4		
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr	
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 01.05.2025	<b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Bhalar (Well No.- WN8a)	
<b>Tests Required:</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu), Cadmium (as Cd).					

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	180.57
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	131.07
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	92.8
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	0.70
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	36.45
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	7.81
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.14
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	6.74
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	798
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	382
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron ( as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)

● Please refer last Page for Note and remarks.

*[Signature]*  
Snehal Raut

Technical Manager

Verified By

*[Signature]*  
Dhanashree Hiwari

Sr. Technical Assistant

Authorized Signatory

*[Signature]*  
Chinmay Garway  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003088F

Test Report No.: ALPL/10062025/03-38

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-1/61-38	<b>Analysis Start</b> 21.05.2025
		<b>Inward Date</b> 21.05.2025	<b>Analysis End</b> 28.05.2025
		<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025	
		<b>Inv. No.</b> 4	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)		<b>Purpose of analysis</b> Drinking
			<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 01.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Bhalar (Well No.- WN8a)
<b>Tests Required:</b> Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)			

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical		Group- Residues in Water			
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.15
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No.4,7, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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TC-12998

### Test Report

ULR No.- TC129982500003089F

Test Report No.: ALPL/10062025/03-39

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-1/61-39 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 4	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)	<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 01.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Kesurli (Well No.- WN13)
<b>Tests Required:</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu), Cadmium (as Cd).			

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical					
	Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	244.65
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	175.91
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	134.4
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	0.80
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	24.78
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	11.13
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	6.97
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	16.24
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	906
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	438
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical					
	Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron ( as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)

● Please refer last Page for Note and remarks.

*Kartik*

Verified By

*Dhanashree*

Snehal Raut  
Technical Manager

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

*Chinmay*  
Chinmay Garway  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003089F

Test Report No.: ALPL/10062025/03-39

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-1/61-39 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 4		<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 01.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Kesurli (Well No.- WN13)	
<b>Tests Required:</b> Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)					

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical Group- Residues in Water					
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.05
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

NOTE: ● Please see watermark "Original Test Report" to confirm the authenticity of this report ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● BLQ= below limit of quantification. ● LOQ= limit of quantification. ● Environmental condition – Satisfactory & Clear ● Statement of conformity issued on the basis of decision rule as per quality procedure (QP/7.8/05). ● pH Value was measured at 25°C.

REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 1,4,12 & 14

Verified By

Dhanashree Hiwanj  
 Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
 Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003099F

Test Report No.: ALPL/10062025/03-49

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-1/61-49	<b>Analysis Start</b> 21.05.2025
		<b>Inward Date</b> 21.05.2025	<b>Analysis End</b> 28.05.2025
		<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025	
		<b>Inv. No.</b> 4	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)		<b>Purpose of analysis</b> Drinking
<b>Quantity Received</b> 1 Ltr			
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 05.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Bramhni (Well No.- WN113)
<b>Tests Required:</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu), Cadmium (as Cd).			

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group- Water					
1	Total Alkalinity(as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	122.32
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	134.02
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	93.6
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	0.24
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	21.38
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	5.68
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	8.26
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	17.95
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	704
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	322
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron ( as B)	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)

● Please refer last Page for Note and remarks.

*Kartik*

Verified By

Snehal Raut  
Technical Manager

*Dhanashree Hiwaj*

Dhanashree Hiwaj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003099F

Test Report No.: ALPL/10062025/03049

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-1/61-49 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 4	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Wani North Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivas Sampling Method- ANtd/7.2/MON-01		<b>Sampling Date</b> 05.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Bramhni (Well No.- WN113)	
<b>Tests Required:</b> Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)				

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical		Group- Residues in Water			
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.12
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 4, 12 & 14

Verified By

Dhanashree Hiwani  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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TC-12998

## Test Report

ULR No.- TC12998250003184F

Test Report No.: ALPL/10062025/05- 10

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-10 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		<b>Sampling Date</b> 02.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Bhadravati Camp (GSI Drilling Camp) (Well No.-M23)	
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).				

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group - Water					
1	Alkalinity	mg/l	IS 3025 (Part 23)	200	600	192.22
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	172.46
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	68
5	Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	0.37
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	28.18
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	6.24
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	8.03
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	30.39
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	619
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	286
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

Snehal Raut  
Technical Manager

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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TC-12998

## Test Report

ULR No.- TC12998250003184F

Test Report No.: ALPL/10062025/05- 10

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b>	ALPL/21052025/W-2/44-10	<b>Analysis Start</b>	21.05.2025
		<b>Inward Date</b>	21.05.2025	<b>Analysis End</b>	28.05.2025
		<b>Reference</b>	WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025		
		<b>Inv. No.</b>	5		
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		<b>Sampling Date</b>	02.05.2025	<b>Sampling Location</b>	
		<b>Sampling Time</b>	Not Mentioned	Bhadravati Camp (GSI Drilling Camp) (Well No.-M23)	
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)					

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues in Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.47
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 12 & 14

Verified By

*[Signature]*

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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TC-12998

## Test Report

ULR No.- TC12998250003185F

Test Report No.: ALPL/10062025/05-11

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-11 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANTd/7.2/MON-01		<b>Sampling Date</b> 02.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Quantity Received</b> 1 Ltr
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).			

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical					

● Please refer last Page for Note and remarks .

Verified By

*Kartik*

Snehal Raut  
Technical Manager

*Dhanashree Hiwari*

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*

Chinmay Garway  
Deputy Quality Manager

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TC-12998

ULR No.- TC129982500003185F

Test Report No.: ALPL/10062025/05-1 1

Dated 10.06.2025

Page 2 of 2

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-11 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		<b>Sampling Date</b> 02.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Bhadravati killa word (Well No.-M23A)	
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)				

## TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical		Group- Residues in Water			
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.43
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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**REMARKS :** As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 1, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003186F

Test Report No.: ALPL/10062025/05- 12

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b>	ALPL/21052025/W-2/44-12	<b>Analysis Start</b>	21.05.2025
		<b>Inward Date</b>	21.05.2025	<b>Analysis End</b>	28.05.2025
		<b>Reference</b>	WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025		
		<b>Inv. No.</b>	5		
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		<b>Sampling Date</b>	02.05.2025	<b>Sampling Location</b> Gaurala (Well No.-M26)	
		<b>Sampling Time</b>	Not Mentioned		
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).					

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group - Water					
1	Total Alkalinity (as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	168.92
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	162.60
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	59.2
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	0.25
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	23.32
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	8.73
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.46
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	23.65
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	543
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	244
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

Snehal Raut  
Technical Manager

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

Chinmay Ganway  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003186F

Test Report No.: ALPL/10062025/05-12

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-12 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5		<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANTd/7.2/MON-01		<b>Sampling Date</b> 02.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Gaurala (Well No.-M26)	
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)					

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues in Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.17
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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 REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003190F

Test Report No.: ALPL/10062025/05- 16

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-16	<b>Analysis Start</b> 21.05.2025
		<b>Inward Date</b> 21.05.2025	<b>Analysis End</b> 28.05.2025
		<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025	
		<b>Inv. No.</b> 5	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking
			<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01		<b>Sampling Date</b> 02.05.2025	<b>Sampling Location</b> Dhorwasa (Well No.-M32B)
		<b>Sampling Time</b> Not Mentioned	
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).			

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group - Water					
1	Total Alkalinity (as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	133.97
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	118.26
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	128.8
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	23.32
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	9.80
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	8.24
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	21.65
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	794
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	BLQ(LOQ-0.1)
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	418
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

*Snehal Raut*

Snehal Raut  
Technical Manager

*Dhanashree Hiwanj*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*

Chinmay Garway  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003190F

Test Report No.: ALPL/10062025/05-16

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b>	ALPL/21052025/W-2/44-16	<b>Analysis Start</b>	21.05.2025
		<b>Inward Date</b>	21.05.2025	<b>Analysis End</b>	28.05.2025
		<b>Reference</b>	WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025		
		<b>Inv. No.</b>	5		
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		<b>Sampling Date</b>	02.05.2025	<b>Sampling Location</b> Dhorwasa (Well No.-M32B)	
		<b>Sampling Time</b>	Not Mentioned		
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)					

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues in Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.26
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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**REMARKS :** As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 4, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003207F

Test Report No.: ALPL/10062025/05-33

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-33		<b>Analysis Start</b> 21.05.2025		
		<b>Inward Date</b> 21.05.2025		<b>Analysis End</b> 28.05.2025		
		<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148				
		<b>Inv. No.</b> 5				
<b>Sample Description</b> Ground Water		<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Pipri (Well No.-M35)		
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).						

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical					

● Please refer last Page for Note and remarks .

Verified By

*Snehal Raut*  
Snehal Raut  
Technical Manager

*Dhanashree Hiwanj*  
Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*  
Chinmay Garway  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003207F

Test Report No.: ALPL/10062025/05-33

Dated 10.06.2025

Page 2 of 2

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		Sample Inward No. ALPL/21052025/W-2/44-33 Inward Date 21.05.2025 Reference WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 Inv. No. 5	Analysis Start 21.05.2025 Analysis End 28.05.2025	
Sample Description Ground Water	Sample Details As Provided By Client Ground Water (Majri Area)		Purpose of analysis Drinking	Quantity Received 1 Ltr
Sampling By Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		Sampling Date 04.05.2025 Sampling Time Not Mentioned	Sampling Location Pipri (Well No.-M35)	
Tests Required Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)				

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical		Group- Residues in Water			
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.32
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 1, 4, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003208F

Test Report No.: ALPL/10062025/05-34

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-34 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01		<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Goraja (Well No.-M36)	
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).				

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group - Water					
1	Total Alkalinity (as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	233
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	5
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	77.36
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	32.8
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	22.35
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	9.33
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	8.17
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	15.57
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	310
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	174
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

*Kartik*

Snehal Raut  
Technical Manager

*Dhanashree Hiwanj*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*

Chinmay Garway  
Deputy Quality Manager

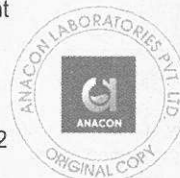
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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003208F

Test Report No.: ALPL/10062025/05-34

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b> ALPL/21052025/W-2/44-34	<b>Analysis Start</b> 21.05.2025
	<b>Inward Date</b> 21.05.2025	<b>Analysis End</b> 28.05.2025
	<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025	
	<b>Inv. No.</b> 5	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)	<b>Purpose of analysis</b> Drinking
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANTD/7.2/MON-01	<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Quantity Received</b> 1 Ltr
<b>Tests Required</b> Cadmium (as Cd), Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)		

## TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical		Group- Residues in Water			
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.43
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the test Sr. No. 1

Verified By

*[Signature]*

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories

## Test Report



TC-12998

ULR No.- TC12998250003209F

Test Report No.: ALPL/10062025/05-35

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b> ALPL/21052025/W-2/44-35 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025
	<b>Sample Description</b> Ground Water <b>Sample Details As Provided By Client</b> Ground Water (Majri North Area) <b>Purpose of analysis</b> Drinking <b>Quantity Received</b> 1 Ltr	
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01		<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned <b>Sampling Location</b> Sakharwai (DCB) (Well No.-M38)
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron (as B), Copper (as Cu).		

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group - Water					
1	Total Alkalinity (as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	168.92
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	167.53
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	168.8
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	0.24
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	24.78
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	11.35
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.86
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	36.95
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	910
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	524
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

*Kartik*

Snehal Raut  
Technical Manager

*Dhanashree Hiwanj*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*

Chinmay Garway  
Deputy Quality Manager

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TC-12998

## Test Report

ULR No.- TC12998250003209F

Test Report No.: ALPL/10062025/05-35

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b> ALPL/21052025/W-2/44-35	<b>Analysis Start</b> 21.05.2025
	<b>Inward Date</b> 21.05.2025	<b>Analysis End</b> 28.05.2025
	<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025	
	<b>Inv. No.</b> 5	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri North Area)	<b>Purpose of analysis</b> Drinking
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01	<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Quantity Received</b> 1 Ltr
<b>Tests Required</b> Cadmium (as Cd), Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)		

## TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical		Group- Residues in Water			
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.18
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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**REMARKS :** As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 4, 12 & 14

Verified By

*[Signature]*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003210F

Test Report No.: ALPL/10062025/05-36

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-36		<b>Analysis Start</b> 21.05.2025		
		<b>Inward Date</b> 21.05.2025		<b>Analysis End</b> 28.05.2025		
		<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025				
		<b>Inv. No.</b> 5				
<b>Sample Description</b> Ground Water		<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)			<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Mursa (Well No.-M39)		
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).						

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical					

● Please refer last Page for Note and remarks .

Verified By

Snehal Raut  
Technical Manager

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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TC-12998

## Test Report

ULR No.- TC129982500003210F

Test Report No.: ALPL/10062025/05-36

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-36 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANtd/7.2/MON-01		<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Mursa (Well No.-M39)	
<b>Tests Required</b> Cadmium (as Cd),Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)				

## TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues in Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.26
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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**REMARKS :** As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003191F

Test Report No.: ALPL/10062025/05-17

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b>	ALPL/21052025/W-2/44-17	<b>Analysis Start</b>	21.05.2025
	<b>Inward Date</b>	21.05.2025	<b>Analysis End</b>	28.05.2025
	<b>Reference</b>	WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025		
	<b>Inv. No.</b>	5		
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01		<b>Sampling Date</b> 03.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Vijasan (Well No.-M41B)	
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).				

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical					

● Please refer last Page for Note and remarks .

Verified By

Snehal Raut  
Technical Manager

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003191F

Test Report No.: ALPL/10062025/05- 17

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-17 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking <b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava <b>Sampling Method:</b> ANtd/7.2/MON-01		<b>Sampling Date</b> 03.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Vijasan (Well No.-M41B)
<b>Tests Required</b> Cadmium (as Cd), Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)			

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues in Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.31
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No 4, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003211F

Test Report No.: ALPL/10062025/05-37

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		<b>Sample Inward No.</b> ALPL/21052025/W-2/44-37 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)		<b>Purpose of analysis</b> Drinking	<b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01		<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> BETWEEN CHARGAON AND SHELU (Well No.-M65)	
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO3), Odour, pH, Sulphate (as SO4), Total dissolved solids, Turbidity, Total hardness (as CaCO3), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).				

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group - Water					
1	Total Alkalinity (as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	133.97
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	143.88
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	67.2
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	28.18
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	7.35
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.64
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	24.03
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	467
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	284
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

Snehal Raut  
Technical Manager

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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TC-12998

## Test Report

ULR No.- TC12998250003211F

Test Report No.: ALPL/10062025/05-37

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b> ALPL/21052025/W-2/44-37	<b>Analysis Start</b> 21.05.2025
	<b>Inward Date</b> 21.05.2025	<b>Analysis End</b> 28.05.2025
	<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025	
	<b>Inv. No.</b> 5	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)	<b>Purpose of analysis</b> Drinking
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method:ANTd/7.2/MON-01	<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Quantity Received</b> 1 Ltr
<b>Tests Required</b> Cadmium (as Cd), Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)		
<b>Sampling Location</b> BETWEEN CHARGAON AND SHELU (Well No.-M65)		

### TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues in Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.44
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the test Sr. No. 14

Verified By

*[Signature]*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories

## Test Report



TC-12998

ULR No.- TC129982500003214F

Test Report No.: ALPL/10062025/05-40

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b> ALPL/21052025/W-2/44-40	<b>Analysis Start</b> 21.05.2025
	<b>Inward Date</b> 21.05.2025	<b>Analysis End</b> 28.05.2025
	<b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025	
	<b>Inv. No.</b> 5	
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)	<b>Purpose of analysis</b> Drinking
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01	<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Quantity Received</b> 1 Ltr
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).		
<b>Sampling Location</b> TARODA VILLAGE (Well No.-M68)		

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group - Water					
1	Total Alkalinity (as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	151.45
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	139.94
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	86.4
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	15.06
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	7.62
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.24
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	27.16
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	398
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	278
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

*Kartik*

Snehal Raut  
Technical Manager

*Dhanashree*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay*  
Chinmay Garway  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003214F

Test Report No.: ALPL/10062025/05-40

Dated 10.06.2025

Page 2 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b> ALPL/21052025/W-2/44-40 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025
	<b>Sample Description</b> Ground Water <b>Sample Details As Provided By Client</b> Ground Water (Majri Area) <b>Purpose of analysis</b> Drinking <b>Quantity Received</b> 1 Ltr	
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava <b>Sampling Method:</b> ANtd/7.2/MON-01	<b>Sampling Date</b> 04.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> TARODA VILLAGE (Well No.-M68)
<b>Tests Required</b> Cadmium (as Cd), Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)		

## TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical Group- Residues in Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.32
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

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REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 4 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003218F

Test Report No.: ALPL/10062025/05-44

Dated 10.06.2025

Page 1 of 2

<b>Issued To :</b> <b>M/s Western Coalfields Limited (WCL)</b> Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	<b>Sample Inward No.</b> ALPL/21052025/W-2/44-44 <b>Inward Date</b> 21.05.2025 <b>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<b>Analysis Start</b> 21.05.2025 <b>Analysis End</b> 28.05.2025
<b>Sample Description</b> Ground Water	<b>Sample Details As Provided By Client</b> Ground Water (Majri Area)	<b>Purpose of analysis</b> Drinking <b>Quantity Received</b> 1 Ltr
<b>Sampling By</b> Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01	<b>Sampling Date</b> 05.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> KUMBHARI (Well No.-M72)
<b>Tests Required</b> Total Alkalinity(as Calcium carbonate), Colour, Chloride (as Cl), Calcium (as Ca), Free Residual Chlorine, Fluoride (as F), Magnesium (as Mg), Nitrate (as NO <sub>3</sub> ), Odour, pH, Sulphate (as SO <sub>4</sub> ), Total dissolved solids, Turbidity, Total hardness (as CaCO <sub>3</sub> ), Phenolic compounds, Arsenic (as As), Aluminium (as Al), Boron ( as B), Copper (as Cu).		

### TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Discipline – Chemical Group - Water					
1	Total Alkalinity (as Calcium carbonate)	mg/l	IS 3025 (Part 23)	200	600	145.62
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	BLQ(LOQ-1)
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	130.08
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	151.2
5	Free Residual Chlorine	mg/l	IS 3025 (Part 26) : clause 7	0.2	1	BLQ(LOQ-0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60/sec1) : clause 6	1.0	1.5	BLQ(LOQ-0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	19.44
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	8.2
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	8.16
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	24.41
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	784
13	Turbidity	NTU	IS 3025 (Part 10)	1	5	0.1
14	Total hardness (as CaCO <sub>3</sub> )	mg/l	IS 3025 (Part 21) clause 5	200	600	458
15	Phenolic compounds	mg/l	IS 3025 (Part 43/Sec1) : clause 6	0.001	0.002	BLQ(LOQ-0.001)
II	Discipline – Chemical Group- Residues in Water					
16	Arsenic (as As)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
17	Aluminium (as Al)	mg/l	IS 3025 (Part 2)	0.03	0.2	BLQ(LOQ-0.02)
18	Boron	mg/l	IS 3025 (Part 2)	0.5	2.4	BLQ(LOQ-0.02)
19	Copper (as Cu)	mg/l	IS 3025 (Part 2)	0.05	1.5	BLQ(LOQ-0.02)

● Please refer last Page for Note and remarks .

Verified By

*Kartik*

Snehal Raut  
Technical Manager

*Dhanashree Hiwari*

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*  
Deputy Quality Manager

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# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003218F

Test Report No.: ALPL/10062025/05-44

Dated 10.06.2025

Page 2 of 2

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		Sample Inward No. ALPL/21052025/W-2/44-44 Inward Date 21.05.2025 Reference WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 Inv. No. 5	Analysis Start 21.05.2025 Analysis End 28.05.2025
Sample Description Ground Water	Sample Details As Provided By Client Ground Water (Majri Area)		Purpose of analysis Drinking
Sampling By Anacon Representative - Mr.Kartik Shrivastava Sampling Method: ANtd/7.2/MON-01		Sampling Date 05.05.2025 Sampling Time Not Mentioned	Quantity Received 1 Ltr
Tests Required Cadmium (as Cd), Iron (as Fe), Lead (as Pb), Manganese (as Mn), Nickel (as Ni), Selenium (as Se), Total Chromium (as Cr), Zinc (as Zn)			

## TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Ground Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Discipline – Chemical					
	Group- Residues in Water					
20	Cadmium (as Cd)	mg/l	IS 3025 (Part 2)	0.003	No relaxation	BLQ(LOQ-0.002)
21	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.27
22	Lead (as Pb)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
23	Manganese (as Mn)	mg/l	IS 3025 (Part 2)	0.1	0.3	BLQ(LOQ-0.02)
24	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No relaxation	BLQ(LOQ-0.01)
25	Selenium (as Se)	mg/l	IS 3025 (Part 2)	0.01	No relaxation	BLQ(LOQ-0.01)
26	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2)	0.05	No relaxation	BLQ(LOQ-0.02)
27	Zinc (as Zn)	mg/l	IS 3025 (Part 2)	5	15	BLQ(LOQ-0.02)

NOTE: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • #Permissible limit in absence of an alternate source for drinking water. • 'mg/l' is equivalent to 'ppm'. • BLQ= below limit of quantification. • LOQ= limit of quantification. • Environmental condition – Satisfactory & Clear • Statement of conformity issued on the basis of decision rule as per quality procedure (QP/7.8/05). • pH Value was measured at 25°C.

REMARKS : As requested by the client, the sample was tested for the above parameters only. Sample bearing the details mentioned as above is not complying with IS 10500(2012) requirements for the tests Sr. No. 4, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

-----END OF REPORT-----

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**Land Restoration / Reclamation Monitoring of 26 opencast projects  
of Western Coalfield Limited producing More than 5 million Cu. M.  
(Coal+OB) per annum based on Satellite Data of the Year 2024**

वेस्टर्न कोल्फील्ड्स लिमिटेड के ५ मिलियन घनमीटर (कोल+अधिभार) से अधिक उत्पादन क्षमतावाले २६ खुली खदानों के भूमि पुनरूद्धार हेतु २०२४ के उपग्रह डाटा के आधार पर निगरानी का वार्षिक प्रतिवेदन



*Submitted to*  
**Western Coalfields Limited**





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March 2025

**Remote Sensing Cell  
Geomatics Division  
CMPDI-HQ, Ranchi**



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## कार्यकारी सारांश

### 1.0 परियोजना

वेस्टर्न कोल्फील्ड्स लिमिटेड के ५ मिलियन घन मीटर (कोल+ अधिभार) से अधिक उत्पादन क्षमतावाली २६ खुली खदानों के पुनरुद्धार हेतु वर्ष २०२४ के उपग्रह डाटा पर आधारित पर सलाना नियमित निगरानी।

उपरोक्त २६ खुली में से १३ परियोजनाएँ जिन्हें भटाड़ी, बेलोरा-नयागांव, बल्लारपुर, जुनाड, कोलारपिम्री, हिंदुस्तान लाल्पेथ, गौरी-पौनी, गोंडेगाँव, अदासा (भूमिगत से खुली खदान), भानेगाओं, गोकुल, इन्दर-कामठी एकीकृत और धुपतला खुली खदानों के नाम से जाना जाता है, इन्हें कार्य - आदेश के तहत ५ मिलियन घन मीटर (कोल+ अधिभार) से अधिक क्षमता वाले खदानों के श्रेणी में पहली बार शामिल किया गया है।

### 2.0 उद्देश्य

भूमि पुनरुद्धार (लैंड रिक्लेमेशन) का उद्देश्य कुल पट्टाक्षेत्र में बैकफील, वृक्षारोपण, सामाजिक वानिकी, सक्रिय खनन क्षेत्र, जल निकाय (वाटर ड्रेनेज) बंजर भूमि, कृषि भूमि और जंगल के विभिन्न प्रकार के वितरण प्रणाली के क्षेत्र का आकलन करना है। यह अध्ययन न केवल उपरोक्त सभी खुली खदानों के भूमि पुनरुद्धार (लैंड रिक्लेमेशन) की प्रगति का आकलन में मदद करेगा बल्कि पर्यावरण संरक्षण के लिए आवश्यक उपचारात्मक उपायों को क्रियान्वित करने में भी सहायता करेगा।

### 3.0 मुख्य निष्कर्ष

- वर्ष २०२४-२०२५ के लिए भूमि पुनरुद्धार (लैंड रिक्लेमेशन) की निगरानी हेतु डब्ल्यू.सी.एल के २६ खुली परियोजनाएँ जिनका नाम सास्ती, दुर्गापुर, मुंगोली, उमरेड, उकनी, नीलजयी, न्यू माजरी, मकरधोकरा ३, पेनगंगा, एकोना १ और २ (एकीकृत), न्यू मजरी भूमिगत से खुली खदान, पौनी-२ (विस्तार), मकरधोकरा १ (विस्तार), भटाड़ी, गोकुल, इन्दर-कामठी एकीकृत तथा धुपतला है। इनका कुल पट्टा क्षेत्र २४२.७३ वर्ग किलोमीटर हैं, जिसमें से ६५.९९ वर्ग किलोमीटर उत्खनित क्षेत्र है जिसमें क्रमशः १९.२४ वर्ग किलोमीटर (२९.१६%) बैकफील क्षेत्र (तकनीकी पुनरुद्धार), ६.०८ वर्ग किलोमीटर (९.२१%) वृक्षारोपण (जैविक पुनरुद्धार) का क्षेत्र तथा ४०.६७ वर्ग किलोमीटर (६१.६३%) सक्रिय खनन क्षेत्र के अंतर्गत पाया गया। इस विश्लेषण से स्पष्ट है कि कुल खुली खदानों के उत्खनित क्षेत्र में से ३८.३७ प्रतिशत का क्षेत्र जैविक और तकनीकी रूप से भूमि पुनरुद्धार का कार्य हो गया है और शेष ६१.६३ प्रतिशत का क्षेत्र सक्रिय खनन के अंतर्गत है। परियोजनावार विवरण तालिका -१ और चित्र-१ दर्शाया गया है (तुलनात्मक अध्ययन के उद्देश्य के लिए तालिका -१ देखें)
- विभिन्न परियोजनाओं के लिए वर्ष २०२३ के सापेक्ष में वर्ष २०२४ में किये गए भूमि पुनरुद्धार की स्थिति की तुलना करने के पश्चात विश्लेषण से यह स्पष्ट है कि भूमि पुनरुद्धार के अंतर्गत वर्ष २०२३ के कुल क्षेत्र २३.२४ वर्ग किलोमीटर से बढ़कर वर्ष २०२४ में २५.३२ वर्ग किलोमीटर हो गया है, २६ खुली परियोजनाओं में से बल्लारपुर खुली खदान में भूमि पुनरुद्धार का कार्य

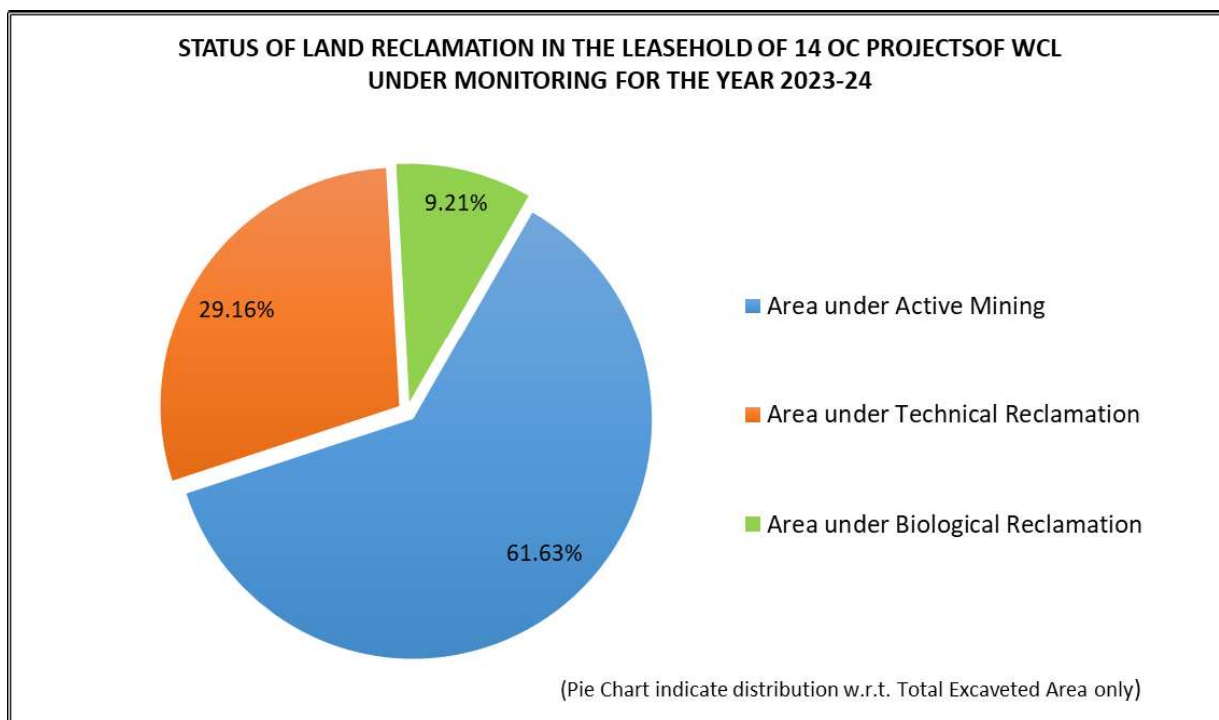
अधिकतम ८५.९५ प्रतिशत हुआ है अतः इसे शीर्ष स्थान पर रखा गया है इसके बाद क्रमशः सास्ती खुली खदान (८०.७३ प्रतिशत) तथा उमरेड (६६.२५ प्रतिशत) खुली परियोजनाओं का स्थान है।

- वर्ष २०२३ के कुल जैविक भूमि पुनरूद्धार (बैकफ़िल पर वृक्षारोपण) के अंतर्गत का क्षेत्र ५.२६ वर्ग किलोमीटर के तूलना में वर्ष २०२४ में बढ़कर ६.०८ वर्ग किलोमीटर हो गया है जबकि वर्ष २०२३ के तकनीकी पुनरूद्धार (बैकफील के अंतर्गत क्षेत्र) का क्षेत्र १७.९५ वर्ग किलोमीटर से बढ़कर वर्ष २०२४ में १९.२४ वर्ग किलोमीटर हो गया है। भूमि पुनरूद्धार के अंतर्गत २.०८ वर्ग किलोमीटर की यह वृद्धि पर्यावरण संरक्षण के दिशा में वेस्टर्न कोलफील्ड्स लिमिटेड के द्वारा उठाये गए सकारात्मक प्रयासों का परिणाम है।

## Executive Summary

- 1.0 Project** Land restoration / reclamation monitoring of 26 opencast coal mines of Western Coalfields Ltd. (WCL) producing 5 million cu.m. and more (Coal+OB) per year based on satellite data, regularly on annual basis. Among 26 opencast coal mines projects, 13 projects namely Bhatadi, Bellora-Naigaon, Ballarpur, Junad, Kolarpimpiri, Hindustan Lalpeth (HLOCM), Gauri- Pauni, Gondegaon, Adasa UG to OC, Bhanegaon, Gokul, Inder Kamptee Amal. and Dhuptala have been included in 2024 for the first time as per the work order, their capacity (Coal+OB) have been increased to category of more than 5 million cubic meter from category of less than 5 million cu.m. per year.
- 2.0 Objective** Objective of the land restoration / reclamation monitoring is to assess the area of backfilled, plantation, social forestry, active mining area, water bodies, distribution of wasteland, agricultural land and forest in the leasehold area of the project. This will help in assessing the progressive status of mined land reclamation and to take up remedial measures, if any, required for environmental protection.
- 3.0 Salient Findings**
- Out of total leasehold area of 242.73 Km<sup>2</sup> of 26 projects of WCL viz. Sasti, Durgapur, Mungoli, Umrer, Ukni, Niljai, New Majri. Makardhokra-III, Penganga, Yekona-I & II (Amal), New Majri UG to OC, Pauni-II (Expn.), MKD-I (Expn.), Bhatadi, Bellora-Naigaon, Ballarpur, Junad, Kolarpimpiri, Hindustan Lalpeth (HLOCM), Gauri-Pauni, Gondegaon, Adasa UG to OC, Bhanegaon, Gokul, Inder-Kamptee Amal., and Dhuptala considered for monitoring during 2024-25; the total excavated area is 65.99 Km<sup>2</sup> out of which 19.24 Km<sup>2</sup> area (29.16%) is backfilled (Technical Reclamation), 6.08 Km<sup>2</sup> area (9.21%) has been planted (Biological Reclamation) and 40.67 Km<sup>2</sup> area (61.63%) is under active mining. It is evident from the analysis that 38.37% area of the OC projects has been reclaimed (biological and technical) and balance 61.63% area is under active mining. Project wise details are given in Table-1 & Fig-1. (For comparison purpose, refer Table-1).
  - On comparing the status of land reclamation for the year 2024 with respect to the year 2023 in different projects, it is evident from the analysis that total area under land reclamation has increased from 23.24 Km<sup>2</sup> (Yr. 2023) to 25.32 Km<sup>2</sup> (Yr.2024). Out of 26 projects of WCL, Ballarpur OC ranks on top for land reclamation (85.95%) followed by Sasti OC (80.73%) and Umrer OC (66.25%).
  - Area under biological reclamation (Plantation on backfill) has increased from 5.26 Km<sup>2</sup> (Yr. 2023) to 6.08 Km<sup>2</sup> (Yr. 2024) whereas area of technical reclamation (area under backfilling) has increased from 17.98 Km<sup>2</sup> (Yr. 2023) to 19.24 Km<sup>2</sup> (Yr. 2024) in WCL. The total increase of 2.08 Km<sup>2</sup> under reclamation is the result of the efforts of the Western Coalfields Ltd. taken up towards environmental protection





**Fig.1: Pie Chart indicating distribution (%) of reclamation activities in 26 OC Mines of WCL**

Table-1  
Projectwise Land Reclamation Status in Opencast Projects of WCL  
(>5 Million Cubic Metre Coal+OB) based on Satellite Data of the year 2024

(Area in Sq. Kms.)

Sl. No.	Project	Total Leasehold Area		Technical Reclamation		Plantation						Area under Active Mining	Total Excavated Area		Total Area under Plantation (% Green Cover Generated in Leasehold)		Total Area under Reclamation	
						Biological Reclamation		Other Plantations										
								Plantation on Excavated / Backfilled Area		Plantation on External Over Burden Dumps								
1	2	3	4	5	6	7	8	9 (=4+5+8)	10 (=5+6+7)	11 (=4+5)								
	A	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	
1	Sasti	9.20	11.12	2.72	2.90	0.73	0.62	1.68	1.92	0.68	0.71	0.50	0.84	3.09	3.25	3.45	3.52	
				68.86%	66.51%	18.48%	14.22%			12.66%	19.27%			33.59%	29.23%	87.34%	80.73%	
2	Durgapur	15.50	15.50	1.04	0.96	1.06	1.18	2.81	2.99	1.19	1.26	2.57	2.75	4.67	4.89	5.06	5.43	
				22.27%	19.63%	22.70%	24.13%					55.03%	56.24%	32.65%	35.03%	44.97%	43.76%	
3	Mugoli	12.55	12.55	1.53	1.70	0.17	0.2	1.9	1.98	0.61	0.65	1.95	2.23	3.65	4.13	2.68	2.83	
				41.92%	41.16%	4.66%	4.84%					53.42%	54.00%	21.35%	22.55%	46.58%	46.00%	
4	Umrer	9.45	9.45	1.51	1.47	1.63	1.73	1.45	1.45	2.32	2.32	1.69	1.63	4.83	4.83	5.40	5.50	
				31.26%	30.43%	33.75%	35.82%					34.99%	33.75%	57.14%	58.20%	65.01%	66.25%	
5	Ukni	12.85	12.85	0.54	0.65	0.00	0.00	1.74	1.81	0.86	0.98	2.15	2.15	2.69	2.80	2.60	2.79	
				20.07%	23.21%	0.00%	0.00%					79.93%	76.79%	20.23%	21.71%	20.07%	23.21%	
6	Niljai	17.61	17.61	1.46	1.75	0.13	0.13	2.11	2.23	1.25	1.31	2.99	3.09	4.58	4.97	3.49	3.67	
				31.88%	35.21%	2.84%	2.62%					65.28%	62.17%	19.82%	20.84%	34.72%	37.83%	
7	New Majri	7.74	7.74	1.64	1.82	0.24	0.28	0.97	1.04	1.47	1.47	2.22	2.27	4.10	4.37	2.68	2.79	
				40.00%	41.65%	5.85%	6.41%					54.15%	51.95%	34.63%	36.05%	45.85%	48.05%	
8	MKD-III	9.23	9.23	0.41	0.46	0.00	0.00	0.00	0.25	0.12	0.17	1.09	1.55	1.50	2.01	0.12	0.42	
				27.33%	22.89%	0.00%	0.00%					72.67%	77.11%	1.30%	4.55%	27.33%	22.89%	
9	Penganga	7.63	7.63	0.75	0.84	0.00	0.00	0.49	0.50	0.55	0.68	1.25	1.42	2.00	2.26	1.04	1.18	
				37.50%	37.17%	0.00%	0.00%					62.50%	62.83%	13.63%	15.47%	37.50%	37.17%	
10	Yekona-&II(Anai)	16.79	16.79	0.01	0.20	0.00	0.00	0.00	0.00	0.03	0.08	1.29	1.64	1.30	1.84	0.03	0.08	
				0.77%	10.87%	0.00%	0.00%					99.23%	89.13%	0.18%	0.48%	0.77%	10.87%	
11	New Majri UG to OC	7.06	7.06	0.00	0.00	0.00	0.00	0.27	0.35	0.37	0.46	1.06	1.44	1.06	1.44	0.64	0.81	
				0.00%	0.00%	0.00%	0.00%					100.00%	100.00%	9.07%	11.47%	0.00%	0.00%	
12	Pauni -II (Expn)	10.95	10.95	0.00	0.00	0.00	0.00	0.18	0.25	0.22	0.30	1.34	1.74	1.34	1.74	0.40	0.55	
				0.00%	0.00%	0.00%	0.00%					100.00%	100.00%	3.65%	5.02%	0.00%	0.00%	
13	MKD -I (Expn) OC	6.14	6.14	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.00	1.57	1.86	1.57	1.86	0.10	0.10	
				0.00%	0.00%	0.00%	0.00%					100.00%	100.00%	1.63%	1.63%	0.00%	0.00%	
Total-A		142.70	144.62	11.61	12.75	3.96	4.14	13.70	14.87	9.67	10.39	21.67	24.61	27.33	29.40	15.57	16.89	
				31.18%	30.72%	10.63%	9.98%					58.19%	59.30%	19.15%	20.33%	41.81%	40.70%	

Note : In reference of the above Table-1, different parameters are classified as follows

- 1
- Area under Biological Reclamation includes area under plantation done on backfilled area only.
- 2
- Area under Technical Reclamation includes areas under barren backfill only.
- 3
- Area under Active Mining includes coal quarry, advance quarry & quarry filled with water etc.
- 4
- Social forestry and plantation on external OB dump are not included in biological reclamation and are put under other plantation.
- 5
- % calculated in respect to total excavated area except for "Total area under plantation" where % is in terms of leasehold area.

Table-1  
Projectwise Land Reclamation Status in Opencast Projects of WCL  
(1.5 Million Cubic Metre Coal-DB) based on Satellite Data of the year 2024

Area in Sq. Kms.

Sl. No.	Project	Total Leasehold Area	Technical Reclamation		Biological Reclamation				Plantation				Area under Active Mining		Total Excavated Area	Total Area under Plantation (x Gross Cover Generated in Leasehold)		Total Area under Reclamation
			Area under Backfilling	2024	Plantation on Excavated / Backfilled Area		δ	Other Plantations		Area under Active Mining	Total Excavated Area	Total Area under Plantation (x Gross Cover Generated in Leasehold)						
					2024	2024		2024	2024			2024	2024	2024		2024		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
14	Bhatadi	8.47	0.39	0.44	0.00	0.00	0.50	0.59	0.43	0.48	0.97	1.12	1.36	1.56	0.93	1.07	0.39	0.44
15	Bellora Naigaon	6.65	0.73	0.83	0.18	0.20	0.48	0.57	0.32	0.45	1.15	1.20	2.06	2.23	0.98	1.22	0.91	1.03
16	Ballapur	2.43	0.76	0.76	0.24	0.28	0.74	0.78	0.10	0.13	0.17	0.17	1.17	1.21	1.08	1.19	1.00	1.04
17	Junad	4.50	0.37	0.41	0.05	0.12	0.75	0.81	0.34	0.38	0.66	0.67	1.08	1.20	1.14	1.31	0.42	0.53
18	Kolarpimpri	14.89	0.15	0.21	0.08	0.11	1.35	1.43	0.12	0.16	1.72	1.79	1.95	2.11	1.55	1.70	0.23	0.32
19	HLOCM	3.12	0.64	0.65	0.06	0.10	0.74	0.76	0.31	0.37	0.48	0.54	1.18	1.29	1.11	1.23	0.70	0.75
20	Gauri pouni	6.77	0.89	0.91	0.60	0.79	2.06	2.55	0.62	0.64	0.95	1.70	2.44	3.40	3.28	3.98	1.49	1.70
21	Gondagaon	7.91	0.56	0.62	0.00	0.00	0.96	1.22	0.51	0.57	1.49	1.90	2.05	2.52	1.47	1.79	0.56	0.62
22	Adasa UG to OC	5.64	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.27	0.57	0.80	0.57	0.80	0.14	0.27	0.00	0.00
23	Bhanegaon	3.48	0.01	0.02	0.00	0.00	0.16	0.33	0.20	0.24	0.35	0.69	0.36	0.71	0.36	0.57	0.01	0.02
24	Gokul	7.57	10.02	2.78%	2.82%	0.00%	0.00%	0.00	0.30	0.92	97.22%	97.18%	3.01	3.01	10.34%	16.38%	2.78%	2.82%
25	Inder Kamptee Area	11.25	7.95	1.12	0.75	0.09	0.34	0.76	1.41	0.85	70.36%	70.43%	2.68	2.71	3.96%	9.18%	29.64%	29.57%
26	Dhuptala	-	10.14	41.73%	27.68%	3.36%	12.55%	-	-	0.30	54.85%	59.78%	-	1.74	15.11%	25.91%	45.15%	40.22%
			-	0.00	-	0.00	-	0.25	-	0.30	-	1.74	-	1.74	-	0.55	0.00	0.00
			-	0.00%	-	0.00%	-	8.50	10.70	5.22	-	#####	-	-	-	5.42%	-	0.00%
	Total-B	82.68	98.11	6.37	6.49	1.30	1.94	8.50	10.70	4.24	11.76	16.06	19.43	24.49	14.04	17.86	7.67	8.43
	Total- (A+B)	225.38	242.73	32.78%	26.50%	6.63%	7.92%	22.20	25.57	13.91	60.52%	65.58%	56.67	65.99	41.37	47.26	23.24	25.32
				17.98	19.24	5.26	6.08				58.99%	61.63%			18.36%	19.47%	41.01%	38.37%

Note : In reference of the above Table-1, different parameters are classified as follows

- 1 Area under Biological Reclamation includes area under plantation done on backfilled area only
- 2 Area under Technical Reclamation includes areas under barren backfill only.
- 3 Area under Active Mining includes coal quarry, advance quarry & quarry filled with water etc.
- 4 Social forestry and plantation on external OB dump are not included in biological reclamation and are put under other plantation.
- 5 % calculated in respect to total excavated area except for "Total area under plantation" where % is in terms of leasehold area.



PROJECT WISE STATUS OF LAND RECLAMATION IN WCL FOR THE YEAR 2024

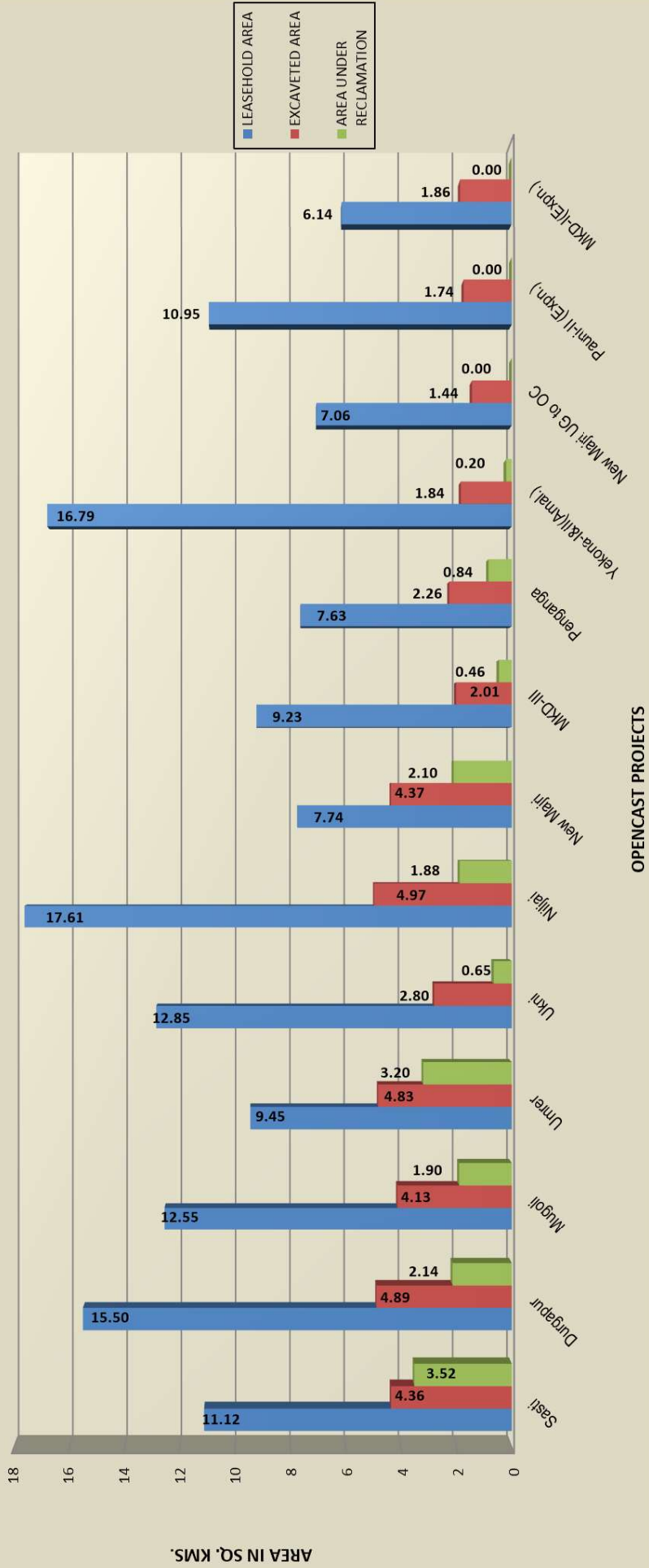


Fig.2: Land reclamation status in 14 OC projects of WCL for the year 2024

## **1.0 Background**

- 1.1** Land is the most important natural resource which embodies soil, water, flora, fauna and total ecosystem. All human activities are based on the land which is the scarcest natural resource in our country. Mining is a site specific industry and it could not be shifted anywhere else from the location where mineral occurs. It is a fact that surface mining activities do effect the land environment due to ground breaking. Therefore, there is an urgent need to reclaim and restore the mined out land for its productive use for sustainable development of mining. This will not only mitigate environmental degradation, but would also help in creating a more congenial environment for land acquisition by coal companies in future.
- 1.2** Keeping above in view, Coal India Ltd. (CIL) issued a work order vide letter no. CIL/WBP/Env/2009/2428dated 29.12.2009 to Central Mine Planning & Design Institute (CMPDI), Ranchi, for monitoring land reclamation. status of all the opencast coal mines having production of more than 5 million m<sup>3</sup> per annum (coal + OB taken together per annum) based on remote sensing satellite data, regularly on annual basis for sustainable development of mining. Further, another work order vide letter no. CIL/WBP/ENV./2011dated23/08/11was issued by CIL for monitoring of less than 5 million m<sup>3</sup> per annum capacity (Coal +OB) projects from the year 2011 at interval of three years. This order has been renewed in CIL letter no. CIL/WBP/Env/2011/4706dated 12.10.2012 for the next five years. Again this work order has been renewed vide letter no. CIL/WBP/Env/2017/DP/8391 dated 22.06.2017 for a period next five years starting from 2017-18 to 2021-22. The work order was renewed vide letter no. CIL/ ENVT/2022-23/W. O/10899 dated 06.07.2022 for a period of 2 more years from 2022-23 to 2023-24. Again the above work order has been renewed vide letter no. CIL/ ENV/11463 dated 03.07.2024 for a period of 3 more years for 2024-25, 2025-26 and 2026-27. The result of land reclamation status of all such mines is put on the websites of **CIL**, ([www.coalindia.in](http://www.coalindia.in)), **CMPDI** ([www.cmpdi.co.in](http://www.cmpdi.co.in)) and the concerned

coal companies in public domain. Detailed report is submitted to Coal India and respective subsidiaries.

- 1.3** Land reclamation monitoring of all opencast coal mining projects would also comply the statutory requirements of Ministry of Environment & Forest (MoEF). Such monitoring would not only facilitate in taking timely mitigation measures against environmental degradation, but would also enable coal companies to utilize the reclaimed land for larger socio-economic benefits in a planned way.
- 1.4** Present report is embodying the finding of the study based on satellite data of the year 2024 carried out for all the OC projects producing more than 5 mcm (Coal+OB) for Western Coalfields Ltd.

## **2.0 Objective**

Objective of the land reclamation/restoration monitoring is to assess the area of backfilled, plantation, OB dumps, social forestry, active mining area, settlements and water bodies, distribution of wasteland, agricultural land and forest land in the leasehold area of the project. This is an important step taken up for assessing the progressive status of mined land reclamation and for taking up remedial measures, if any, required for environmental protection.

## **3.0 Methodology**

There are number of steps involved between raw satellite data procurement and preparation of final map. Bhoonidhi Portal of ISRO alongside National Remote Sensing Centre (NRSC) Hyderabad, being the nodal agency for satellite data supply in India, provides only raw digital satellite data, which needs further digital image processing for extracting the information and map preparation before uploading the same in the website. Methodology for land reclamation monitoring



is given in figure-3. Following steps are involved in land reclamation /restoration monitoring:

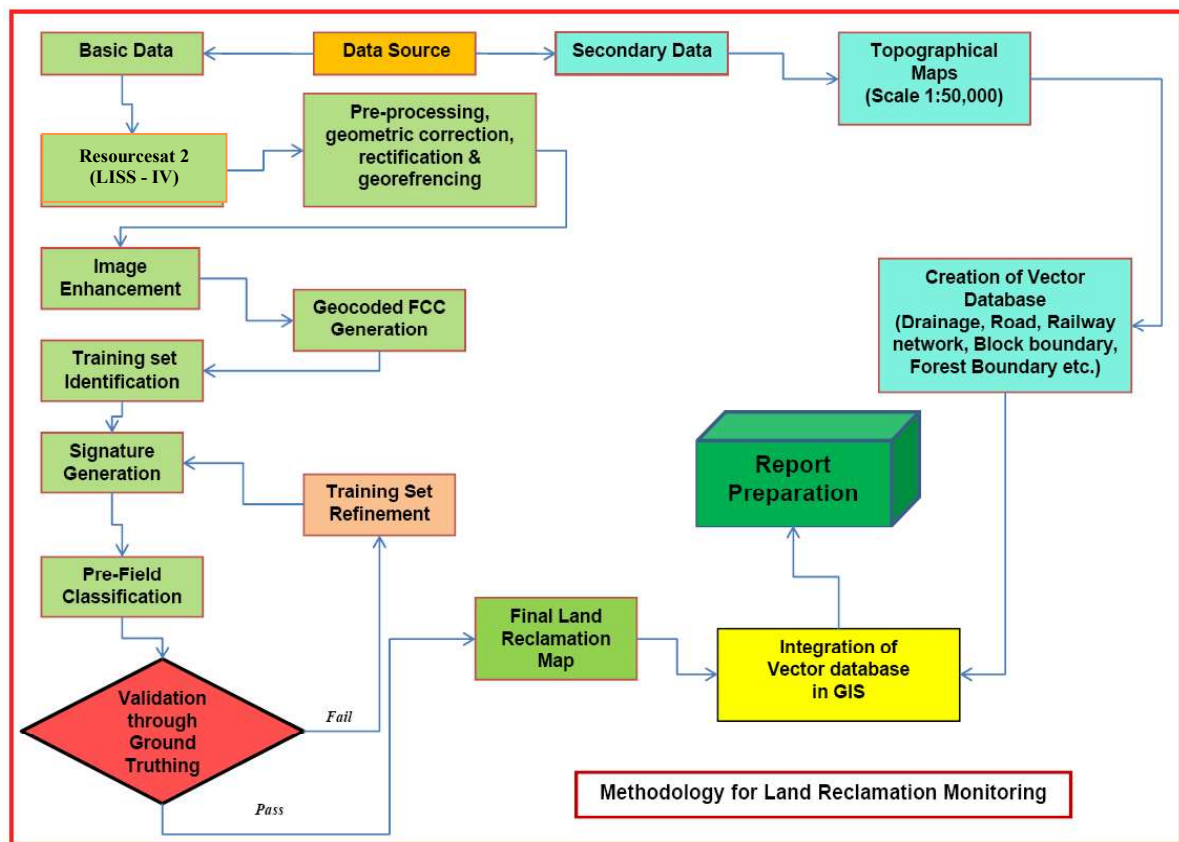


Figure: 3- **Methodology for Land Reclamation Monitoring**

**3.1 Data Procurement:** After browsing the data quality and date of pass on internet, supply order for data is placed to NRSC or if available downloaded directly from the Bhoonidhi portal. Secondary data like leasehold boundary, topo sheets are procured for creation of vector database.

**3.2 Satellite Data Processing:** Satellite data are processed using ERDAS IMAGINE 2022 digital image processing s/w and ArcGIS. Methodology involves the following major steps:

- **Rectification & Georeferencing:** Inaccuracies in digital imagery may occur due to 'systematic errors' attributed to earth curvature and rotation as well as 'non-systematic errors' attributed to satellite receiving station itself. Raw digital

images contain geometric distortions, which make them unusable as maps. Therefore, georeferencing is required for correction of image data using ground control points (GCP) to make it compatible to Sol toposheet.

- **Image enhancement:**

To improve the interpretability of the raw data, image enhancement is necessary. Local operations modify the value of each pixel based on brightness value of neighbouring pixels using ERDAS IMAGINE 2022 s/w. and enhance the image quality for interpretation.

- **Training set selection**

Training set requires to be selected, so that software can classify the image data accurately. The image data are analysed based on the interpretation keys. These keys are evolved from certain fundamental image-elements such as tone/colour, size, shape, texture, pattern, location, association and shadow. Based on the image-elements and other geo-technical elements like land form, drainage pattern and physiography; training sets were selected/identified for each land use/cover class. Field survey was carried out by taking selective traverses in order to collect the ground information (or reference data) so that training sets are selected accurately in the image. This was intended to serve as an aid for classification.

- **Classification and Accuracy assessment**

Image classification is carried out using the maximum likelihood algorithm. The classification proceeds through the following steps: (a) calculation of statistics [i.e. signature generation] for the identified training areas, and (b) the decision boundary of maximum probability based on the mean vector, variance, covariance and correlation matrix of the pixels. After evaluating the statistical parameters of the training sets, reliability test of training sets is conducted by measuring the statistical separation between the classes that resulted from

computing divergence matrix. The overall accuracy of the classification was finally assessed with reference to ground truth data.

- **Area calculation**

The area of each land use class in the leasehold is determined using ERDAS IMAGINE v.2022 software.

- **Overlay of Vector data base**

Vector data base created based on secondary data. Vector layer like drainage, railway line, leasehold boundary, forest boundary etc. are superimposed on the image as vector layer in the ArcGIS Pro 3.4 database.

- **Pre-field map preparation**

Pre-field map is prepared for validation of the classification result

### **3.3 Ground Truthing:**

Selective ground verification of the land use classes is carried out in the field and necessary corrections if required, are incorporated before map finalization.

### **3.4 Land reclamation database on GIS:**

Land reclamation database is created on GIS platform to identify the temporal changes identified from satellite data of different cut-of dates.

## **4.0 Work Plan**

Twenty-six opencast projects of WCL producing more than 5 million cubic m. (Coal + OB together) have been taken up for land reclamation/ restoration monitoring in 2023-24, based on the Resourcesat-2/2A(L-IV) Satellite data, using



ERDAS Imaging digital image processing s/w, ArcGIS 10.2 and ArcGIS Pro 3.4 platform. Land reclamation monitoring will be carried out regularly on annual basis to assess the progressive status of land reclamation/ restoration in the above OC mines. The report of this study has been uploaded on the websites of CMPDI, CIL & WCL in public domain.

## **5.0 Land Reclamation Status in Western Coalfields Limited**

**5.1** Following 26 OC projects producing more than 5 million cubic m. (Coal + OB together) of Western Coalfields Ltd. have been taken up for land reclamation monitoring based on Satellite Data of the year 2024:

- |                      |                      |
|----------------------|----------------------|
| ▪ Sasti              | ▪ Bhatadi            |
| ▪ Durgapur           | ▪ Bellora Naigaon    |
| ▪ Mungoli            | ▪ Ballarpur          |
| ▪ Umrer              | ▪ Junad              |
| ▪ Ukni               | ▪ Kolarpimpiri       |
| ▪ Niljai             | ▪ HLOCM)             |
| ▪ New Majri          | ▪ Gauri Pauni        |
| ▪ MKD-III            | ▪ Gondegaon          |
| ▪ Penganga           | ▪ Adasa UG to OC     |
| ▪ Yekona I&II Amal   | ▪ Bhanegaon          |
| ▪ New Majri UG to OC | ▪ Gokul              |
| ▪ Pauni-II (Expn.)   | ▪ Inder Kamptee Amal |
| ▪ MKD-I Expn.        | ▪ Dhuptala           |

**5.2** Project wise Land Reclamation status in WCL for the year 2024 is given in Table 1 and also shown graphically in Fig 1. Area statistics of different land use class present in the mine leasehold of the above projects for the year 2024 are shown in the Table 2. Land use maps derived from satellite data are shown in Plate 1-26. This time both local grid and UTM grid is used for map preparation along with all essential

boundaries shape file such as Quarry limit line, Sump, OB Dump, EC Boundary, Plantation area etc. as per the work order from CIL. Year wise changes in the different land use classes based on satellite data are depicted in Bar Charts in Fig.4–29 for the last three years only excluding Dhuptala OC (Sasti UG to OC) as this mine been consider for the land reclamation for the first time in Yr. 2024-25.

- 5.3** Study reveals that 25.32 Km<sup>2</sup> (38.37%) of excavated area has been under reclamation in the above mentioned mines of WCL out of which 6.08 Km<sup>2</sup>(9.21%) area has been revegetated and 19.24 Km<sup>2</sup> (29.16%) area is under backfilling. There is an overall increase of 2.08 Km<sup>2</sup> in area under reclamation in WCL in the year 2024 with respect to the year 2023, out of which there is an increase of 1.26 Km<sup>2</sup> in area under technical reclamation (Barren Backfilling) and an increase of 0.82 Km<sup>2</sup> in area under biological reclamation (Plantation on Backfilled Areas) (Refer Table-1).

In Sasti OC project, plantation on OB has been reduced by 0.11 Km<sup>2</sup> on account of tree felling and re-handling of backfill for the purpose of coal mining. In Durgapur OC and Umrer OC projects backfill has been reduced by 0.08 Km<sup>2</sup> and 0.04 Km<sup>2</sup> respectively as backfill has been converted to biological reclamation. In Inder Kamptee Amalgamated OC project total lease hold area have been decreased from 11.25 Km<sup>2</sup> to 7.95 Km<sup>2</sup>. In previous cycle Inder OC project and Kamptee OC project had been analyzed separately in different year.

- 5.4** Analysis of satellite data also indicates that total area under active mining has increased from 33.43 Km<sup>2</sup> (Yr.2023) to 40.67 Km<sup>2</sup> (Yr.2024). In Umrer OC project area under active mining has reduced due to increase in area under backfilling.
- 5.5** After comparing the satellite data of year 2024 vs. 2023, study also reveals that area under backfilling has increased from 17.98 Km<sup>2</sup> (Yr.2023) to 19.24 Km<sup>2</sup> (Yr.2024).

- 5.6** Total area under biological reclamation has increased from 5.26 Km<sup>2</sup> (Yr.2023) to 6.08 Km<sup>2</sup> (Yr.2024). There is no biological reclamation in Yekona-I&II (Amal.), New Majri UG to OC, Pauni-II (Expn.), Bhatadi, MKD-I and MKD-III OC, Gondegaon, Adasa UG to OC, Bhanegaon, Gokul, Dhuptala & Penganga OC.
- 5.7** Analysis of satellite data also indicates that total area under plantation (Green Cover) has increased from 41.37 Km<sup>2</sup> (Yr.2023) to 47.26 Km<sup>2</sup> (Yr.2024). The increase of 5.89 Km<sup>2</sup> area under Green Cover areas may be attributed to continuous effort of WCL towards environmental protection.
- 5.8** After comparing the satellite data of year 2024 vs. 2023, it is evident that total area under plantation (Green Cover) in all 26 Opencast Projects has increased. It has been also observed in some of the projects natural vegetation has also started growing on stabilized old backfilled areas and overburden dumps due to high soil fertility.
- 5.9** On comparing the status of land reclamation for the year 2024 with respect to the year 2023 in different projects, it is evident that the total area under reclamation has increased from 23.24 Km<sup>2</sup> (Yr. 2023) to 25.32 Km<sup>2</sup> (Yr. 2023).
- 5.10** Out of 26 projects of WCL, maximum area under reclamation is in Ballarpur Opencast Project (85.95%) followed by Sasti OC (80.73%) and Umrer OC (66.25%).

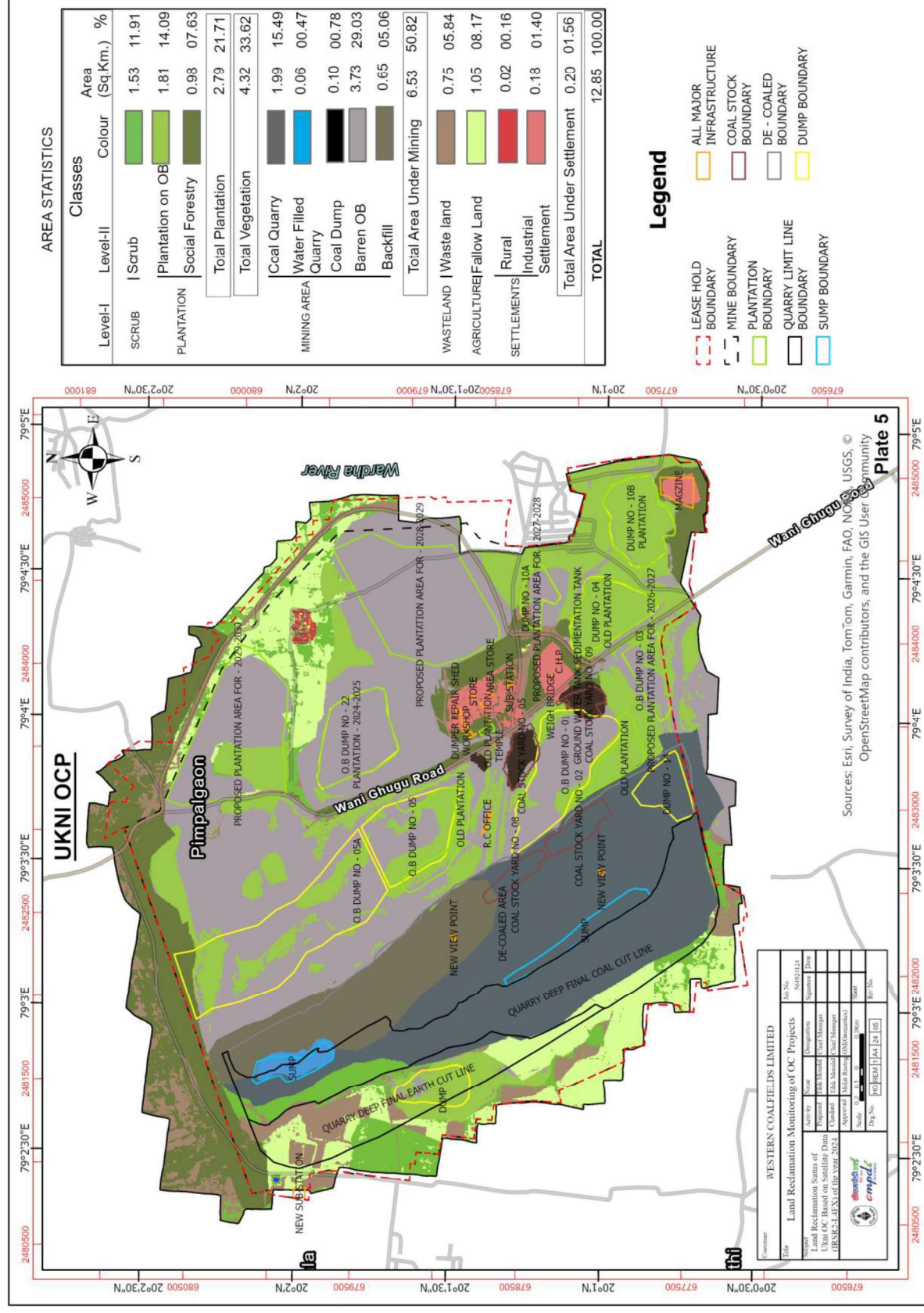


TABLE - 2  
Status of Land Use / Reclamation in OC Mines(>5mcu.m) of Western Coalfields Ltd based on Satellite data of the Year 2024

		(Area in Sq.Km)																												Total	
		Sasti		Durgapur		Mungoli		Umrer		Ukni		Nilgai		New Majri		MKD-III		Penganga		Yekona-I&II (Amal)		New Majri Ug to OC		Pauni-II (Expn)		MKD-I (Expn.)					
		Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%
FORESTS	Dense Forest	0.00	0.00	1.27	8.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.88		
	Open Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total Forest		0.00	0.00	1.27	8.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.88		
SCRUBS	Scrubs	0.51	5.00	0.48	3.10	1.62	12.91	0.00	0.00	1.53	11.91	1.34	7.61	0.06	0.78	0.54	5.85	0.71	9.31	1.99	11.85	0.68	9.63	0.97	8.86	0.75	12.21	11.18	7.78		
	Social Forestry	0.71	6.95	1.26	8.13	0.65	5.18	2.32	24.55	0.98	7.63	1.31	7.44	1.47	18.99	0.17	1.84	0.68	8.91	0.08	0.48	0.46	6.52	0.30	2.74	0.00	10.39	7.23			
PLANTATION	Plantation on OB Dump	1.92	18.81	2.99	19.29	1.98	15.78	1.45	15.34	1.81	14.09	2.23	12.66	1.04	13.44	0.25	2.71	0.50	6.55	0.00	0.00	0.35	4.96	0.25	2.28	0.10	16.3	14.87	10.35		
	Plantation on Backfill (Ecobased Reclamation)	0.62	6.07	1.18	7.61	0.20	1.59	1.73	18.31	0.00	0.00	0.13	0.74	0.28	3.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.14	2.88			
Total Plantation		3.25	31.83	5.43	35.03	2.83	22.55	5.50	58.20	2.79	21.71	3.67	20.84	2.79	36.05	0.42	4.55	1.18	15.47	0.08	0.48	0.81	11.47	0.55	5.02	0.10	16.3	29.40	20.46		
ACTIVE MINING	Total Vegetation	3.76	36.83	7.18	46.32	4.45	35.46	5.50	58.20	4.32	33.62	5.01	28.45	2.85	36.82	0.96	10.40	1.89	24.77	2.07	12.33	1.49	21.10	1.52	13.88	0.85	13.84	41.85	28.12		
	Coal Quarry	0.78	7.64	2.25	14.52	2.23	17.77	1.52	16.08	1.99	15.49	3.00	17.04	2.27	29.33	1.55	16.79	1.19	15.60	1.43	8.52	1.31	18.56	1.54	14.06	1.86	30.29	22.92	15.95		
ACTIVE MINING	Coal Dump	0.06	0.59	0.05	0.32	0.00	0.00	0.10	1.06	0.10	0.78	0.05	0.28	0.00	0.00	0.00	0.00	0.23	3.01	0.21	1.25	0.13	1.84	0.20	1.83	0.00	0.00	1.13	0.79		
	Advance Quarry Site	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
ACTIVE MINING	Quarry Filled With Water	0.00	0.00	0.45	2.90	0.00	0.00	0.01	0.11	0.06	0.47	0.04	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.39			
	Total Area under Active Mining	0.84	8.23	2.75	17.74	2.23	17.77	1.63	17.25	2.15	16.73	3.09	17.55	2.27	29.33	1.55	16.79	1.42	18.61	1.64	9.77	1.44	20.40	1.74	15.89	1.86	30.29	24.61	17.12		
WASTE LANDS	Barren OB Dump	0.69	6.76	1.77	11.42	2.15	17.13	0.12	1.27	3.73	29.03	4.46	25.33	0.31	4.01	2.55	27.63	1.35	17.69	2.04	12.15	0.84	11.90	3.17	28.95	0.78	12.70	23.96	16.67		
	Barren Back-filled Area (Technical Reclamation)	2.90	28.40	0.96	6.19	1.70	13.55	1.47	15.56	0.65	5.06	1.75	9.94	1.82	23.51	0.46	4.98	0.84	11.01	0.03	0.18	0.00	0.00	0.00	0.00	0.00	0.00	12.58	8.75		
WASTE LANDS	Total Area Under Mine Operation	3.59	35.16	2.73	17.61	3.85	30.68	1.59	16.83	4.38	34.09	6.21	35.26	2.13	27.52	3.01	32.61	2.19	28.70	2.07	12.33	0.84	11.90	3.17	28.95	0.78	12.70	36.54	25.43		
	Waste Lands	0.53	5.19	1.16	7.48	0.23	1.83	0.27	2.86	0.75	5.84	0.79	4.49	0.10	1.29	0.15	1.63	1.65	21.63	1.26	7.50	0.26	3.68	0.33	3.01	0.11	1.79	7.59	5.28		
WASTE LANDS	Fly Ash Pond / Sand Body	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.71	0.05	0.46	0.00	0.10	0.07			
	Total Wasteland	0.53	5.19	1.16	7.48	0.23	1.83	0.27	2.86	0.75	5.84	0.79	4.49	0.10	1.29	0.15	1.63	1.65	21.63	1.26	7.50	0.31	4.39	0.38	3.47	0.11	1.79	7.69	5.35		
WATERBODIES	Reservoir, nallah, ponds	0.07	0.69	0.05	0.32	0.00	0.00	0.20	2.12	0.00	0.00	0.03	0.17	0.01	0.13	0.00	0.00	0.12	1.57	0.10	0.60	0.03	0.42	0.22	2.01	0.07	1.14	0.90	0.63		
	Total Waterbodies	0.07	0.69	0.05	0.32	0.00	0.00	0.20	2.12	0.00	0.00	0.03	0.17	0.01	0.13	0.00	0.00	0.12	1.57	0.10	0.60	0.03	0.42	0.22	2.01	0.07	1.14	0.90	0.63		
AGRICULTURE	Crop Lands	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	10.08	0.00	0.00	3.26	19.42	0.87	12.32	0.46	4.20	0.51	8.31	6.03	4.20		
	Fallow Lands	1.08	10.58	1.04	6.71	1.46	11.63	0.00	0.00	1.05	8.17	1.45	8.23	0.00	0.00	2.42	26.22	0.21	2.75	6.34	37.76	2.00	28.33	3.33	30.41	1.96	31.92	22.34	15.55		
AGRICULTURE	Total Agriculture	1.08	10.58	1.04	6.71	1.46	11.63	0.00	0.00	1.05	8.17	1.45	8.23	0.00	0.00	3.35	36.29	0.21	2.75	9.60	57.18	2.87	40.65	3.79	34.61	2.47	40.23	28.37	19.74		
	Urban Settlement	0.08	0.78	0.39	2.52	0.12	0.96	0.15	1.59	0.00	0.00	0.34	1.93	0.34	4.39	0.00	0.00	0.00	0.00	0.01	0.06	0.07	0.99	0.00	0.00	0.00	1.50	1.04			
SETTLEMENTS	Rural Settlement	0.00	0.00	0.05	0.32	0.03	0.24	0.00	0.00	0.02	0.16	0.20	1.14	0.00	0.00	0.00	0.00	0.03	0.39	0.03	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.25		
	Industrial Settlement	0.26	2.55	0.15	0.97	0.18	1.43	0.11	1.16	0.18	1.40	0.49	2.78	0.04	0.52	0.21	2.28	0.12	1.57	0.01	0.06	0.01	0.14	0.13	1.19	0.00	1.89	1.32			
SETTLEMENTS	Total Settlement	0.34	3.33	0.59	3.81	0.33	2.63	0.26	2.75	0.20	1.56	1.03	5.85	0.38	4.91	0.21	2.28	0.15	1.97	0.05	0.30	0.08	1.13	0.13	1.19	0.00	3.75	2.61			
	Grand Total	10.21	100.00	15.50	100.00	12.55	100.00	9.45	100.00	12.85	100.00	17.61	100.00	7.74	100.00	9.23	100.00	7.63	100.00	16.79	100.00	7.06	100.00	10.95	100.00	6.14	100.00	143.71	100.00		

TABLE - 2  
Status of Land Use / Reclamation in OC Mines(>5mcu.m) of Western Coalfields Ltd based on Satellite data of the Year 2024

		(Area in Sq.Km)																													
		Bhatadi		Bellora Naigaon		Ballarpur		Junad		Kolar Pimpri		HLOCM		Gauri-Pouni		Gondagaon		Adasa UG to OC		Dhuptala		Gokul		Bhanegaon		Inder Kamptee		Total			
		Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%		
FORESTS	Dense Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Open Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Total Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
SCRUBS	Scrubs	0.97	11.45	0.53	7.97	0.01	0.41	0.51	11.33	2.40	16.12	0.64	0.86	6.66	0.33	4.17	0.82	14.54	1.07	10.55	1.06	10.58	0.13	3.74	0.75	12.21	9.46	9.82			
	Social Forestry	0.48	5.67	0.45	6.77	0.13	5.35	0.38	8.44	0.16	1.07	0.37	11.86	0.64	4.96	0.57	7.21	0.27	4.79	0.41	4.04	0.92	9.18	0.24	6.90	0.00	0.00	5.02	5.21		
	Plantation on OB Dump	0.59	6.97	0.57	8.57	0.78	32.10	0.81	18.00	1.43	9.60	0.76	24.36	2.55	19.75	1.22	15.42	0.00	0.00	0.78	7.89	0.00	0.33	9.48	0.10	1.63	9.92	10.30			
PLANTATION	Plantation on Backfill (Biological Reclamation)	0.00	0.00	0.20	3.01	0.28	11.52	0.12	2.67	0.11	0.74	0.10	3.21	0.79	6.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	1.66		
	Total Plantation	1.07	12.63	1.22	18.35	1.19	48.97	1.31	29.11	1.70	11.42	1.23	39.42	3.98	30.83	1.79	22.63	0.27	4.79	1.19	11.74	0.92	9.18	0.57	16.38	0.10	1.63	16.54	17.18		
	Total Vegetation	2.04	24.09	1.75	26.32	1.20	49.38	1.82	40.44	4.10	27.54	1.25	40.06	4.84	37.49	2.12	26.80	1.09	19.33	2.26	22.29	1.98	19.76	0.70	20.11	0.85	13.84	26.00	27.00		
ACTIVE MINING	Coal Quarry	0.97	11.45	1.17	17.59	0.13	5.35	0.65	14.44	1.33	8.93	0.49	15.71	1.08	8.37	1.59	20.10	0.74	13.12	0.29	2.86	1.81	18.06	0.64	18.39	1.86	30.29	12.75	13.24		
	Coal Dump	0.13	1.53	0.03	0.45	0.04	1.65	0.02	0.44	0.04	0.27	0.05	1.60	0.15	1.16	0.07	0.88	0.06	1.06	0.04	0.39	0.26	2.59	0.02	0.57	0.00	0.00	0.91	0.94		
	Advance Quarry Site	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09		
	Quarry Filled With Water	0.02	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.42	2.82	0.00	0.00	0.47	3.64	0.24	3.03	0.00	0.00	0.04	0.39	0.05	0.50	0.03	0.86	0.00	0.00	1.27	1.32		
	Total Area under Active Mining	1.12	13.22	1.20	18.05	0.17	7.00	0.67	14.89	1.79	12.02	0.54	17.31	1.70	13.17	1.90	24.02	0.80	14.18	0.46	4.54	2.12	21.16	0.69	19.83	1.86	30.29	15.02	15.60		
	Barren OB Dump	1.77	20.90	0.45	6.77	0.19	7.82	1.15	25.56	3.58	24.04	0.31	9.94	0.90	6.97	1.62	20.48	0.97	17.20	1.18	11.64	1.52	15.17	0.96	27.59	0.78	12.70	15.38	15.97		
	Barren Back-filled Area (Technical Reclamation)	0.44	5.19	0.83	12.48	0.76	31.28	0.41	9.11	0.21	1.41	0.65	20.83	0.91	7.05	0.62	7.84	0.00	0.00	0.00	0.00	0.89	8.88	0.02	0.57	0.00	0.00	5.74	5.96		
	Total Area	2.21	26.09	1.28	19.25	0.95	39.09	1.56	34.67	3.79	25.45	0.96	30.77	1.81	14.02	2.24	28.32	0.97	17.20	1.18	11.64	2.41	24.05	0.98	28.16	0.78	12.70	21.12	21.93		
	Total Area Under-Mine Operation	3.33	39.32	2.48	37.29	1.12	46.09	2.23	49.56	5.58	37.47	1.50	48.08	3.51	27.19	4.14	52.34	1.77	31.38	1.64	16.17	4.53	45.21	1.67	47.99	2.64	43.00	36.14	37.53		
WASTE LANDS	Waste Lands	0.57	6.73	0.27	4.06	0.03	1.23	0.22	4.89	0.65	4.37	0.11	3.53	0.41	3.18	0.50	6.32	0.46	8.16	0.88	6.71	0.47	4.69	0.25	7.18	0.11	1.79	4.73	4.91		
	Fly Ash Pond / Sand Body	0.05	0.59	0.05	0.75	0.02	0.00	0.04	0.89	0.03	0.20	0.00	0.00	0.06	0.46	0.00	0.00	0.04	0.71	0.05	0.49	0.00	0.00	0.03	0.86	0.00	0.00	0.37	0.38		
	Total Wasteland	0.62	7.32	0.32	4.81	0.05	1.23	0.26	5.78	0.68	4.57	0.11	3.53	0.47	3.64	0.50	6.32	0.50	8.87	0.73	7.20	0.47	4.69	0.28	8.05	0.11	1.79	5.10	5.30		
WATERBODIES	Reservoir, nallah, ponds	0.15	1.77	0.02	0.30	0.02	0.82	0.04	0.89	0.02	0.13	0.08	2.56	0.02	0.15	0.00	0.00	0.05	0.89	0.11	1.08	0.02	0.20	0.08	2.30	0.07	1.14	0.68	0.71		
	Total Waterbodies	0.15	1.77	0.02	0.30	0.02	0.82	0.04	0.89	0.02	0.13	0.08	2.56	0.02	0.15	0.00	0.00	0.05	0.89	0.11	1.08	0.02	0.20	0.08	2.30	0.07	1.14	0.68	0.71		
	Crop Lands	0.00	0.00	0.50	7.52	0.00	0.00	0.00	0.00	0.35	2.35	0.00	0.00	0.00	0.00	0.00	0.00	0.70	12.41	1.67	16.47	0.00	0.00	0.00	0.00	0.51	8.31	3.73	3.87		
AGRICULTURE	Fallow Lands	2.25	26.56	1.58	23.76	0.02	0.82	0.12	2.67	3.99	26.80	0.04	1.28	3.94	30.52	1.08	13.65	1.45	25.71	3.56	35.11	2.80	27.94	0.67	19.25	1.96	31.92	23.46	24.36		
	Total Agriculture	2.25	26.56	2.08	31.28	0.02	0.82	0.12	2.67	4.34	29.15	0.04	1.28	3.94	30.52	1.08	13.65	2.15	38.12	5.23	51.58	2.80	27.94	0.67	19.25	2.47	40.23	27.19	28.23		
	Urban Settlement	0.02	0.24	0.00	0.00	0.01	0.41	0.01	0.22	0.01	0.07	0.13	4.17	0.00	0.00	0.04	0.51	0.04	0.71	0.07	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.34		
SETTLEMENTS	Rural Settlement	0.04	0.47	0.00	0.00	0.00	0.00	0.01	0.22	0.06	0.40	0.00	0.00	0.05	0.39	0.00	0.00	0.03	0.53	0.02	0.20	0.16	1.60	0.00	0.00	0.00	0.00	0.37	0.38		
	Industrial Settlement	0.02	0.24	0.00	0.00	0.01	0.41	0.01	0.22	0.10	0.67	0.01	0.32	0.08	0.62	0.03	0.38	0.01	0.18	0.08	0.79	0.06	0.60	0.08	2.30	0.00	0.00	0.49	0.51		
	Total Settlement	0.08	0.94	0.00	0.00	0.02	0.82	0.03	0.67	0.17	1.14	0.14	4.49	0.13	1.01	0.07	0.88	0.08	1.42	0.17	1.68	0.22	2.20	0.08	2.30	0.00	0.00	1.19	1.24		
	Grand Total	8.47	100.00	6.65	100.00	2.43	99.18	4.50	100.00	14.89	100.00	3.12	100.00	12.91	100.00	7.91	100.00	5.64	100.00	10.14	100.00	10.02	100.00	3.48	100.00	6.14	100.00	96.30	100.00		





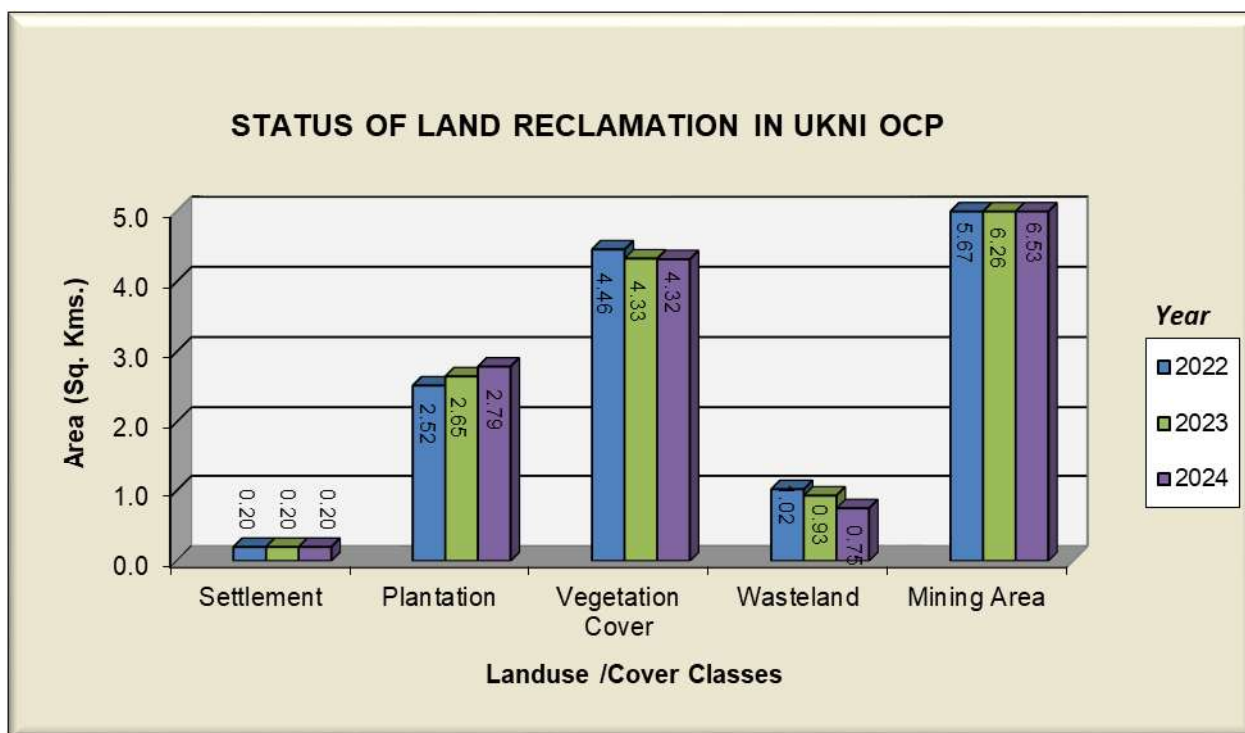


Figure 8

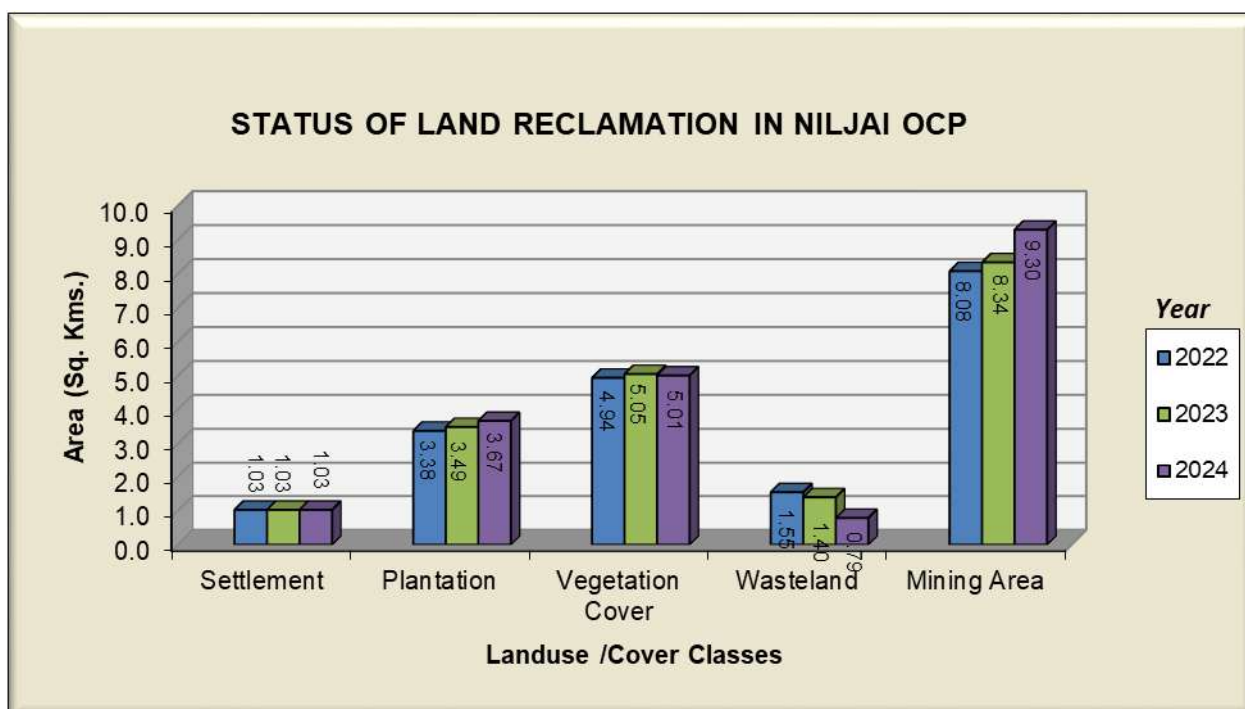
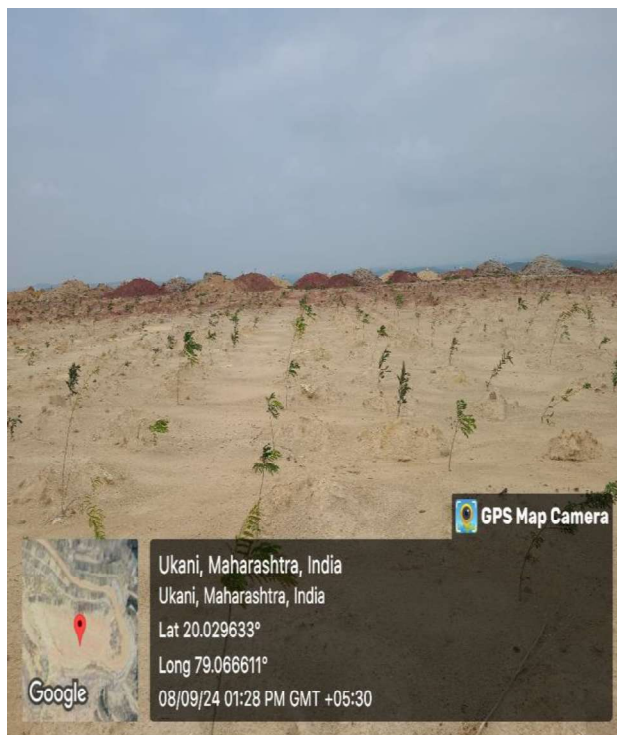


Figure 9



Photograph-5: Plantation on OB Dump (Ukni OCP)



Photograph-6: Plantation on OB dump (Niljai OCP)

## शब्द-कोष

1	Land Reclamation	भूमि पुनरुद्धार
2	Over Burden	अधिभार
3	Monitoring	निगरानी
4	Report	प्रतिवेदन
5	Executive Summary	कार्यकारी सारांश
6	Opencast Mine	खुली खदान
7	Objective	उद्देश्य
8	Methodology	कार्य प्रणाली अथवा प्रक्रिया
9	Table	तालिका
10	List of Tables	तालिकाओं की सूची
11	Map	मानचित्र
12	Social Forestry	सामाजिक वानिकी
13	Plantation	पौधारोपण
14	Million	घनमीटर
15	Background	पृष्ठभूमि
16	Planning	योजनाबद्ध
17	Asses	आकलन
18	Status	स्थिति
19	Regularly	निरंतर
20	Satellite	उपग्रह
21	Subsidiary	अनुषांगिक
22	Production	उत्पादन
23	Biological Reclamation	जैविक पुनरुद्धार
24	Technical Reclamation	तकनीकी पुनरुद्धार



25	Leasehold Area	पट्टा क्षेत्र
26	Excavated Area	उत्खनन क्षेत्र
27	Active mining	सक्रिय खनन
28	Environmental Protection	पर्यावरण संरक्षण
29	Remedial Measure	उपचारात्मक उपाय
30	Interval	अंतराल
31	Systematic Error	व्यवस्थित त्रुटियाँ।
32	Error	अशुद्धियाँ
33	Curvature	वक्रता
34	Geometric	ज्यामितिक
35	Distortion	विरूपण
36	Plantation	पौधारोपण
37	Capacity	क्षमता
38	Software	सॉफ्टवेयर
39	Class	वर्ग
40	Accuracy	सटीकता
41	Statistical Separation	सांख्यिकीय पृथक्करण
42	Cubic meter	घनमीटर
43	Depicted	दर्शाया गया
44	Percentage	प्रतिशत
45	Salient Findings	मुख्य निष्कर्ष
46	Methodology	पद्धति
47	Data Procurement	डाटा क्रय
48	Satellite data Processing	उपग्रह डेटा प्रसंस्करण
49	Rectification and geo-referencing	सुधार और भूसन्दर्भ-

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50	Image enhancement	छविगुण - बृद्धि
51	Training set selection	प्रशिक्षण सेट का चयन
52	Classification and Accuracy assessment	वर्गीकरण और मूल्यांकन की सटीकता
53	Area calculation	क्षेत्र गणना
54	Temporal	लौकिक
55	Processing	प्रसंस्करण
56	Overlay of Vector data base	वेक्टर डेटा बेस का अरोपन
57	Area calculation	क्षेत्रगणना-
58	Pre-field map preparation	क्षेत्र जाने के पहले नक्शे की तैयारी
59	Ground Truthing	भू-सत्यापन
60	Ground Information	भू-सूचना
61	Interpretation	व्याख्या
62	Eco-system	पारिस्थितिकी तंत्र
63	Minor	मामुली
64	Water Drainage	जल निकास
65	Interval	अंतराल
66	Maximum	अधिकतम
67	Coal field	कोयला क्षेत्र
68	Design	परिकल्पना
69	Superimpose	आरोपित
70	Update	अद्यतनीकरण/नवीनीकरण
71	Cumulative	संचयित
72	Embankment	तटबंध
73	Cluster	खुली तथा भूमिगत खदानों के समूह

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**ABBREVIATIONS**

Sol	Survey of India
MoEF&CC	Ministry of Environment, Forest & Climate Change
CIL	Coal India Limited
ECL	Eastern Coalfields Limited
BCCL	Bharat Coking Coal Limited
CCL	Central Coalfields Limited
WCL	Western Coalfields Limited
SECL	South Eastern Coalfields Limited
NCL	Northern Coalfields Limited
MCL	Mahanadi Coalfields Limited
NEC	North Eastern Coalfields
CMPDIL	Central Mine Planning & Design Institute Ltd
NRSC	National Remote Sensing Centre
R2/ R2A	ResourceSat Satellites
LISS - 4	Linear Imaging and Self Scanning Sensor
FCC	False Colour Composite
OCP	Opencast Project
UGP	Underground Project
OB	Over Burden
GCP	Ground Control points
GIS	Geographic Information System
WGS-84	World Geodetic System
UTM	Universal Transverse Mercator

## GLOSSARY

Sl.	Term	Definition
1.	Land Reclamation	To manage, reclaim and restore mined out/ degraded land as close as possible to its original stage.
2.	Over Burden	The material that lies above the coal seam/ deposit
3.	Monitoring	A process of evaluation to check or keep record for a period of time.
4.	Opencast Coal Mine	Open-pit mining, also known as opencast mining, is a surface mining technique that extracts minerals from an open pit in the ground.
5.	Social Forestry	Social forestry is the management and protection of forests and afforestation of barren and deforested lands with the purpose of helping environmental, social and rural development. Plantation (Social/ Avenue or other) carried out outside mining area.
6.	Biological Reclamation	Plantation on Backfilled areas (Stabilized Internal Dumps)
7.	Technical Reclamation	Area under backfilling (Over burden dumped inside the mine voids) in mining area.
8.	Green Cover Generated	Total Plantation carried out in the lease area of Project. This includes Plantation on Backfill, Plantation on OB and Social Forestry.
9.	Leasehold Area	The area, for which lease is granted for the purpose of undertaking mining and allied operations.
10.	Excavated area	Mined out area which includes active mining, area under backfilling and plantation on backfilled areas
11.	Active Mining	Mining areas which include Coal Quarry, Advance Quarry, Quarry Filled with Water etc.
12.	Environmental Protection	It is the practice of protecting the natural environment by individuals, organizations and governments. Its objectives are to conserve natural resources and the existing natural environment and, where possible, to mitigate damage and reverse trends.
13.	Remedial Measure	Any measure or action required or undertaken to investigate, monitor, clean up, remove, treat, prevent, contain or otherwise remediate the presence or release of any hazardous substance or activity.
14.	Systematic Error	Every measurement differing from the true measurement in the same direction, and even by the same amount in some cases.



15.	Geometric Distortion	It refers to the improper positioning of any image with respect to their true geographic position when viewed in a properly scaled common image display plane.
16.	Land Use/Cover Class	Land cover is what covers the surface of the earth and land use describes how the land is used.
17.	Accuracy	The closeness of agreement between a measured quantity value and a true quantity value.
18.	Environmental Clearance	Environmental Clearance (EC) for any developmental projects like coal mining projects etc. has been made mandatory by the Ministry of Environment, Forests and Climate Change (MoEF& CC) through its Notification issued on 27.01.1994 under the provisions of Environment (Protection) Act, 1986.
19.	Rectification and Geo-referencing	Geo-referencing is the assigning of absolute location of a data point or data points. Geo-rectification refers to the removal of geometric distortions between sets of data points, most often the removal of terrain, platform, and sensor induced distortions from remote sensing imagery.
20.	Image Enhancement	It is the process of modifying digital images so that the results are more suitable for processing or further image analysis.
21.	Training set selection	It is a portion of a data set used to fit or train a model for prediction or classification of values that are known in the training set, but unknown in other (future) data.
22.	Image Classification	It refers to the task of extracting information classes from a multiband raster image. The resulting raster from image classification can be used to create thematic maps.
23.	Temporal Changes	The 'temporal change' means the change in any entity with a period of time.
24.	Ground Truthing	Collection of primary/ basic information from ground realities for satellite image interpretation and thematic mapping.
25.	Cluster	Group of opencast and/ or underground mines clubbed together for administrative purposes.
26.	Arc GIS	GIS Software used for Map preparation
27.	ERDAS IMAGINE	Satellite Image Data Classification Software



सीएमपीडीआई  
मिनी रत्न  
**cmpdi**  
Mini Ratna



## Central Mine Planning & Design Institute Ltd.

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Website : [www.cmpdi.co.in](http://www.cmpdi.co.in), Email : [cmpdihq@cmpdi.co.in](mailto:cmpdihq@cmpdi.co.in)



# Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

## FORM V

(See Rule 14)

Environmental Audit Report for the financial Year ending the 31st March 2025

**Unique Application Number**

MPCB-ENVIRONMENT\_STATEMENT-0000088439

**Submitted Date**

30-09-2025

## PART A

### Company Information

**Company Name**

Western Coalfields Limited, Ukni Opencast Mine

**Application UAN number**

-

**Address**

Office of the Sub Area Manager, Ukni - Junad Sub Area, PO. - Ukni, Tal- Wani, Dist - Yavatmal

**Plot no**

669

**Taluka**

Wani

**Village**

Ukni

**Capital Investment (In lakhs)**

37752.06

**Scale**

L.S.I

**City**

Wani

**Pincode**

445304

**Person Name**

Shri. M Shankaraswamy

**Designation**

Sub Area Manager, Ukni-Junad Sub Area

**Telephone Number**

9424666269

**Fax Number**

07239241357

**Email**

subareaofficeukni@gmail.com

**Region**

SRO-Chandrapur

**Industry Category**

Red

**Industry Type**

R35 Mining and ore beneficiation

**Last Environmental statement submitted online**

yes

**Consent Number**

MPCBCONSENT-0000243163/CO/2507003116

**Consent Issue Date**

2025-07-24

**Consent Valid Upto**

2027-03-31

**Establishment Year**

1993

**Date of last environment statement submitted**

Sep 27 2024 12:00:00:000AM

**Industry Category Primary (STC Code) & Secondary (STC Code)**

### Product Information

**Product Name**

COAL

**Consent Quantity**

2.2

**Actual Quantity**

1.557

**UOM**

MT/A

### By-product Information

**By Product Name**

-

**Consent Quantity**

0

**Actual Quantity**

0

**UOM**

CMD

Part-B (Water & Raw Material Consumption)

<u>1) Water Consumption in m3/day</u>		
Water Consumption for Process	Consent Quantity in m3/day	Actual Quantity in m3/day
	380.00	380.00
Cooling	0.00	0.00
Domestic	100.00	34.00
All others	100.00	100.00
Total	580.00	514.00

<u>2) Effluent Generation in CMD / MLD</u>			
Particulars	Consent Quantity	Actual Quantity	UOM
Mine discharge	5372	5222	CMD

<u>2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)</u>			
Name of Products (Production)	During the Previous financial Year	During the current Financial year	UOM
Coal	0.102	0.120	

<u>3) Raw Material Consumption (Consumption of raw material per unit of product)</u>			
Name of Raw Materials	During the Previous financial Year	During the current Financial year	UOM
Explosives	3.62	4.673	Kg/Annum

<u>4) Fuel Consumption</u>			
Fuel Name	Consent quantity	Actual Quantity	UOM
Diesel	0	4131.00	KL/A

Part-C

<u>Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)</u>					
<u>[A] Water</u>					
Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/Lit) Except PH,Temp,Colour	Percentage of variation from prescribed standards with reasons	Standard	Reason
	Quantity	Concentration	%variation		
Regular Water quality monitoring is carried out.(reports attached)	0	0	-	-	-

<u>[B] Air (Stack)</u>					
Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/NM3)	Percentage of variation from prescribed standards with reasons	Standard	Reason
	Quantity	Concentration	%variation		
NA	0	0	-	-	-

Part-D

HAZARDOUS WASTES

1) From Process



<b>Hazardous Waste Type</b>	<b>Total During Previous Financial year</b>	<b>Total During Current Financial year</b>	<b>UOM</b>
5.1 Used or spent oil	60	56	KL/A
5.2 Wastes or residues containing oil	0.5	1.5	Ton/Y

## **2) From Pollution Control Facilities**

<b>Hazardous Waste Type</b>	<b>Total During Previous Financial year</b>	<b>Total During Current Financial year</b>	<b>UOM</b>
35.3 Chemical sludge from waste water treatment	5.38	24.02	Ton/Y

## **Part-E**

### **SOLID WASTES**

#### **1) From Process**

<b>Non Hazardous Waste Type</b>	<b>Total During Previous Financial year</b>	<b>Total During Current Financial year</b>	<b>UOM</b>
-	0	0	CMD

#### **2) From Pollution Control Facilities**

<b>Non Hazardous Waste Type</b>	<b>Total During Previous Financial year</b>	<b>Total During Current Financial year</b>	<b>UOM</b>
-	0	0	CMD

#### **3) Quantity Recycled or Re-utilized within the unit**

<b>Waste Type</b>	<b>Total During Previous Financial year</b>	<b>Total During Current Financial year</b>	<b>UOM</b>
0	0	0	CMD

## **Part-F**

**Please specify the characteristics(in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.**

#### **1) Hazardous Waste**

<b>Type of Hazardous Waste Generated</b>	<b>Qty of Hazardous Waste</b>	<b>UOM</b>	<b>Concentration of Hazardous Waste</b>
5.1 Used or spent oil	56	KL/A	-
5.2 Wastes or residues containing oil	1.5	Ton/Y	-
34.2 Sludge from treatment of waste water arising out of cleaning / disposal of barrels / containers	24.02	Ton/Y	-

#### **2) Solid Waste**

<b>Type of Solid Waste Generated</b>	<b>Qty of Solid Waste</b>	<b>UOM</b>	<b>Concentration of Solid Waste</b>
-	0	CMD	-

## **Part-G**

**Impact of the pollution Control measures taken on conservation of natural resources and consequently on the cost of production.**

<b>Description</b>	<b>Reduction in Water Consumption (M3/day)</b>	<b>Reduction in Fuel &amp; Solvent Consumption (KL/day)</b>	<b>Reduction in Raw Material (Kg)</b>	<b>Reduction in Power Consumption (KWH)</b>	<b>Capital Investment(in Lacs)</b>	<b>Reduction in Maintenance(in Lacs)</b>
Impact of the pollution Control measures taken	0	1.641	0	522000	0	0

Part-H

Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution.  
[A] Investment made during the period of Environmental Statement

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Revenue expenditure for Pollution control works	-	41.01
Afforestation	-	27.86

[B] Investment Proposed for next Year

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Environment Protection works.	-	10

Part-I

Any other particulars for improving the quality of the environment.

Particulars  
-

Name & Designation  
Shri M. Shankaraswamy, Sub Area Manager, Ukni-Junad Sub Area

UAN No:  
MPCB-ENVIRONMENT\_STATEMENT-0000088439

Submitted On:  
30-09-2025