



**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

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

**OFFICE OF THE SUB AREA MANAGER**

UKNI-JUNAD SUB AREA : WANI NORTH AREA

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

संदर्भ क्र. वेकोली/वनाक्ष/उ.क्ष.प्र./उकनी-जूनाड/नागरिकी/2025-26

566

दिनांक : 9/11/2025

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, Junad Deep Open cast Mine (0.90 MTPA) for the period from **April 2025 to September 2025**

Dear Sir,

With reference to the above subject matter, please find enclosed herewith Six Monthly Compliance report of Environmental Clearance of M/S WCL, **Junad Deep Open Cast Mine** for the period from **April 2025 to September 2025**.

This is for your kind information please.

Thanking you,

Yours faithfully,

Sub Area Manager  
Ukni - Junad Sub Area

Copy to:-

1. AGM, Wani North Area
2. G.M. (ENV), WCL-HQ, Coal Estate - Nagpur.
3. Regional Officer, MPCB, 1<sup>st</sup> floor, Udyog Bhawan, Rly. Station road, Chandrapur-442401
4. ANO (ENV)/WNA.
5. Assit. Manager (Civil), Ukni - Junad Sub Area.

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

of

## **Junad Open Cast Mine**

(Letter No. J-11015/225/2014-IA-II(M) dtd. 09.09.2015  
Capacity enhancement from 0.60 MTPA to 1.50 MTPA &  
increase in land Area from 174.28 Ha. to 449.63 Ha.)



April 2025 to September 2025



**WESTERN COALFIELDS LIMITED**  
**Wani North Area**



## INDEX

1. Environmental Clearance letter
2. Consent to Operate
3. Data Sheet.
4. Six Monthly Compliance Report of E.C. conditions
5. Environment Monitoring Reports  
(For the period : April 2025 to September 2025 )
6. Ground Water Level & Quality analysis  
Report
7. Land Restoration -Reclamation monitoring report (Based on  
satellite data)
8. Environment Audit Statement 2024-2025

No. J-11015/225/2014 -IA-II (M)  
Government of India  
Ministry of Environment, Forest & Climate Change  
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,  
Jorbagh Road, N Delhi-3

Dated: 9<sup>th</sup> September, 2015

To,

The General Manager (Environment),  
M/s Western Coalfields Ltd.,  
Coal Estate, 9<sup>th</sup> Floor, Civil Lines,  
**NAGPUR** – 440001 (Maharashtra)

**Phone:** 0712 – 2510151

**Email:** [gmenvironment.wcl@nic.in](mailto:gmenvironment.wcl@nic.in); [wclenv@yahoo.in](mailto:wclenv@yahoo.in)

**Sub: Junad Deep Open Cast Coal Mine Project for Capacity enhancement from 0.60 MTPA to 1.5 MTPA and increase in land area from 174.28 ha to 449.63 ha of M/s Western Coalfields Limited, in Wani North area, located at district Yavatmal (Maharashtra) - Environmental Clearance - reg.**

Sir,

This is with reference to letter No.WCL/ENV/HQ/11-C/250 dated 25.07.2014 with the application for Terms of Reference (TOR) and this Ministry's letter dated 21.11.2014 granting TOR. Reference is also invited to the online proposal No. IA/MH/CMIN/26247/2014 dated 28.01.2015 and subsequent letters dated 05.06.2015; 11.06.2015; 01.07.2015; 15.07.2015 and 26.08.2015 for environmental clearance on the above-mentioned subject.

2. The Ministry of Environment, Forest & Climate Change has considered the application. It is noted that the proposal is for grant of Environmental Clearance for **Junad Deep Open Cast Coal Mine Project for Capacity enhancement from 0.60 MTPA to 1.5 MTPA and increase in land area from 174.28 ha to 449.63 ha; Latitude 20° 01' 05" N to 20° 04' 10" N and Longitude 79° 03' 09" E to 79° 05' 00" E of M/s Western Coalfields Limited, in Wani North area, located at district Yavatmal (Maharashtra).**

3. The proposal was considered by the Expert Appraisal Committee (EAC) in the Ministry for Thermal & Coal Mining Projects, in its 37<sup>th</sup> meeting held on 11<sup>th</sup> -12<sup>th</sup> June, 2015 and 39<sup>th</sup> EAC meeting held on 16<sup>th</sup> - 17<sup>th</sup> July, 2015. The details of the project, as per the documents submitted by the project proponent (PP), and also as informed during the above said EAC meetings, are reported to be as under:-

- i. It is the Open Cast Coal Mine to which Ministry had granted EC vide letter no. J-11015/360/2005-IA.II (M) dated 02.06.2006 for 0.6 MTPA.
- ii. The project was accorded ToR vide letter no. J-11015/255/2014-IA.II (M) dated 21.11.2014.
- iii. The latitude and longitude of the project are 20° 01' 05" to N 20° 04' 10" N and 79° 03' 09" to 79° 05' 00" E respectively.
- iv. Joint Venture: There is no joint venture.



Junad Deep Expansion OCP \_EC by M/s WCL



- v. Coal Linkage : Linked to Thermal Power Plants of Mahagenco
- vi. Employment generated: 219 Nos
- vii. Benefits of the project: Production of Coal for generation of electricity contributing towards meeting the need of the nation simultaneously contributing to the society through generation of employment, development of infrastructure and mixing of cultural heritage establishing the fact of unity in diversity.
- viii. Change in land use during mining :

SL. NO.	PARTICULARS	AREA (ha)
1	Quarry area	101.70
2	Ext. OB Dump	175.00
3	Infrastructure including approach road etc.	15.00
4	Embankment	20.00
5	Blasting zone	70.50
6	Rationalisation area	67.43
	Total	449.63

- ix. The land usage of the project will be as follows:

**Pre-Mining:** The total land requirement for this project is 449.53 ha out of which 174.28 ha has already been acquired in existing Junad OC mine and balance 275.35 ha will have to be acquired.

S.No	LAND USE	Within ML Area (ha)	Outside ML Area (ha)	Total
1	Tenancy land	443.53	Nil	443.53
2	Forest land	Nil	Nil	Nil
3	Govt. land/Waste land	6.10	Nil	6.10
	Total	449.63	Nil	449.63

**Post- Mining:**

S. No	Land use during mining	Land use (ha)						
		Plantation	Water body	Public use	Undisturbed	Grass cover	Reclamation	Total
1	External OB dump	61.04	-	-	-	113.96	-	175.00
2	Excavation	-	46.70	-	-	-	55.0	101.70
3	Infrastructure	3.00	-	7.00	-	-	-	10.0
4	Green Belt	15.00	-	-	-	-	-	15.0
5	Diversion of Roads including	17.0	-	8.0	-	-	-	25.0

	embankment							
6	Danger zone and Rationalization of area	-	-	-	122.93	-	-	122.93
	Total	96.04	46.70	15.0	122.93	113.96	55.0	449.63

- x. The total geological reserve is 14.581 MT. The mineable reserve 6.13 MT, extractable reserve is 6.13 MT. The per cent of extraction would be 42.045 %.
- xi. The coal grade is GCV 4748 k Cal /kg (Grade G-9). The stripping ratio is 1:8.26 Cum/tonne. The average Gradient is 1 in 2.5 to 1 in 3.5. There will be 1 seam with thickness ranging

Coal seam/ Parting	Thickness range (m)	
	Minimum	Maximum
Composite Seam	14.82	18.83
Parting	0.09	2.21

- xii. The total estimated water requirement is 645 KL/day. The level of ground water ranges from 1.5 m to 12.65 m.
- xiii. The **Method of mining** would be opencast with shovel-dumper combination.
- xiv. There is 2 external OB dump with Quantity of 60.95 Mbcm in an area of 175.00 ha with height of 60m above the surface level.
- xv. The final mine void would be in 101.70 Ha with depth 170 m. and the Total quarry area is 101.70 ha. Backfilled quarry area of 0.00 Ha shall be reclaimed with plantation. A void of 101.70 ha with depth 170m which is proposed to be converted into a water body.
- xvi. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xvii. The life of mine is 11 Years.
- xviii. **Transportation:** Surface to siding by Dumpers and siding to loading by Dumpers and Pay loaders.
- xix. There is **R & R** involved. Only land oustee families to be determined at the time of acquisition.
- xx. **Cost:** Total capital cost of the project is Rs. 57.784 Crores. CSR Cost Rs. 5 per Tonne of coal production. R&R Cost Rs. 8.11 Crore. Environmental Management Cost Capital – Rs 37.16 Lakhs and Revenue- @ Rs 3.85/t.
- xxi. **Water body:** The Wardha River flows near the mine lease boundary of the project at distance 125 m north easterly.
- xxii. **Approvals:** Ground water clearance is not Applicable as it is not falling in critical area as per CGWA. Board's approval obtained on 15.11.2007. Mine Plan/ Mine closure approval from Board for intended capacity for which EC is sought has been obtained on 18.02.2015. Approval of EIA/EMP for 1.50 MTPA for obtaining EC dated 11.11.2013. Approval of original PR obtained on 17.12.2007.
- xxiii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xxiv. **Forestry issues:** There is no forest land involved.
- xxv. Total **afforestation** plan shall be implemented covering an area of 210.00 ha at the end of mining. Green Belt over an area of 15.00 ha. Density of tree plantation 2500 trees/ ha of plants.

*SH*



- xxvi. There are no **court cases**/violation pending with the project proponent.
- xxvii. **Public Hearing:** Public Hearing was held on 05.02.2013 Kamgar Manoranjan Kendra, Bhalar Township, Post Bhalar, Tal. Wani, Dist. Yavatmal Maharashtra. The issues raised in the PH includes Crop compensation; acquisition of balance land; Rehabilitation of Kolar, Pimpri, and Aheri village; Suppression of dust on Nilapur – Brahmni road; Venue of Public Hearing; Tree Plantation; Street lights etc.
- xxviii. **EC Compliance report:** The compliance report of earlier EC has been obtained from MOEF, Regional Office, Bhopal vide its letter no. 3-42/2006(ENV)/2090 letter dated 16/17.12.2013. Action Taken Report on the EC Compliance submitted to MOEF New Delhi & MOEF, Bhopal by PP vide letter no. WCL/ENV/HQ/11-H/304 dated 26.08.2014 was deliberated in the EAC meeting. The Committee has noted that the Action taken for compliance by the PP which inter alia is as follows:

1. No ground water is used for mining operations as such the condition is not applicable. Further this area does not fall under the notified critical area of CGWA. As such separate permission is not required. The piezometer monitoring of the borewell in use is carried out as any adverse impact on ground water level will get immediately noticed.
2. There is a full-fledged Domestic Effluent Treatment Plant (DETP)/ Sewage treatment plant of 0.40 MLD Capacity in operation in the existing colony. There is a Workshop effluent Treatment plant (WETP) in operation. The necessary modification in the WETP has been done and it has been put into operation.
3. The Consent to Operate for enhancement of capacity from 0.324 MTPA (i.e. 27000 tonnes per month) to 0.60 MTPA (i.e. 50,000 tonnes per month) was granted by MPCB vide its order no. BO/Yavatmal- /CC-510 dated 13.06.2006. Therefore, enhancement in capacity has been done only after obtaining EC from MOEF & consent from MPCB. Subsequently the renewal of this consent for 0.60 MTPA (i.e. 50,000 tonnes per month) was granted vide MPCB order no. BO/PCI-II/EIC No.AM-0758-08/R/CC-360 dated 30.04.2008. Further renewal has been applied.
4. NABL accredited 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 equipped with state-of-art instruments such as Atomic Absorption Spectrophotometer (AAS), UV –Visible Spectrophotometer, Microprocessor based Spectrophotometer, Respirable Dust Samplers, Fine dust Samplers. The laboratory is manned skilled and trained workforce (21 nos.) for carrying out environmental monitoring.
5. The schedule of monitoring every fortnight is communicated to SPCB in advance.

- xxix. Adequate precautions have been taken for protection of township from safety as well as dust nuisance which can be summarised as below:

- a) Distance of toe of dump to the building is – 200 meters
- b) Height of dump on township side- 15 meters ( maximum)
- c) No further heightening proposed towards township nor any extension of dump.
- d) All future dumping is proposed at site- away from township
- e) Adequate green belt cover provided between toe of dump & township on 12 Ha areas through green belt barrier of 200 m.
- f) Covering of slopes towards township with grasses is proposed.





- xxx. Revised reclamation/vegetation plan for OB dump.
- xxxi. The details of green belt: Area covered by green belt = 12 Ha ; Width of green belt = 200 meter; Length of green belt = 600 meter ; Area of green belt= 200 x 600 m<sup>2</sup>. Further about 100 m stretch of OB dump facing the township has been covered with plantation (5750 No.s). In addition grass seeding is also proposed to be taken up.
- xxxii. Appropriate control measures have been installed at the site so as to maintain the dust levels within permissible limit.
- xxxiii. The internal dumping simultaneously with mining activities is not technically feasible due to steep gradient of seam (1 in 3) and quarry width of (250-325 m). Moreover, the stripping ratio is 1:8.26 which requires huge excavation of OB for getting coal. As there is no possibility of internal dumping, hence entire excavated OB is accommodated outside. However, to restrict the degradation of land optimum planning has been done. As directed, the issue of minimizing land degradation due to external OBD has been re-examined and it is concluded that the left out void at the end of mining activities, can be filled up partially by dozing off the external OB lying on the dip side. The substantial area locked up with OB dump thus can be released. The OB proposed to be dozed into the void – only after end of the mining is 27.58 Mm<sup>3</sup>. This will release 113.96 ha of land and reclaim 55 ha of mined out area. Therefore, the land use pattern at post mining stage will be as follows:

4. The EAC, after detailed deliberations on the proposal in its 39<sup>th</sup> meeting held on 16<sup>th</sup> -17<sup>th</sup> July, 2015, recommended the project for grant of Environmental Clearance. The Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the **Junad Deep Open Cast Coal Mine Project for Capacity enhancement from 0.60 MTPA to 1.5 MTPA and increase in land area from 174.28 ha to 449.63 ha; Latitude 20° 01' 05" N to 20° 04' 10" N and Longitude 79° 03' 09" E to 79° 05' 00" E of M/s Western Coalfields Limited, in Wani North area, located at district Yavatmal (Maharashtra)** under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions and environmental safeguards 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.
- ii. The validity of the EC is for the life of the Mine or as specified in the EIA Notification, 2006, whichever is earlier.
- iii. Adequate precautions shall be taken for safety of nearby township and minimizing the dust pollution.
- iv. For any forest land covered under the project, forest clearance shall be obtained before operating the coal mine.
- v. The general conditions as applicable for opencast mining project shall strictly adhere to.
- vi. Efforts be made to explore the availability of mechanically covered trucks.
- vii. Coal transportation in pit by Tippers, Surface to Siding by Tippers and siding to loading by Dumpers and pay loaders.
- viii. The production shall be within the same Mining Lease area.
- ix. The OB shall be completely re-handled at the end of the mining.

*SH*



- x. Final mine void depth will not be more than 40 m. 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.
- xi. Garland drains be provided.
- xii. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.
- xiii. The land after mining shall be brought back for agriculture purpose.
- xiv. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.
- xv. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.
- xvi. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- xvii. Dust mask to be provided to everyone working in the mining area.
- xviii. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xix. People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.
- xx. The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.
- xxi. 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.
- xxii. 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.
- xxiii. 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 & Climate Change and its concerned Regional office on yearly basis.
- xxiv. 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 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.
- xxv. 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.
- xxvi. 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.
- xxvii. Drills shall be wet operated.
- xxviii. 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,
- xxix. Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.

SH



- xxx. A Progressive afforestation plan shall be implemented covering an area of 210.00 ha at the end of mining, Green belt (**15 Ha**) and in township located outside the lease 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.
- xxxii. An estimated total 60.95 **Mm<sup>3</sup>** of OB will be generated during the entire life of the mine. Out of which **60.95 Mm<sup>3</sup>** of OB will be dumped in two external OB Dumps an earmarked area covering **175 Ha** of land. **There** will be no internal OB dump. The maximum height of external OB dump will 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 MOEFCC and its Regional Office on yearly basis.
- xxxiii. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
- xxxiv. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
- xxxv. The mining should be phased out in sustainable manner.
- xxxvi. No groundwater shall be used for mining operations.
- xxxvii. The total quarry area of **101.70 ha**. The depth of void will be **170 m**, which is proposed to be converted into a water body with the maximum depth of **40 m** having 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.
- xxxviii. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and tot eh Central Pollution Control Board quarterly within one month of monitoring.
- xxxix. 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.
- xl. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- xli. 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 an specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.
- xlii. 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.
- xliii. 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 MOEFCC and its concerned Regional office
- xliiii. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forests & Climate Change within 6 months of grant of Environmental Clearance.


*std*



- xliv. 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.
- xlv. 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, Forest & Climate Change.
- 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 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 & Climate Change 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 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&CC by e-mail.

5. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.

6. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent

*Shil*



7. 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.
8. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.
9. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
10. 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 and any other orders passed by the Hon'ble Supreme Court of India/High Courts and any other Court of Law relating to the subject matter. 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.
11. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
12. This EC supersedes the earlier EC, vide letter no. J-11015/360/2005-IA.II (M) dated 02.06.2006 for 0.6 MTPA.

*SK*  
9/9/2015  
**(S. K. Srivastava)**  
**Scientist E**

**Copy to:**

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. The Secretary, Department of Environment, Government of Maharashtra, 15th Floor, New Admn. Bldg., Madam Cama Road, MUMBAI – 400 032.
3. The Chief Conservator of Forests, Regional office (EZ), Ministry of Environment, Forest & Climate Change, E-2/240 Arera Colony, Bhopal – 462 016.
4. The Member Secretary, Maharashtra State Pollution Control Board, Kalapataru Point, 3rd & 4<sup>th</sup> Floors, Sion, Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai – 400 002.
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi -110 032.
6. The Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. The Advisor, Coal India Limited, SCOPE Minar, Core-I, 4<sup>th</sup> Floor, Vikas Marg, Laxmi nagar, New Delhi.
8. The District Collector, **Yavatmal**, Government of Maharashtra.
9. Monitoring File    9.    Guard File    10.    Record File    11. Notice Board.

*SK*  
9/9/2015  
**(S. K. Srivastava)**  
**Scientist E**

# 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./ (88.1)  
No:- Format1.0/CC/UAN No.MPCB-  
CONSENT-0000232993/CR/2509000998

Date: 10/09/2025

To,  
M/s. Western Coalfield Ltd. (WCL)  
Junad Deep Open Cast coal Mine Project  
118,114,115,116,117,123,124,Near Borgaon village  
Wani North Area, Post. Bhallar, Tq. WANI, Dist-  
Yavatmal, Maharashtra.



Your Service is Our Duty

**Sub: Grant of renewal of Consent to Operate under Red Category.**

- Ref:**
1. Previous consent granted vide No. No:- Format1.0/CC/UAN No.MPCB-CONSENT-0000194397/CR/2411000466, dtd. 09/11/2024, valid upto 31/03/2025
  2. Environment Clearance granted by Ministry of Environment, Forest & climate Change IA-II(Coal Mining) Division vide No. J-11015/225/2014-IA-II(M) dtd. 09/09/2015.
  3. Decision of 7th Consent Committee Meeting of the Board for the Year 2025-26 held on 20/08/2025

Your application No.MPCB-CONSENT-0000232993 Dated 19.01.2025

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 Renewal of Consent to Operate is granted for a period upto 31/03/2027.**
2. **The capital investment of the project is Rs.106.12 Crs. (As per C.A Certificate submitted by industry (Existing consented CI Rs. 109.11 Cr. - Decreased in CI Rs.4.35 Cr.= Total CI Rs. 106.12 Cr.))**
3. **Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	Coal mining on mining lease area 449.63 Ha	900000	Ton/Y

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



Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	3056	As per Schedule-I	ETP treated effluent shall be 100% recycle to achieve ZLD and Treated Mine water shall be maximum reuse for dust suppression in mining area and remaining use for irrigation purpose.
2.	Domestic effluent	11.2	As per Schedule-I	On land for gardening

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

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

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Overburden	0	--NA--	Backfilling of mine	Backfilling of mine

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

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	5.1 Used or spent oil	25	KL/A	Authorized Reprocessor/Recycler	Authorized Reprocessor/Recycler
2	5.2 Wastes or residues containing oil	6	Ton/Y	Incineration	CHWTSDF
3	35.3 Chemical sludge from waste water treatment	30	Ton/Y	Landfill after treatment/ Other	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 applicant shall comply with the conditions of the Environmental Clearance granted by Ministry of Environment, Forest & climate Change IA-II(Coal Mining) Division vide No. J-11015/225/2014-IA-II(M) dtd. 09/09/2015.
11. PP shall provide dry deshelling / manual picking of stray material arrangement .
12. PP shall install and commission minimum 03 Continuous Ambient Air Quality Monitoring Stations(CAAQMS) with data loggers system and same shall be connected to the MPCB server.
13. PP shall obtain valid CGWA NOC and scrupulously comply the conditions of CGWA NOC.
14. This consent is issued as per the decision of 7th Consent Committee meeting for the year 2025-26 held on 20/08/2025.

15. Industry shall extend the validity period of existing BG as per Schedule-III of the consent and submit the compliance of conditions of BG's to the Board.
16. The applicant shall obtain renewal of Consent to Operate by making an application before 120 days from the expiry of validity period of existing consent.
17. 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.



*Disnag*

af345863  
23758520  
5c317964  
d120fcd2  
4afa12d3  
be6b39bf  
a94a6108  
19fb1d4a

Signed by: **Dr. Avinash Dhakne**  
Member Secretary  
For and on behalf of,  
**Maharashtra Pollution Control Board**  
ms@mpcb.gov.in  
2025-09-10 22:34:38 IST

#### Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	572249.00	MPCB-DR-32244	25/02/2025	NEFT
2	572249.00	MPCB-DR-36292	28/08/2025	NEFT

#### 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



### **SCHEDULE-I**

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

1. A] As per your application, you have provided Effluent Treatment Plant (ETP) of designed capacity of 0.10 MLD for tread effluent generating from vehicle washing to achieve Zero Liquid Discharge and sedimentation tank of size 20 meter x 8 meter x 3 meter with baffle walls for treatment of 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 9.0
(2)	Oil & Grease	10
(3)	BOD (3 days 27°C )	30
(4)	COD	250
(5)	Total Suspended solids	100
(6)	Total Dissolved solids	2100
(7)	Sulphate	1000
(8)	Chlorides	600

- C] The Industry shall ensure connectivity online monitoring system to the MPCB server including separate energy meter for pollution control system.
- D] The treated effluent shall be recycled for secondary purposes to the maximum extent and remaining shall be used on land for gardening within premise after confirming above standards. In no case, effluent shall find its way outside the factory premises directly/indirectly.
2. A] As per your application, you have provided Sewage Treatment Plant of designed capacity 600 CMD for the treatment of 11.2 CMD of sewage.
- B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

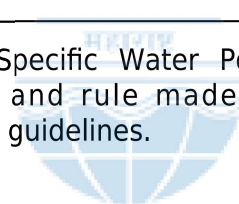
<b>Sr.No</b>	<b>Parameters</b>	<b>Standards (mg/l)</b>	
1	BOD (3 days 27°C )	Not to exceed	30 mg/l
2	COD	Not to exceed	100 mg/l
3	Suspended Solid	Not to exceed	50 mg/l

- C] The treated sewage shall be recycled for secondary purposes to the maximum extent and remaining shall be discharged on land for gardening within premise after confirming above standards. In no case, sewage shall find its way for gardening / outside factory 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 thereof & 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	400.00
2.	Domestic purpose	14.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	3470.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0

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 provided with dust collector & automatic water sprinkler system with chemical fogging arrangement 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 shall be properly covered during transportation.
  - 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.
  - Overloading of dumpers shall be avoided to prevent spillages.
  - Correct type & quantity of explosive shall be used to avoid excess dust formation & vibration in the surrounding area.
  - The slope of the over burden shall have slope not more than 28° to the horizontal. The overburden shall be properly covered by vegetation for stabilization.
  - Minerals transportation shall be done by installing conveyors wherever possible & mechanically covered closed trucks shall be used for transportation. Toppers/Binders/Surfactant's shall be uses on top surface of the Coal Pile to minimize spillage during transportation.
  - Mechanized Sweeper with automatic suction system shall be deployed for Cleaning of Coal dust from the roads.
  - Vehicle Tyre washing system for the transporting vehicles at the entry and exit gate of the Mine shall be installed and operated.
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	C to R	Rs. 10 Lakhs	15 days	Towards O & M of pollution control systems and compliance of consent conditions	Continuous	31/07/2027

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

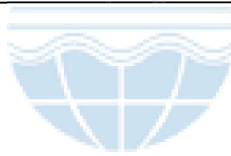
**If the above Bank Guarantee is not submitted within stipulated period, then 12% interest will be levied as a penalty as per circular dtd 29/02/2024 No. BO/MPCB/AS(T)/Circular/B-240229FTS0122**

#### **BG Forfeiture History**

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

#### **BG Return details**

<b>Srno.</b>	<b>Consent (C2E/C2O/C2R)</b>	<b>BG imposed</b>	<b>Purpose of BG</b>	<b>Amount of BG Returned</b>
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. 16.11.2009 as amended.

---

This certificate is digitally & electronically signed.

---





# Six Monthly Environmental Compliance Report

## PART – I

Name of the Project	Junad OC Project
Location and address	Near Aheri Village, Village –Junad , Post -Ukni , Tah- Wani , Dist- Yavatmal , State Maharashtra
Address for correspondence	Near –Aheri Village, Post- Ukni , Tah- Wani , Dist Yavatmal ,State Maharashtra
MOEF Clearance Letter No. & Date	Letter No. J-11015/225/2014-IA-II(M) dtd. 09.09.2015
Period of Status Report	April 2025 to September 2025
Date of commencement of the project Work	10/11/1998

### Status of Land

Type of Land	as per EMP (Ha)
Forest	Nil
Agriculture	443.53
Other, Waste land	6.10
<b>Total</b>	<b>449.63</b>

### Status of Legal Compliance:

a. Consent under Water (P&CP) Act 1974, Air (P&CP) Act 1981	Consent to Operate has been granted by MPCB vide Consent Order No. RED/L.S.I (R35)No:- Format1.0/CC/UAN No.MPCBCONSENT-0000232993/CR/2509000998 dt: 10.09.2025 Valid date : 31/03/2027.
b. Consent under Water (P&CP) Cess Act, 1977	-do-
c.Environment (Protection) Act, 1986	Environmental clearance accorded by MoEF & CC vide letter No. J-11015/225/2014-IA-II(M) dated 09.9.2015.  Environment Audit Statement for the year 2024-25 has been submitted.
d. Forest (Conservation) Act, 1980	N.A.

## PART-II

### Status of Environment

#### Air Pollution Control:-

a) No. of Ambient air monitoring stations	4 Nos
b) Name of the location	1) SAM Office- (WnJOA1) 2) Bhalar Township (WnJOA2) 3) Ukni village (WnJOA3) 4) Boregaon Village (WnJOA4)  <b>Fugitive Dust Monitoring</b> 1. Security Check-Post
c) Ambient air quality status for the parameters prescribed by State Pollution Control Board.	Detailed reports of sampling & analysis of Ambient Air Quality carried out as per statues through CMPDIL, Nagpur for the period <b>April 2025 to September 2025</b> has been enclosed.

#### Water Pollution Control:-

a. No. of stations and frequency of monitoring	a. 02 (Two Station); Fortnightly
b. Description of locations	1) Mine Water discharge ( WnJOW-1) 2) ETP Water outlet (WnJOW-2)
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 Pollution Control:-

a) No. of noise monitoring stations	2 No. (Fortnightly)
b) Name of the location	1) Near Manager office (WnJON-1) 2) Colony (Bhalar) (WnJON-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 2025 to September 2025</b> has been enclosed.



## PART-III

### Status of Implementation of Provisions of EMP

#### Land use Status:-

S.N.	Particulars	Current Period April 2025 to Sept. 2025	Progressive Up to 30 th September 2025
1)	Area excavated (Ha.)	--	101.70 Ha
2)	Top soil removed (MM <sup>3</sup> )	--	4.32 MM3
3)	OB removed (MM <sup>3</sup> )	0.356	51.133 MM3
4)	OB back filled (MM <sup>3</sup> )	--	8.7348 MM3
5)	OB dumped (MM <sup>3</sup> )	0.356	70,231 MM3
6)	Area recovered for Reclamation (physical area)	---	Nil
7)	Area reclaimed biologically (tree Plantation on back filled area)	---	Nil

#### Production: -

Targeted capacity: 0.90 MTY

Actual Production: 0.091 MT up to 30.09.2025 (FY 2025-26)

Year	Coal Production (in Million Tonnes)
2019-20	0.47
2020-21	0.33
2021-22	0.7386
2022-23	0.631
2023-24	0.464
2024-25	0.306
2025-26 (up to Sept. 25)	0.091

#### Afforestation - (Figures in Nos):-

S. No.	Locations	Current Period	Progressive Up to 30 th Sept. 2025
1)	OB dumps (Embankments)	---	1,23,000
2)	OB dumps (slope & top)	---	15,750
3)	Safety Zones	---	Nil
4)	Vacant land along road	---	21,325
	<b>TOTAL</b>	<b>Nil</b>	<b>1,60,075 Nos</b>

Area of plantation (progressive):- 60.03 Ha,

Species Planted:- Sagwan, Imli, Jamun, Neem, Karanj, Arjun, Sisoo, Peltafarm, Bamboo, Khamer, Kachnar, Bel, Jaam, Cashiya, Behada, Gulmohar, Amaltas etc.

## Rehabilitation and Resettlement:-

S.N.	Particulars	SC	ST	Others
1.	No. of land outsttees-	12	--	186
2.	No .of land outsttees rehabilitated-	12	-	186
3.	No. of PAPs/PAFs to be resettled-	17	20	157
4.	No. of PAPs/PAFs resettled-	17	20	157
5.	Area of new site (ha)-	12 ha.		
6.	Status of development-	All development work such as roads drains etc completed.		
7.	Civic amenities provided at new Resettlement site.-	Drinking water, Tar road, community hall, Temple, Panchayat Bhawan, School & Library are provided		
8.	Village shifting -	Borgaon Village.		

## Organizational set up at Project Level

Name and designation of the persons:

- (1) Shri. M. Shankara Swami , SAM, Ukni-Junad Sub Area.
- (2) Shri. Sheshnath Prasad, Colliery Manager, Junad OCM
- (3) Shri. Shreyansh Nayak , Sub Area Engineer (C) / N.O.(Env.), Ukni-Junad Sub Area.
- (4) Shri. Sanjay Kumar, Survey I/C, Junad OCM

**Expenditure**




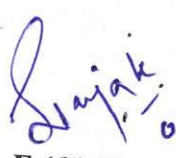
**Capital:-** (Figure in Rs. Lakhs)


Account Head	FY 2024-25	Progressive Up to 30 th Sept. 2025
Air Pollution Control – Dust Suppression Work	---	15.74
Fixed Sprinkler.	---	
NEW WORK		10.96
Water Pollution Control		
1. Sludge Drying Bed	---	2.90
2. Development of ETP	---	2.00
3. Modification of Existing ETP	---	23.36
4. Sedimentation Tank	---	30.74
<b>TOTAL</b>	---	<b>85.70</b>

**Revenue:-** (Figure in Rs. Lakhs)

Account Head	Current Period	Progressive Up to 30 th Sept. 2025
Afforestation	40.51	227.81
Legal/Statutory expenses	Nil	105.659
Air pollution	Nil	221.76
Water pollution	1.99	36.55
Others	Nil	40.59
<b>TOTAL</b>	42.50	632.639

  
Colliery Manager  
Junad OCM

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

  
Sub Area Manager  
Ukni-Junad Sub Area

**Ministry of Environment, Forests & Climate Change,  
Regional Office (WCZ), Nagpur**


**MONITORING PROFORMA**

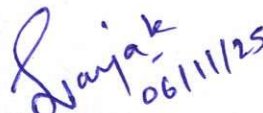
**Part - I : DATA SHEET**


1.	Project type: River / valley / Mining / Industry/ Thermal / Nuclear / other (specify) :		Mining	
2.	Name of the project :		Junad Deep Open Cast Coal Mine Project (1.5 MTPA) of M/s WCL at village Aheri, Tehsil Wani, District Yavatmal, Maharashtra	
3.	Clearance letter (s)/ OM no. and date :		J-11015/225/2014-IA.II(M) dt.09.09.2015	
4.	Location			
	a) District (s)	:	Yavatmal	
	b) State (s)	:	Maharashtra	
	c) Latitude / Longitude	:	Lat. N 20°01'05" to N 20°04'10" Log. E 79°03'09" to E 79°05'00"	
5.	Address for correspondence			
	a)Address of Concerned Project Chief Engineer (with pin code & telephone / telex / fax numbers)	:	Sub Area Manager, Ukni-Junad Sub Area, Tah. Wani, Dist. Yeotmal, Maharashtra – 445 304	
	b)Address of Executive Project Engineer/ Manager (with pin code/fax number)	:	Colliery/Mine Manager, Junad OCM, Ukni-Junad Sub Area, Tah. Wani, Dist. Yeotmal, Maharashtra – 445 304	
6.	Salient features			
	a) of the project	:	The project envisaged extractable coal reserves of 6.13 MT. The targeted capacity as per PR is 1.50 MTPA with life of 11 years. The estimated stripping ratio is 1:8.26 cum/tonne at the depth of 170 Mtrs.	
	b) of the environmental management plans	:	Capital cost of Envt. Mgmt. – 85.70 Lakhs. Progressive Revenue expenditure– 494.25 Lakhs.	
7.	Break up of the project area	As per EMP		
	a) Submergence area: forest & non-forest	Tenancy Land Forest Land Govt. Land/Waste Land	443.53 Ha Nil 6.10 Ha	As per Actual 436.89 Nil 3.13
		Total	449.63 Ha	440.02 Ha
	b) Others	---	---	
8.	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		Village shifting -Borgaon Village	
	a) SC, ST/Adivasis	:	S.N Particulars SC ST Others	
	b) Others	:	1. No. of land outsees- 12 -- 186	
	(Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out give details and years of survey).	:	2. No. of land outsees rehabilitated- 12 – 186	
		:	3. No. of PAPs/PAFs to be resettled- 17 20 157	
		:	4. No. of PAPs/PAFs resettled- 17 20 157	
9.	Financial details:			
	a) Project cost as originally planned and subsequent revised estimates and the year of price reference.	:	Rs. 54.7840 Crores (Additional capital – Rs. 38.7577 Crores) as per PR	



	b) Allocation made for environmental management plans with item wise and year wise break-up.	:	Capital – Rs. 37.16 lakhs and Revenue - @ Rs 3.85/tas per EMP (1.50 MTPA)
	c) Benefit cost ratio/Internal rate of Return and the year of assessment.	:	NA
	d) Whether (c) includes the cost of environmental management as shown in the above	:	Yes
	e) Actual expenditure incurred on the environmental management plans so far.	:	Capital : Rs. 85.70 lakhs Revenue : Rs 632.639 lakhs
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.	Status of construction		
	a) Date of commencement (Actual and/ or planned)	:	This is an expansion project (November 1998)
12.	Reasons for the delay if the project is yet to start.	:	N.A.

  
Colliery Manager  
Junad OCM

  
SAE (Civil)  
UKni-Junad Sub Area.

  
Sub Area Manager  
Ukni-Junad Sub Area

## Six Monthly Status of Compliance of Environmental Clearance Conditions

Junad Deep Open Cast Coal Project (1.50 MTPA), Western Coalfields Limited

(MoEF & CC EC Letter No. J-11015/225/2014-IA.II(M) dtd. 09.09.2015)

Sr. No.	CONDITIONS	COMPLIANCE
<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	Coal production will not exceed 1.50 MTPA as prescribed in the Environment Clearance.
ii	The validity of the EC is for the life of the Mine or as specified in the EIA notification, 2006, whichever is earlier.	Agreed and shall be complied
iii	Adequate precautions shall be taken for safety of nearby township and minimizing the dust pollution.	Adequate precautions were taken for safety of the nearby township and for minimizing the dust control; rain guns, mobile water sprinklers etc. are provided.
iv	For any forest land covered under the project, forest clearance shall be obtained before operating the coal mine.	There is no forest land covered under this project.
v	The general conditions as applicable for opencast mining project shall strictly adhere to.	Agreed and the general conditions as applicable for opencast mining project shall be strictly complied.
vi	Efforts be made to explore the availability of mechanically covered trucks.	At present coal transportation trucks are covered by tarpaulins. Efforts will be made to explore the availability of mechanically covered trucks.
vii	Coal transportation in pit by tippers, surface to siding by tippers and siding to loading by dumpers and pay loaders.	Coal is loaded by pay loader to the tippers in pit and transported to siding and loading of coal at siding is also being done by pay loaders.
viii	The production shall be within the same mining lease area.	Coal production will be done within the same mining lease area.
ix	The OB shall be completely re-handled at the end of the mining.	The OB shall be completely re-handled & complied at the final stage of working.
x	Final mine void depth will not be more than 40 m. 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.	These instructions shall be complied accordingly at the final stage of working.
xi	Garland drains be provided.	Garland drains have already been provided around the OB dump and periphery of the mine.
xii	Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.	Appropriate embankment has been provided along the side of Wardha river flowing near to mine.
xiii	The land after mining shall be brought back for agriculture purpose.	Agreed, the land after mining shall be brought back for agriculture purpose.



xiv	Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.	Mine water is allowed to rest at Mine sump which acts as a pre-sedimentation tank. A suitable Sedimentation tank of size 20m x 8 m x 3m is provided on the surface of the mine. Mine water is being discharged through it after further sedimentation.																
xv	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.																
xvi	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	All the persons working in core area of mine are being provided with mask for protection against fugitive dust emissions.																
xvii	Dust mask to be provided to everyone working in the mining area.	Dust mask is being provided to everyone working in the mining area.																
xviii	The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.	Being complied accordingly.																
xix	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.	Periodical medical examination is being held for all the employees working within core area once in three years.																
xx	The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.	<p>160075 nos. of plants have been planted. Area under plantation is as follows-</p> <table><tr><th>Sl. No</th><th>Location</th><th>Area (Ha)</th><th>No. of Species Plants</th></tr><tr><td>1</td><td>OB Dumps</td><td>51.20</td><td>138750 nos.</td></tr><tr><td>2</td><td>Vacant land along road</td><td>08.53</td><td>21325 nos</td></tr><tr><td></td><td>Total</td><td>60.03</td><td>160075 nos</td></tr></table> <p><b>Species : -</b> Sagwan, Imli, Amla, Jamun, Neem, Karanj, Arjun, Sisoo, Peltafarm, Bamboo, Khamer, Kachnar, Bel, Jaam, Cashiya, Behada, Gulmohar, Amaltas etc. In addition to that green belt will be developed as per given conditions.</p>	Sl. No	Location	Area (Ha)	No. of Species Plants	1	OB Dumps	51.20	138750 nos.	2	Vacant land along road	08.53	21325 nos		Total	60.03	160075 nos
Sl. No	Location	Area (Ha)	No. of Species Plants															
1	OB Dumps	51.20	138750 nos.															
2	Vacant land along road	08.53	21325 nos															
	Total	60.03	160075 nos															
xxi	The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river from side and stabilized with plantation so as to withstand the peak water flow and prevent mine inundation.	The embankment of suitable dimensions has been constructed along the mine boundary so as to withstand the peak water flow and prevent mine inundation. The embankment is in a stable condition and it is being inspected time to time and record of the same is maintained.																
xxii	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.	All precautions have been taken to prevent overflow of OB into the river and agriculture fields as per given conditions.																
xxiii	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	OB will be stacked at earmarked external OB dump sites within ML Area. The details of existing external OB dump is follows :--																



	<p>shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forests &amp; Climate change and its concerned Regional Office on yearly basis.</p>	<p>For Dip dumps:- height- 60 mtrs, benches- 05 (Height of each benches -14 mtrs, 13 mtrs, 12 mtrs, 11 mtrs), Width ( Top-200 mtrs, Bottom-400 mtrs ), slope -28 deg active dump.</p> <p>South dump -Height- 50 mtrs, benches-04 (Ht of each stages 9mtrs, 12 mtrs, 8mtrs, 13 mtrs ). Width (Top-150 mtrs , Bottom -300 mtrs )</p> <p>Slope- 22 deg active dump.</p> <p>The present external OB dumps have been placed in the dip side on coal bearing area. This has been done on the basis of economics considering the lead distance for OB dumping as well as to reduce the adverse impacts on Wardha River. At present this OB dump can not be taken up for plantation as these dumps are proposed to be re-handled during the future extension of the mine. The present working edges which are at a depth of about 72 m will be extended further dip side up to about 170 m depth i.e 1:10 coal OB ratio line by re-handling the existing OB dumps and relocating them beyond 1:10 coal OB ratio line.</p>
xxiv	<p>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 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.</p>	<p>Catch drains of appropriate size have been constructed to arrest silt and sediments flowing from OB dumps and drainage has also been provided in OB benches and coal benches to carry silt and sediments into the mine sump provided at the floor of the seam. The catch drains around embankment has already been constructed. The total length is about 4.0 km and the dimensions of the catch drains are approximately 2m x 4m. The sump is of dimension 800 x 60 x 4 m which is adequate to deal with peak sudden rainfall. This sump provides adequate settlement time for suspended particles. Thereafter, the same water is pumped out on surface and fed into surface sedimentation pond of size 20 x 8 x 3 m</p>
xxv	<p>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.</p>	<p>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) for collecting run off and Siltation from OB benches, main sump as detailed out above, is in operation and acts as main settling/Siltation pond. The capacity of this sump has been made to cater the entire peak rainfall in the catchments area (capacity approximately 6.00 lakh Cum). As such, construction of retaining wall at the toe of the dumps and OB benches is not required. Moreover as explained earlier, the existing OB dumps will be re handled during the future extension of the mine as such retaining wall is not practically feasible.</p>



		From the above it can be seen that all possible measures have been taken to arrest flow of silt and sediments from OB dumps and benches. Further, the OB dumps are also partly biologically reclaimed and balance will be taken up in subsequent phases. Moreover, the OB dumps have been placed in the dip side in coal bearing area also to avoid chances of any adverse impact on Wardha river (which is on the opposite side). So there is hardly any chance of flow of silt and sediment from OB dump thereby affecting the natural water courses adversely.																
xxvi	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.	There is no CHP at Junad OC mine. The existing CHP at Pimpalgaon OCM -5.5 Km away from the mine is being used. All precautions including regular water sprinkling and covering with GI sheet has been taken to prevent any dispersion of dust particles																
xxvi i	Drills shall be wet operated.	All the drills working in the mine are having wet drilling arrangements.																
xxvi ii	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.	All the internal roads are either cement concreted/WBM/tarred and regular repairing and tarring of these roads shall be carried out as & when required. Plantation is being developed regularly in the mine lease area covering various infrastructures, along haul road (permanent type) coal transportation road embankments & OB dumps with various native species through State Forest Department. The density of the trees is around 2000-2500 plants/ha.  Area under plantation is as follows- <table><tr><th>Sl. No</th><th>Location</th><th>Area (Ha)</th><th>No. of Species Plants</th></tr><tr><td>1</td><td>OB Dumps</td><td>51.50</td><td>138750 nos.</td></tr><tr><td>2</td><td>Vacant land along road</td><td>08.53</td><td>21325 nos</td></tr><tr><td></td><td>Total</td><td>60.03</td><td>160075 nos</td></tr></table> Species :- Sagwan, Imli, Jamun, Neem, Karanj, Arjun, Sisoo, Peltafarm, Bamboo, Khamer, Kachnar, Bel, jaam, Cashiya, Behada, Gulmohar, Amaltas etc.	Sl. No	Location	Area (Ha)	No. of Species Plants	1	OB Dumps	51.50	138750 nos.	2	Vacant land along road	08.53	21325 nos		Total	60.03	160075 nos
Sl. No	Location	Area (Ha)	No. of Species Plants															
1	OB Dumps	51.50	138750 nos.															
2	Vacant land along road	08.53	21325 nos															
	Total	60.03	160075 nos															
xxix	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Controlled blasting is being done using delay detonator and only in daytime. All mitigative measures for control of ground vibrations & to arrest the fly-rocks are undertaken.																
xxx	A progressive afforestation plan shall be implemented covering an area of 210.00 Ha at the end of mining, Green belt (15Ha) and in township located outside the lease by planting	Progressive afforestation as per given condition will be complied. Total 160075 plants have been already planted in and around the mine till date.																



	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.	The plantation is entirely carried out through State Forest Agencies viz. Forest Development Corporation of Maharashtra/M.P. Rajya Van Vikas Nigam with 5 years maintenance contract and planting of native species. The density of plantation is maintained at 2500 plants/ha.
xxxix	An estimated total 60.95 Mm <sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 60.95 Mm <sup>3</sup> of OB will be dumped in two external OB dumps an earmarked area covering 175 Ha of land. There will be no internal OB dump. The maximum height of external OB dump will not exceed 60m. 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&CC and its Regional Office on yearly basis.	OB will be stacked at earmarked external OB dump sites within ML Area. The details of existing external OB dump is follows :-- For Dip dumps:- height- 60 mtrs, benches- 05 (Height of each benches -14 mtrs, 13 mtrs, 12 mtrs,11 mtrs), Width ( Top-200 mtrs, Bottom-400 mtrs ), slope -28 deg active dump. South dump –Height- 50 mtrs, benches-04 (Ht of each stages 9mtrs, 12 mtrs, 8mtrs, 13 mtrs ). Width (Top-150 mtrs , Bottom -300 mtrs ) Slope- 22 deg active dump. The present external OB dumps have been placed in the dip side on coal bearing area. This has been done on the basis of economics considering the lead distance for OB dumping as well as to reduce the adverse impacts on Wardha River. At present this OB dump can not be taken up for plantation as these dumps are proposed to be re-handled during the future extension of the mine. The present working edges which are at a depth of about 72 m will be extended further dip side up to about 170 m depth i.e 1:10 coal OB ratio line by re-handling the existing OB dumps and relocating them beyond 1:10 coal OB ratio line.
xxxix i	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.	The restoration and reclamation plan for the degraded area shall be prepared and the land shall be used in a productive and sustainable manner.
xxxix ii	Compensatory Ecological & restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.	Compensatory Ecological & restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land will be carried out.
xxxix v	The mining should be phased out in sustainable manner.	It will be ensured that the mining shall be phased out in sustainable manner.
xxxv	No groundwater shall be used for mining operations.	No groundwater is being/shall be used for mining operations.
xxxv i	The total quarry area of 101.70 Ha. The depth of void will be 170 m, which is proposed to be converted into a water body with the maximum depth of 40m having 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.	These instructions shall be complied accordingly.



xxxv ii	Regular monitoring of groundwater 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, Forests & Climate change and to the central Pollution control board quarterly within one month of monitoring.	Regular ground Water Level and Quality Monitoring is being done by 3 <sup>rd</sup> party agency. The reports are being submitted along with six monthly EC compliance report.(copy enclosed)
xxxv iii	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.	An old pond of size 25m x 10m x 2.50m situated at the resettled Borgaon village near the mine has been de-silted. This pond is now acting as a water reservoir for augmenting the ground water resources in the vicinity and providing source of water for the village cattle. It is further been proposed to take up rain water harvesting projects in permanent structures of the villages in a phased manner with due consent from the gram panchayat.
xxxi x	Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.	Sewage treatment plant of 0.6 MLD has been installed in the Bhalar Township. ETP (Effluent Treatment Plant) has been provided for treatment of Workshop effluent with oil & grease trapper.
xl	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 an specialized agency/institution within the District/state and the results reported to this ministry and to DGMS.	Periodical medical examination including occupational diseases and hearing impairment, if any, is being held for all the employees working within core area once in three years.
xli	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.	Compensation to land oustees are provided as per Coal India Limited's policy.
xlii	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 MOEFCC and its concerned Regional Office.	Complied with. An updated report of land use maps, based on satellite imagery for monitoring land use pattern is regularly uploaded on the WCL's website www.westerncoal.in. The same is also submitted along with the Six-monthly EC compliance report
xliii	A detailed final mine closure plan along with details of corpus fund shall be submitted to the ministry of Environment, Forests & Climate change within 6 months of grant of Environmental clearance.	The Mine Closure Plan has been prepared as per the guideline of Ministry of Coal, and the same is approved by WCL Board on <b>03.02.2015</b> . Escrow Account has been opened with the corpus. Details are as below: Escrow A/C no.: 897107600002327 Balance as on 31.03.25 :- <b>Rs. 59,37,86,721.94/-</b>



xliv	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.	It is already under implementation by the WCL and shall be complied in future also.
xlv	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 operation 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.	Corporate Environment Policy of Coal India Limited, approved by Board of Directors already exists. The Environment Policy of the Company shall be strictly complied as per norms. Environmental Management Cell is headed by Sub Area Manager and is assisted directly by Nodal Officer (Environment)/ Sr. Manager (Civil) at project level. AGM of the Area heads the cell assisted by Area Nodal Officer (Environment) at Area level. GM (Environment) heads the Environment Department at HQ /Corporate level with a multidisciplinary team of qualified and trained Engineers. The company already has a system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and proper checks and balances are in place.
<b>B</b>	<b>General Conditions :</b>	
i	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest & Climate change.	No change in mining technology as well as scope will be made without prior approval of the MoEF & CC.
ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	No change in the calendar plan will be made without prior approval.
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 as under: (1) SAM Office (WnJOA1) (2) Bhalar Township (WnJOA2) (3) Near Substation (WnJOA3) . (4) Borgaon village (WnJOA4)  For Fugitive Emission (1) Security Check Post




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 recognized under the EPA rules, 1986 shall be furnished as part of compliance report.	Data on ambient air is regularly being submitted to the Ministry including Regional Office, and also to Pollution Control Board. Monitoring of environmental quality parameters are being done by CMPDIL, Regional Institute - IV, Nagpur. The reports are attached along with the 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.	Ear plugs are provided to employees working near HEMM, blasting, drilling operation etc. In addition to that thick plantation has been planted to reduce the noise level. Further in order to reduce excessive noise during operations, regular maintenance of all HEMM done.
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.	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, Industrial waste water from Workshop is being properly collected & treated in ETP fitted with Oil Skimmer 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 and the entire treated water is recycled for dumper washing.
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.	Vehicular emission is under control. Vehicles used for transporting the mineral outside the mine lease area by road are being covered with tarpaulins and is 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 analyzed through a laboratory recognized under EPA rules, 1986.	Monitoring of environmental quality parameters is being done by CMPDIL, Regional Institute - IV, Nagpur (an ISO certified consultant), which is having a NABL accredited Centralized Environmental Laboratory,
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.	All personnel working in dusty areas are supplied with and they are being provided with adequate training and information on safety and health aspects in continuous manner.
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 conducted once in three years for every employee of the mine.
xi	A separate environmental management cell with	Environmental Management Cell is headed by

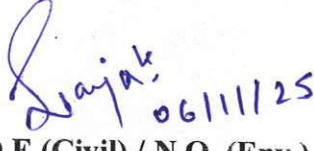


	suitable qualified personnel shall be set up under the control of a senior executive, who will report directly to the head of the company.	Sub Area Manager and is assisted directly by Nodal Officer (Environment)/ Sr. Manager (Civil) at project level. AGM of the Area heads the cell assisted by Area Nodal Officer (Environment) at Area level. 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.	Being complied.
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 & climate change at <a href="http://envfor.nic.in">http://envfor.nic.in</a>	The information that this project has been accorded Environmental Clearance along with a copy of the EC letter has been posted at the website of MoEF & CC. It has also been advertised in two local newspaper of Marathi language. Advertisement was published in the newspaper (Marathi – Dainik Yuvarashtra Darshan dated 20.09.2015 and Vidarbha Matdar dated 20.09.2015).
xiv	A copy of the environmental clearance letter shall be marked to concern Panchayat/Zilaparishad, 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.	A copy of the environmental clearance letter had been given to Sarpanch, Pimpalgaon-Junada-Boregaon Gut-Gram Panchayat vide letter no.829 dtd.20.11.15. Copy of the clearance letter has been displayed on Western Coalfields Limited website : <a href="http://www.westerncoal.gov.in">www.westerncoal.gov.in</a>
xv	A copy of the environmental clearance letter shall also be displayed on the website of the concerned state pollution control board. The EC letter shall also be displayed at the Regional Office, District industry sector and collector's Office/Tehsildar's Office for 30 days.	Copy of the clearance letter has been displayed on WCL's website : <a href="http://www.westerncoal.in">www.westerncoal.in</a>
xvi	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM <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.	The clearance letter has been uploaded on the WCL's website <a href="http://www.westerncoal.in">www.westerncoal.in</a> . The updated compliance status of the stipulated EC condition is regularly uploaded.
xvii	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance	Six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions are regularly being



	conditions (both in hard copy and in email) to the respective Regional Office of the Ministry, respective zonal office of CPCB and the SPCB.	submitted to the Regional Office, MoEF&CC and RO, MPCB.
xviii	The regional office of this ministry located in the region shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/ monitoring reports.	The project authorities will ensure & 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 <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 & CC by email.	The Environment Audit Statement for the year 2024-25 has been submitted (Copy enclosed)

  
Colliery Manager  
Junad OCM

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

  
Sub Area Manager  
Ukni-Junad Sub Area





STRICTLY RESTRICTED  
FOR COMPANY USE ONLY  
The information given in this report is not to be communicated either  
directly or indirectly to the press or to any person not holding an official  
position in the CIL / Government

## ENVIRONMENTAL MONITORING REPORT

**JUNAD 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>	 TC-7102
---	--------------------	--

TEST REPORT NO.	RIN/TR/APRIL-25/24	DATE OF ISSUE	25-05-2025
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

SAM OFFICE  WNJOA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
		5	5	2	6	10	
13-04-2025	14-04-2025	257	162	44	13	10	CLEAR/LIGHT BREEZE
27-04-2025	28-04-2025	281	197	52	15	13	CLEAR/LIGHT BREEZE
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DEcember 2000		600	300	-	120	120	

BORGAON VILLAGE  WNJOA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
		5	2	6	10		
04-04-2025	05-04-2025	66	17	8	BDL		CLEAR/LIGHT BREEZE
05-04-2025	06-04-2025	72	22	9	BDL		CLEAR/CALM
11-04-2025	12-04-2025	82	27	10	BDL		CLEAR/LIGHT BREEZE
12-04-2025	13-04-2025	64	18	7	BDL		CLEAR/LIGHT BREEZE
18-04-2025	19-04-2025	72	23	8	BDL		CLEAR/LIGHT BREEZE
19-04-2025	20-04-2025	77	27	7	BDL		CLEAR/CALM
25-04-2025	26-04-2025	69	20	7	BDL		CLEAR/LIGHT BREEZE
26-04-2025	27-04-2025	73	24	10	BDL		CLEAR/LIGHT BREEZE
NAAQS, 2009		100	60	80	80		

BHALAR TOWNSHIP  WNUOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
		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  WNUOA4							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
		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		



Analysed by



Environment Laboratory CMPDI RI-IV, NAGPUR	Test Report	
--	-------------	---


**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	

SECURITY POST WOF1				
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	
17-04-2025	18-04-2025	399	286	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: WNJOW1				
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	7.29	32	48	BDL
27-04-2025	7.51	26	40	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNJOW2				
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	6.96	22	36	BDL
27-04-2025	7.38	32	36	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10



Analysed by



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
---	--------------------	---

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE: WNJON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'25	07-04-2025	53.6	51.2
APRIL'25	20-04-2025	55.3	52.2
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNJON2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		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  
Reviewed by



Amol Kamble  
Authorised by

1. This report cannot be reproduced in part or full without written of the management.
2. Laboratory activities are performed at the Laboratory permanent facility that is ground floor, Environment Lab, CMPDI RI-IV, Nagpur.
3. This report refers to the values related to the items tested.

\*\*\*\*\* End of report \*\*\*\*\*



STRICTLY RESTRICTED  
FOR COMPANY USE ONLY  
The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL / Government

## ENVIRONMENTAL MONITORING REPORT

### JUNAD 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



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
---	--------------------	---


TEST REPORT NO.	RIN/TR/MAY-25/24	DATE OF ISSUE	25.06.2025
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:		16-05-25 TO 15-06-25

SAM OFFICE   WNJOA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
13.05.2025	14.05.2025	274	194	51	16	12	CLEAR/LIGHT BREEZE
27.05.2025	28.05.2025	255	161	47	14	11	CLEAR/LIGHT BREEZE
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	


BORGAEON VILLAGE   WNJOA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
04.05.2025	05.05.2025	57	18	8	BDL	CLEAR/LIGHT BREEZE	
05.05.2025	06.05.2025	72	24	10	BDL	CLEAR/CALM	
11.05.2025	12.05.2025	63	18	8	BDL	CLEAR/LIGHT BREEZE	
12.05.2025	13.05.2025	79	22	9	BDL	CLEAR/LIGHT BREEZE	
18.05.2025	19.05.2025	86	29	10	BDL	CLEAR/LIGHT BREEZE	
19.05.2025	20.05.2025	71	24	8	BDL	CLEAR/CALM	
25.05.2025	26.05.2025	61	20	7	BDL	CLEAR/LIGHT BREEZE	
26.05.2025	27.05.2025	77	23	9	BDL	CLEAR/LIGHT BREEZE	
29.05.2025	30.05.2025	83	27	10	BDL	CLEAR/LIGHT BREEZE	
30.05.2025	31.05.2025	70	24	9	BDL	CLEAR/LIGHT BREEZE	
NAAQS, 2009		100	60	80	80		

BHALAR TOWNSHIP   WNUOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
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   WNUOA4							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
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		

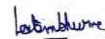


Analysed by

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:		16-05-25 TO 15-06-25	


MINE WATER DISCHARGE:		WNJOW1		
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	7.87	28	44	BDL
29.05.2025	7.84	22	36	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE:		WNJOW2		
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	40	BDL
29.05.2025	7.82	30	44	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10



Analysed by



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7102
---	--------------------	--

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE: WNJON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
MAY'25	10.05.2025	57.7	56.3
MAY'25	26.05.2025	60.1	59.5
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNJON2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		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

  
Yogesh Pidurkar  
Reviewed by

  
Amol Kamble  
Authorised by

1. This report cannot be reproduced in part or full without written of the management.
  2. Laboratory activities are performed at the Laboratory permanent facility that is ground floor, Environment Lab, CMPDI RI-IV, Nagpur.
  3. This report refers to the values related to the items tested.
- \*\*\*\*\* End of report \*\*\*\*\*



STRICTLY RESTRICTED  
FOR COMPANY USE ONLY  
The information given in this report is not to be communicated either  
directly or indirectly to the press or to any person not holding an  
official position in the CIL / Government

## ENVIRONMENTAL MONITORING REPORT

**JUNAD OC**

**WANI NORTH AREA**

**WESTERN COALFIELDS LTD.**

JOB NO. 4094423068



**JUNE 2025**

NABL Accredited vide Cert. No. TC-7102

**Environment Laboratory**

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>	 TC-7102
---	--------------------	--

TEST REPORT NO.	RIN/TR/JUNE-25/24	DATE OF ISSUE	7/25/2025
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

SAM OFFICE  WNJOA1							
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	
6/14/2025	6/15/2025	282	187	49	18	14	Clear sky / Light breeze
6/28/2025	6/29/2025	294	190	56	16	12	Clear sky / Light breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	


BORGHAON VILLAGE   WNJOA2						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
6/4/2025	6/5/2025	69	22	10	BDL	Cloudy sky / Light breeze
6/5/2025	6/6/2025	60	28	11	BDL	Cloudy sky / Light breeze
6/11/2025	6/12/2025	75	29	9	BDL	Cloudy sky / Light breeze
6/12/2025	6/13/2025	60	30	10	BDL	Cloudy sky / Light breeze
6/18/2025	6/19/2025	64	32	12	BDL	Cloudy sky / Light breeze
6/19/2025	6/20/2025	73	35	9	BDL	Cloudy sky / Calm
6/25/2025	6/26/2025	78	36	11	BDL	Clear sky / Light breeze
6/26/2025	6/27/2025	77	28	10	BDL	Clear sky / Light breeze
NAAQS, 2009		100	60	80	80	

BHALAR TOWNSHIP   WNJOA3						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
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   WNJOA4						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
6/7/2025	6/8/2025	72	22	9	BDL	Clear sky / Light breeze
6/28/2025	6/29/2025	80	36	7	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: WNJOW1				
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
6/8/2025	8.04	32	48	BDL
6/29/2025	7.95	26	32	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNJOW2				
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
6/8/2025	7.82	24	36	BDL
6/29/2025	7.84	28	48	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10



Analysed by



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7102
---	--------------------	--

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE: WNJON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JUNE'25	6/12/2025	54.1	52.3
JUNE'25	6/28/2025	54.4	52.8
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNJON2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		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

  
Yogesh Pidurkar  
Reviewed by

  
Amol Kamble  
Authorised by

1. This report cannot be reproduced in part or full without written of the management.
  2. Laboratory activities are performed at the Laboratory permanent facility that is ground floor, Environment Lab, CMPDI RI-IV, Nagpur.
  3. This report refers to the values related to the items tested.
- \*\*\*\*\* End of report \*\*\*\*\*



STRICTLY RESTRICTED  
FOR COMPANY USE ONLY  
The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL / Government

## ENVIRONMENTAL MONITORING REPORT

**JUNAD OC**

**WANI NORTH AREA**

**WESTERN COALFIELDS LTD.**

JOB NO. 4094423068




**JULY 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/JULY-25/24	DATE OF ISSUE	25-08-2025
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:		16-07-25 TO 15-08-25

SAM OFFICE  WNJOA1							
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	233	124	32	14	10	Rainy sky / Lihgt breeze
20-07-2025	21-07-2025	276	169	45	15	11	Cloudy sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECember 2000		600	300	-	120	120	

BORGAEON VILLAGE  WNJOA2						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )				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	11	BDL	Rainy sky / Light breeze
04-07-2025	05-07-2025	58	18	8	BDL	Rainy sky / Light breeze
09-07-2025	10-07-2025	46	24	10	BDL	Rainy sky / Light breeze
10-07-2025	11-07-2025	61	25	9	BDL	Rainy sky / Light breeze
17-07-2025	18-07-2025	67	31	8	BDL	Cloudy sky / Calm
18-07-2025	19-07-2025	70	36	12	BDL	Cloudy sky / Calm
23-07-2025	24-07-2025	68	24	11	BDL	Cloudy sky / Calm
24-07-2025	25-07-2025	66	30	10	BDL	Cloudy sky / Calm
29-07-2025	30-07-2025	69	25	11	BDL	Cloudy sky / Calm
30-07-2025	31-07-2025	72	34	12	BDL	Cloudy sky / Calm
NAAQS, 2009		100	60	80	80	

BHALAR TOWNSHIP WNUOA3						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )				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 WNUOA4						
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m³)				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	



Analysed by

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7102
---	--------------------	--

**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	

SECURITY POST WOF1				
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	
14-07-2025	15-07-2025	367	233	CLEAR/LIGHT BREEZE



Analysed by




Environment Laboratory CMPDI RI-IV, NAGPUR		Test Report		 TC-7182	
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: WNJOW1				
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
06-07-2025	8.10	30	52	BDL
20-07-2025	7.69	18	28	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNJOW2				
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
06-07-2025	7.81	24	40	BDL
20-07-2025	7.84	22	52	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10



Analysed by

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7102
---	--------------------	--

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE: WNJON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JULY'25	14-07-2025	54.3	52.1
JULY'25	28-07-2025	54.7	52.2
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNJON2			
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



Yogesh Pidurkar  
Reviewed by



Amol Kamble  
Authorised by

1. This report cannot be reproduced in part or full without written of the management.
2. Laboratory activities are performed at the Laboratory permanent facility that is ground floor, Environment Lab, CMPDI RI-IV, Nagpur.
3. This report refers to the values related to the items tested.

\*\*\*\*\* End of report \*\*\*\*\*





STRICTLY RESTRICTED  
FOR COMPANY USE ONLY  
The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL / Government

## ENVIRONMENTAL MONITORING REPORT

### JUNAD 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

AN ISO 9001:2015 COMPANY

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7102
---	--------------------	--

TEST REPORT NO.	RIN/TR/AUG-25/24	DATE OF ISSUE	25-09-2025
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:		16-08-25 TO 15-09-25

SAM OFFICE   WNJOA1							
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	
07-08-2025	08-08-2025	256	168	45	15	11	clear sky / light breeze
24-08-2025	25-08-2025	218	134	34	14	10	rainy / light breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

BORGAEON VILLAGE				WNJOA2		
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )				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	67	33	10	BDL	clear sky / light breeze
06-08-2025	07-08-2025	72	35	7	BDL	clear sky / light breeze
12-08-2025	13-08-2025	78	31	9	BDL	clear sky / light breeze
13-08-2025	14-08-2025	66	30	10	BDL	clear sky / light breeze
21-08-2025	22-08-2025	60	26	8	BDL	rainy / light breeze
22-08-2025	23-08-2025	61	22	9	BDL	rainy / light breeze
28-08-2025	29-08-2025	54	18	6	BDL	rainy / light breeze
29-08-2025	30-08-2025	63	28	7	BDL	rainy / light breeze
NAAQS, 2009		100	60	80	80	


BHALAR TOWNSHIP				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	
03-08-2025	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   WNUOA4						
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	



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:			16-08-25 TO 15-09-25

MINE WATER DISCHARGE: WNJOW1				
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	8.02	28	56	BDL
24-08-2025	7.76	22	32	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNJOW2				
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	7.82	22	32	BDL
24-08-2025	7.84	18	44	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10



Analysed by

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7102
---	--------------------	--

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE: WNJON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
AUG'25	12-08-2025	53.7	51.5
AUG'25	29-08-2025	54.5	52.4
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNJON2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	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

  
Yogesh Pidurkar  
Reviewed by

  
Amol Kamble  
Authorised by

1. This report cannot be reproduced in part or full without written of the management.
2. Laboratory activities are performed at the Laboratory permanent facility that is ground floor, Environment Lab, CMPDI RI-IV, Nagpur.
3. This report refers to the values related to the items tested.

\*\*\*\*\* End of report \*\*\*\*\*





STRICTLY RESTRICTED  
FOR COMPANY USE ONLY  
The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL / Government

**ENVIRONMENTAL MONITORING REPORT**

**JUNAD OC**

**WANI NORTH AREA**

**WESTERN COALFIELDS LTD.**

JOB NO. 4094423068



**SEPTEMBER 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/SEPT-25/24	DATE OF ISSUE	25-10-2025
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

SAM OFFICE   WNJOA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
		5	5	2	6	10	
06-09-2025	07-09-2025	210	132	29	14	BDL	rainy / light breeze
20-09-2025	21-09-2025	198	112	26	11	BDL	rainy / light breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	


BORGAON VILLAGE   WNJOA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
		5	2	6	10		
03-09-2025	04-09-2025	42	24	8	BDL	rainy / light breeze	
04-09-2025	05-09-2025	52	23	9	BDL	rainy / light breeze	
10-09-2025	11-09-2025	56	19	8	BDL	rainy / light breeze	
11-09-2025	12-09-2025	65	15	7	BDL	clear sky / light breeze	
17-09-2025	18-09-2025	46	22	6	BDL	rainy / light breeze	
18-09-2025	19-09-2025	42	20	8	BDL	rainy / light breeze	
23-09-2025	24-09-2025	59	18	9	BDL	rainy / light breeze	
24-09-2025	25-09-2025	55	16	8	BDL	rainy / light breeze	
29-09-2025	30-09-2025	53	22	7	BDL	rainy / light breeze	
30-09-2025	01-10-2025	69	30	9	BDL	clear sky / light breeze	
NAAQS, 2009		100	60	80	80		

BHALAR TOWNSHIP   WNUOA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
		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   WNUOA4							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )				ENVIRONMENT CONDITIONS (Sky/Wind)	
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
		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		



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:			16-09-25 TO 15-10-25

MINE WATER DISCHARGE: WNJOW1				
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
07-09-2025	7.98	24	44	BDL
21-09-2025	7.65	26	56	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10

ETP DISCHARGE: WNJOW2				
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
07-09-2025	7.55	26	44	BDL
21-09-2025	7.62	22	28	BDL
STANDARDS FOR COAL MINE, GSR 742E, dt. 25/09/2000	5.5 - 9.0	100	250	10



Analysed by



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	
---	--------------------	---

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE: WNJON1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
SEPT'25	11-09-2025	56.3	53.1
SEPT'25	29-09-2025	53.6	51.2
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

BHALAR COLONY: WNJON2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	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



Yogesh Pidurkar  
Reviewed by



Amol Kamble  
Authorised by

1. This report cannot be reproduced in part or full without written of the management.
2. Laboratory activities are performed at the Laboratory permanent facility that is ground floor, Environment Lab, CMPDI RI-IV, Nagpur.
3. This report refers to the values related to the items tested.

\*\*\*\*\* End of report \*\*\*\*\*

STRICTLY RESTRICTED  
FOR COMPANY USE ONLY

The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL / Government

## **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

AN ISO 9001:2015 COMPANY

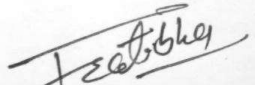
<b>Environment Laboratory</b> <b>CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b> <b>Ambient Air Quality Monitoring Data For</b> <b>Heavy Metals</b>	 TC-7102
---	---	--

TEST REPORT NO.	RIN/TR/JUNE /HM83	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	EXPN - JUNAD OC	SAMPLING PLAN : LQR 47	
No. of Pages	1		

Sl No.	Name of location	Location Code	Date of sampling
1	SAM OFFICE	WNJOA-1	13-04-2025
2	BORGAON VILLAGE	WNJOA-2	04-04-2025

Sl. No.	Parameter	Method of analysis	Detection limit	Observed Value		National Ambient Air Quality Standard NAAQS, 2009
				WNJOA-1	WNJOA-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 $\mu\text{g}/\text{m}^3$	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	**
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



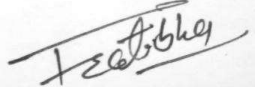
<b>Environment Laboratory</b> <b>CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b> <b>Ambient Air Quality Monitoring Data For</b> <b>Heavy Metals</b>	 TC-7102
---	---	--

TEST REPORT NO.	RIN/TR/JUNE /HM91	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	JUNAD OC	SAMPLING PLAN : LQR 47	
No. of Pages	1		

SI No.	Name of location	Location Code	Date of sampling
1	SECURITY CHECK POST	WNJOF-1	17-04-2025

Sl. No.	Parameter	Method of analysis	Detection limit	Observed Value	National Ambient Air Quality Standard NAAQS, 2009
				WNJOF-1	
1	Arsenic, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.0007 \mu\text{g}/\text{m}^3$	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	$1.0 \mu\text{g}/\text{m}^3$ (24 Hourly average)
3	Nickle, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.007 \mu\text{g}/\text{m}^3$	0.0075	$0.02 \mu\text{g}/\text{m}^3$ (Annual average)
4	Total Chromium, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.0045 \mu\text{g}/\text{m}^3$	0.0048	**
5	Cadmium, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.0015 \mu\text{g}/\text{m}^3$	BDL	**
6	Mercury, $\mu\text{g}/\text{m}^3$	ASTM D 4185	$0.0007 \mu\text{g}/\text{m}^3$	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**  
**JUNAD DEEP EXTN. OC MINE,**  
**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**  
**ISO 9001:2015, ISO 14001:2015, ISO 45001:2018**  
Lab. & Consultancy: FP-34, 35, Food Park,  
MIDC, Butibori, Nagpur – 441122  
Mob: +91-9372960077  
Email: [ngp@anacon.in](mailto:ngp@anacon.in)  
Website: [www.anaconlaboratories.com](http://www.anaconlaboratories.com)  
Report No. ANqr /PD/20A/2023/199

**2025-26**

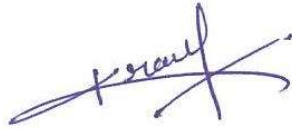
## Certificate

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 JUNAD DEEP EXTN. OC MINE, 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



CONTENTS			
TABLE/FIGURE	NAME OF SUB MINE PROJECT	GROUND WATER MONITORING DETAILS OF WELL	Page No.
I-FIGURE	JUNAD DEEP EXTN. OC MINE,	GROUND WATER MONITORING STATION (OBSERVATION WELLS IN AND AROUND OF JUNAD DEEP EXTN. OC MINE,	7
PHOTOGRAPHS	JUNAD DEEP EXTN. OC MINE,	PERIOD- MAY 2025 (PRE MONSOON) & AUGUST 2025 (MONSOON)	8
PHOTOGRAPHS	JUNAD DEEP EXTN. OC MINE	PHOTOGRAPHS	10



*Signature*

## INTRODUCTION

Western Coalfields Limited (WCL) is one of the eight Subsidiary Corporations (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 JUNAD DEEP EXTN. OC MINE,,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.





**JUNAD DEEP EXTN. OC MINE,  
WANI NORTH AREA  
WESTERN COALFIELDS LTD.**

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



A handwritten signature in blue ink, appearing to read "H. G. Wani".

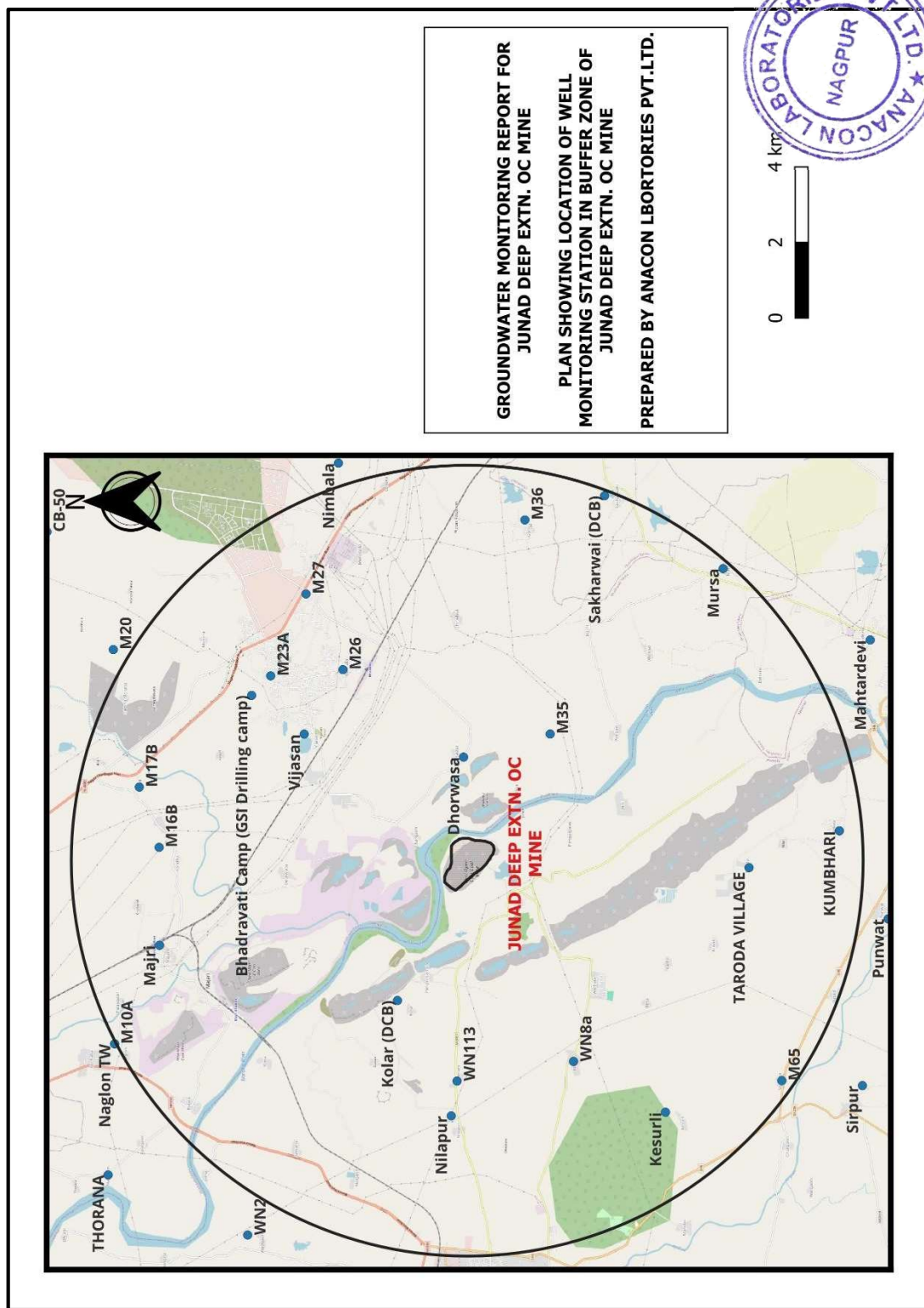


FIGURE-I: GROUND WATER MONITORING STATION (OBSERVATION WELLS IN AND AROUND OF JUNAD DEEP EXTN. OC MINE)



Table-I: Groundwater level monitoring data of dugwells in buffer zone of Junad Deep Extn. OC, Wani North Area, W.C.

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	WN6	Nilapur	About 800 m W of village, adjacent to Wani road	20°3'47.19768295 85572"	79°0'1.4463598 6976027"	197	4.95	9.2	0.34	4.20	1.30	D/I	—
2	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	—
3	WN13	Kesurli	N of village, near Hanuman Mandir	20°0'32.39059620 13654"	79°0'4.7851851 5303108"	198	2.8	8.5	0.33	4.70	2.30	D/I	—
5	WN5	Kolar (DCB)	E of village, adjacent to nalla well of Nilkant Pijurkar	20°4'36.12621753 2636"	79°1'46.454012 6850829"	211	1.82	10.52	0.15	6.60	1.50	D/I	—
6	M14B	Majri	SE of village, near GP office adjacent road	20°8'12.45821179 11999"	79°2'36.690441 2868496"	217	3.11	6.95	0.3	5.00	2.80	IRRIGATION	SHELLY LIMESTONE
7	M16B	Kondha (New)	E of village, N of main road	20°8'12.82156083 60037"	79°4'5.8883870 7195464"	219	3.32	10.49	0.64	5.80	2.50	IRRIGATION	SHELLY LIMESTONE
8	M17B	Kandoli	N of village, near Hanuman Mandir	20°8'30.85700667 4367"	79°5'0.8150599 13458088"	212	2.56	11.68	0.54	6.00	2.30	IRRIGATION	BASALT
10	M23	Bhadrava ti Camp (GSI Drilling camp)	N of village (outside), about 70 m E of Kesurli road after G.S.I drilling camp	20°6'48.67935122 88855"	79°6'24.298763 7521275"	221	2.68	12.25	0.82	6.10	4.10	DOMESTIC	SHELLY LIMESTONE
11	M23A	Bhadrava ti killa word	Vivekanand Madhyamik vidhalaya	20°6'31.39143120 07597"	79°6'42.027578 1246596"	224	2.49	17.74	0.54	8.00	3.20	IRRIGATION	SHELLY LIMESTONE
12	M26	Gaurala	C of village, near OHT	20°5'25.72710364 16739"	79°6'47.631536 2670925"	202	2.59	8.81	0.51	4.40	2.10	IRRIGATION	BASALT
13	M27	Sumthana	About 50 m W of Nagpur - Chandrapur road, backside of Shivam Kirana	20°5'59.29"	79°7'56.65"	213	2.68	13.35	0.7	6.80	1.40	IRRIGATION	SHELLY LIMESTONE
14	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
15	M41B	Vijasan	Near ZP school of Balwadi	20°6'0.901283823 739618"	79°5'48.961627 1474631"	213	2.74	12.59	0.82	6.30	3.70	DOMESTIC	SHELLY LIMESTONE
16	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



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		
17	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
18	M38	Sakharwa i (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
19	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
20	M65	BETWEEN CHARGAO N 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
21	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
22	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







**WN5-Kolar (DCB)**



**WN8A-Bhalar**



**WN13- Kesurli**



**M17B-Kandoli**



**M23A-Bhadravati killa word**



**WN6-Nilapur**



**M14B-Majri**



**M16B-Kondha (New)**





**M26-**



**M27-Sumthana**



**M36-Goraja**



**M41B-Vijasan**



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



**M48-Dongargaon**



**M66- THORANA**





**M65-BETWEEN CHARGAON AND SHELU**



**M39-Mursa**



**M72-KUMBHARI**



**M68-TARODA VILLAGE**



**M38-Sakharwai (DCB)**



**Anacon  
Laboratories**



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**

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 <https://www.anaconlaboratories.com>







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003074F

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

Dated 10.06.2025

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), 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>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> Kolar(DCB) (Well No.- WN5)	
<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)

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. 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# 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

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.

Snehal Raut  
Technical Manager

Verified By

Dhanashree Hiwaj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

• FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

• <https://www.anaconlaboratories.com>





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003087F

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

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-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)

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-----

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories

## Test Report



TC-12998

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>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 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.

*Kartik*  
Snehal Raut

Technical Manager

Verified By

*Dhanashree Hiwani*  
Dhanashree Hiwani

Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*  
Chinmay Garway

Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# 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)

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.4,7, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 <https://www.anaconlaboratories.com>





**Anacon  
Laboratories**



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

Snehal Raut  
Technical Manager

*Dhanashree*

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

*Chinmay*  
Chinmay Garway  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 <https://www.anaconlaboratories.com>





# Anacon Laboratories

## Test Report



TC-12998

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

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-----

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

9 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

https://www.anaconlaboratories.com







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003180F

Test Report No.: ALPL/10062025/05- 6

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-2/44-6 <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> 01.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Majri (Well No.-M14B)	
<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	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	206.95
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	69.6
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	0.51
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : clause 6	30	100	28.67
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	7.91
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	33.91
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	728
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	292
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 Ganway  
 Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003180F

Test Report No.: ALPL/10062025/05- 6

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-2/44-6		<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> 01.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Majri (Well No.-M14B)	
<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	0.35
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, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003181F

Test Report No.: ALPL/10062025/05-7

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-2/44-7	<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> 01.05.2025 <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

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	174.75
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	128.11
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	28.18
8	Nitrate (as NO <sub>3</sub> )	mg/l	IS 3025 (Part 34/Sec1) :clause 6.4	45	No relaxation	3.84
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	7.61
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	22.60
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	768
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	280
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

*Kant*

Snehal Raut  
Technical Manager

*Dhanashree Hiwanj*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*

Chinmay Garway  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

9 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

https://www.anaconlaboratories.com







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003181F

Test Report No.: ALPL/10062025/05- 7

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-2/44-7 <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> 01.05.2025 <b>Sampling Time</b> Not Mentioned		<b>Sampling Location</b> Kondha(New) (Well No.-M16B)	
<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. 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003182F

Test Report No.: ALPL/10062025/05- 8

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-2/44-8 <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> 01.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Kandoli (Well No.-M17B)
<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

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 Hiwari*

Dhanashree Hiwari  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Ganay*

Chinmay Ganay  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003182F

Test Report No.: ALPL/10062025/05- 8

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-2/44-8 <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> 01.05.2025 <b>Sampling Time</b> Not Mentioned	<b>Sampling Location</b> Kandoli (Well No.-M17B)
<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)

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. 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

[https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003184F

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

📍 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



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>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> 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	0.47
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)

**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. 12 & 14

Verified By

*[Signature]*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

[https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories

## Test Report



TC-12998

ULR No.- TC129982500003185F

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>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> 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					

● 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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003185F

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

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-2/44-11 <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)

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, 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

9 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

<https://www.anaconlaboratories.com>





# 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		
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 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 Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# 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)

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. 12 & 14

Verified By

*[Signature]*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003187F

Test Report No.: ALPL/10062025/05- 13

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-2/44-13 <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> Sumthana (Well No.-M27)
<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	174.75
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	152.75
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	61.6
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	0.22
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	7.52
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	8.11
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	572
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	266
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 Hiwari  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*

Chinmay Garway  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 <https://www.anaconlaboratories.com>





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003187F

Test Report No.: ALPL/10062025/05- 13

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> <b>Inward Date</b> <b>Reference</b> <b>Inv. No.</b>	<b>ALPL/21052025/W-2/44-13</b> <b>21.05.2025</b> <b>WCL/HQ/ENV/14-L/ 1122-1148</b> <b>dt19 Apr 2025</b> <b>5</b>	<b>Analysis Start</b> <b>Analysis End</b>	<b>21.05.2025</b> <b>28.05.2025</b>
<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> <b>Sampling Time</b>		<b>Sampling Location</b>	
		02.05.2025 Not Mentioned		Sumthana (Well No.-M27)	
<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	0.39
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. 12 & 14

Verified By

*[Signature]*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003190F

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

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-2/44-16	<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>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

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

9 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

https://www.anaconlaboratories.com







# 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>	
		<b>Sampling Time</b>	Not Mentioned	Dhorwasa (Well No.-M32B)	
<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)

**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-----

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 https://www.anaconlaboratories.com





# Anacon Laboratories

## Test Report



TC-12998

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>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> 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 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					

● 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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

9 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

[https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003207F

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

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-2/44-33 <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> Pipri (Well No.-M35)	
<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)

**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

*[Signature]*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

9FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

[https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# Anacon Laboratories

## Test Report



TC-12998

ULR No.- TC129982500003208F

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>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 Location</b> Goraja (Well No.-M36)	
		<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	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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003208F

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

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-2/44-34	<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>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> 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)

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. 1

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories

## Test Report



TC-12998

ULR No.- TC129982500003209F

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 <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> 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

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 Hiwanj*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*

Chinmay Garway  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003209F

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>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> 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)

**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-----

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# 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>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> 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	186.4
2	Colour	Hazen	IS 3025 (Part 4) : clause 4	5	15	1
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :clause 2	250	1000	187.24
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : clause 5	75	200	69.6
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	0.30
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	5.24
9	Odour	-	IS 3025 (Part 5)	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	8.06
11	Sulphate (as SO <sub>4</sub> )	mg/l	IS 3025 (Part 24/Sec 1) : clause 5	200	400	25.83
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	566
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	236
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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003210F

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

Dated 10.06.2025

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), 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

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. 12 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003191F

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>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> 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 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	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	128.60
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	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	9.58
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	22.79
12	Total dissolved solids	mg/l	IS 3025 (Part 16)	500	2000	810
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	424
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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003191F

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

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-2/44-17 <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 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)

**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-----

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC12998250003211F

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

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-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 Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003211F

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>Reference</b> WCL/HQ/ENV/14-L/ 1122-1148 dt19 Apr 2025 <b>Inv. No.</b> 5	<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> 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)

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

*[Signature]*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*[Signature]*

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)





# Anacon Laboratories

## Test Report



TC-12998

ULR No.- TC12998250003214F

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>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> 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).			

### 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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 <https://www.anaconlaboratories.com>





# 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>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> 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)

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 & 14

Verified By

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

Chinmay Garway  
Deputy Quality Manager

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

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

● FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

☎ + 91 8045685558 ✉ Email : [info@anacon.in](mailto:info@anacon.in)

🌐 [https:// www.anaconlaboratories.com](https://www.anaconlaboratories.com)







# 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 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	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 Hiwanj*

Dhanashree Hiwanj  
Sr. Technical Assistant

Authorized Signatory

*Chinmay Garway*  
Deputy Quality Manager

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

9 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

https://www.anaconlaboratories.com





# Anacon Laboratories



TC-12998

## Test Report

ULR No.- TC129982500003218F

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

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-2/44-44 <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> 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-----

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavour towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on [feedback@anacon.in](mailto:feedback@anacon.in).

**Anacon Laboratories Pvt. Ltd. Nagpur Lab**

9 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122

+ 91 8045685558 Email : [info@anacon.in](mailto:info@anacon.in)

https://www.anaconlaboratories.com



**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**





**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

March 2025

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



**Document Control Sheet**

(1) Job No.	564924124
(2) Publication Date	March 2025
(3) Number of Pages	84
(4) Number of Figures	29
(5) Number of Tables	02
(6) Number of Plates	26
(7) Title of Report	Land Restoration / Reclamation Monitoring of Open Cast of Western Coalfields Ltd producing More than 5 million Cu.m. (Coal+OB) Based on Satellite Data for the Year 2024
(8) Aim of the Report	To prepare land use/cover map of leasehold area of 26 opencast projects based on high resolution satellite data (IRS2-L4FX) of the year 2024 using digital image processing technique.
(9) Executing Unit	Remote Sensing Cell, Geomatics Division, Central Mine Planning & Design Institute Limited, Gondwana Place, Kanke Road, Ranchi 834008
(10) User Agency	Western Coalfields Ltd., Nagpur, Maharashtra.
(11) Author	1) Swabhimani Dehariya, Asst. Manager (Mining/Geomatics) 2) Taluk Mondal, Chief Manager (E&M /Geomatics)
(12) Security Restriction	Restricted Circulation
(13) No. of Copies	5
(14) Distribution Statement	Official

## CONTENTS (विषय)

	Page No.
<b>कार्यकारी सारांश</b>	viii- ix
<b>Executive Summary</b>	x-xv
1.0 Background	1
2.0 Objective	2
3.0 Methodology	2
4.0 Work Plan	5
5.0 Land Reclamation Status in Western Coalfields Limited	6

### List of Tables

Table-1	Project wise Land Reclamation Status	xii-xiii
Table-2	Area Statistics of Land Use Classes in OC Mines	9-10

### List of Figures

Figure - 1	Pie Chart of distribution percentage of Reclamation Activities	xi
Figure - 2	Bar-Chart of Project wise Land Reclamation Status	xiv-xv
Figure - 3	Methodology of Land Reclamation Monitoring	03
Figure - 4	Bar-Chart of Land Reclamation Status of Sasti OCP	37
Figure - 5	Bar-Chart of Land Reclamation Status of Durgapur OCP	37
Figure - 6	Bar-Chart of Land Reclamation Status of Mungoli OCP	38
Figure - 7	Bar-Chart of Land Reclamation Status of Umrer OCP	38
Figure - 8	Bar-Chart of Land Reclamation Status of Ukni OCP	39
Figure - 9	Bar-Chart of Land Reclamation Status of Niljai OCP	39
Figure - 10	Bar-Chart of Land Reclamation Status of New Majri OCP	40
Figure - 11	Bar-Chart of Land Reclamation Status of MKD-III OCP	40
Figure - 12	Bar-Chart of Land Reclamation Status of Penganga OCP	41
Figure - 13	Bar-Chart of Land Reclamation Status of Yekona-I&II(Amal) OCP	41



Figure - 14	Bar-Chart of Land Reclamation Status of New Majri UG to OCP	42
Figure - 15	Bar-Chart of Land Reclamation Status of Pauni-II(Expn) OCP	42
Figure - 16	Bar-Chart of Land Reclamation Status of MKD-I(Expn) OCP	43
Figure - 17	Bar-Chart of Land Reclamation Status of Bhatadi OCP	43
Figure - 18	Bar-Chart of Land Reclamation Status of Bellora Naigaon OCP	44
Figure - 19	Bar-Chart of Land Reclamation Status of Ballarpur OCP	44
Figure - 20	Bar-Chart of Land Reclamation Status of Junad OCP	45
Figure - 21	Bar-Chart of Land Reclamation Status of Kolarpimpiri OCP	45
Figure - 22	Bar-Chart of Land Reclamation Status of HLOCM OCP	46
Figure - 23	Bar-Chart of Land Reclamation Status of Gauri Pauni OCP	46
Figure - 24	Bar-Chart of Land Reclamation Status of Gondrgaon OCP	47
Figure - 25	Bar-Chart of Land Reclamation Status of Adasa UG to OCP	47
Figure - 26	Bar-Chart of Land Reclamation Status of Bhanegaon OCP	48
Figure - 27	Bar-Chart of Land Reclamation Status of Gokul OCP	48
Figure - 28	Bar-Chart of Land Reclamation Status of Inder Kamptee Amal.	49
Figure - 29	Bar-Chart of Land Reclamation Status of Dhuptala OCP	49

**List of Plates**

Plate - 1	Land Use Map of Sasti OCP	11
Plate - 2	Land Use Map of Durgapur OCP	12
Plate - 3	Land Use Map of Mungoli OCP	13
Plate - 4	Land Use Map of Umrer OCP	14
Plate - 5	Land Use Map of Ukni OCP	15
Plate - 6	Land Use Map of Niljai OCP	16
Plate - 7	Land Use Map of New Majri OCP	17
Plate - 8	Land Use Map of MKD-III OCP	18
Plate - 9	Land Use Map of Penganga OCP	19
Plate -10	Land Use Map of Yekona-I&II(Amal) OCP	20
Plate -11	Land Use Map of New Majri UG to OCP	21
Plate -12	Land Use Map of Pauni-II(Expn) OCP	22
Plate -13	Land Use Map of MKD-I(Expn) OCP	23
Plate - 14	Land Use Map of Bhatadi OCP	24

Plate - 15	Land Use Map of Bellora Naigaon OCP	25
Plate - 16	Land Use Map of Ballarpur OCP	26
Plate - 17	Land Use Map of Junad OCP	27
Plate - 18	Land Use Map of Kolarpimpiri OCP	28
Plate - 19	Land Use Map of HLOCM OCP	29
Plate - 20	Land Use Map of Gauri Pauni OCP	30
Plate - 21	Land Use Map of Gondegaon OCP	31
Plate - 22	Land Use Map of Adasa UG to OC OCP	32
Plate - 23	Land Use Map of Bhanegaon OCP	33
Plate - 24	Land Use Map G to Gokul OCP	34
Plate - 25	Land Use Map of Inder Kamptee Amal. OCP	35
Plate - 26	Land Use Map of Dhuptala OCP	36

### **List of Photographs**

Photo - 1	Plantation on Internal OB/Backfill (Sasti OCP)	50
Photo - 2	Avenue plantation (Durgapur OCP)	50
Photo - 3	Plantation (Mungoli OCP)	51
Photo - 4	Avenue plantation (Umrer OCP)	51
Photo - 5	Plantation on OB dump (Ukni OCP)	52
Photo - 6	Plantation on OB dump (Niljai OCP)	52
Photo - 7	Plantation on OB dump (New Majri OCP)	53
Photo - 8	Plantation on OB dump (MKD-III OCP)	53
Photo - 9	Plantation on Embankment (Penganga OCP)	54
Photo - 10	Avenue plantation (Yekona-I&II amal. OCP)	54
Photo - 11	Plantation on OB dump (New Majri UG to OCP)	55
Photo - 12	Social Forestry (Pauni-II Expn. OCP)	55
Photo - 13	Social Forestry (MKD-I Expn. OCP)	56
Photo - 14	Avenue plantation (Bhatadi OCP)	56
Photo - 15	Plantation on External OB dump (Bellora-Naigaon OCP)	57
Photo - 16	Social Forestry (Ballarpur OCP)	57
Photo - 17	Social Forestry (Junad OCP)	58
Photo - 18	Avenue plantation (Kolarpimpiri OCP)	58
Photo - 19	Plantation along road (HLOCM OCP)	59

Photo - 20	Plantation (Gauri Pauni OCP)	59
Photo - 21	Plantation on External OB dump (Gondegaon OCP)	60
Photo - 22	Social Forestry (Adasa UG to OC OCP)	60
Photo - 23	Social Forestry (Bhanegaon OCP)	61
Photo - 24	Social Forestry (Gokul OCP)	61
Photo - 25	Plantation on External OB dump (Inder Kamptee Amal.. OCP)	62
Photo - 26	Avenue plantation (Dhuptala OCP)	62
 <b>शब्दकोष</b>		63-65
<b>Abbreviations</b>		66
<b>Glossary</b>		67-68



## 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 परियोजनाए जिन्हें भताड़ी, बेलोरा-नयागांव, बल्लारपुर, जुनाड, कोलारपिम्पी, हिंदुस्तान लालपेथ, गौरी-पौनी, गोंडेगाँव, अदासा (भूमिगत से खुली खदान), भानेगाँव, 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 परियोजनाए 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), भताड़ी, 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

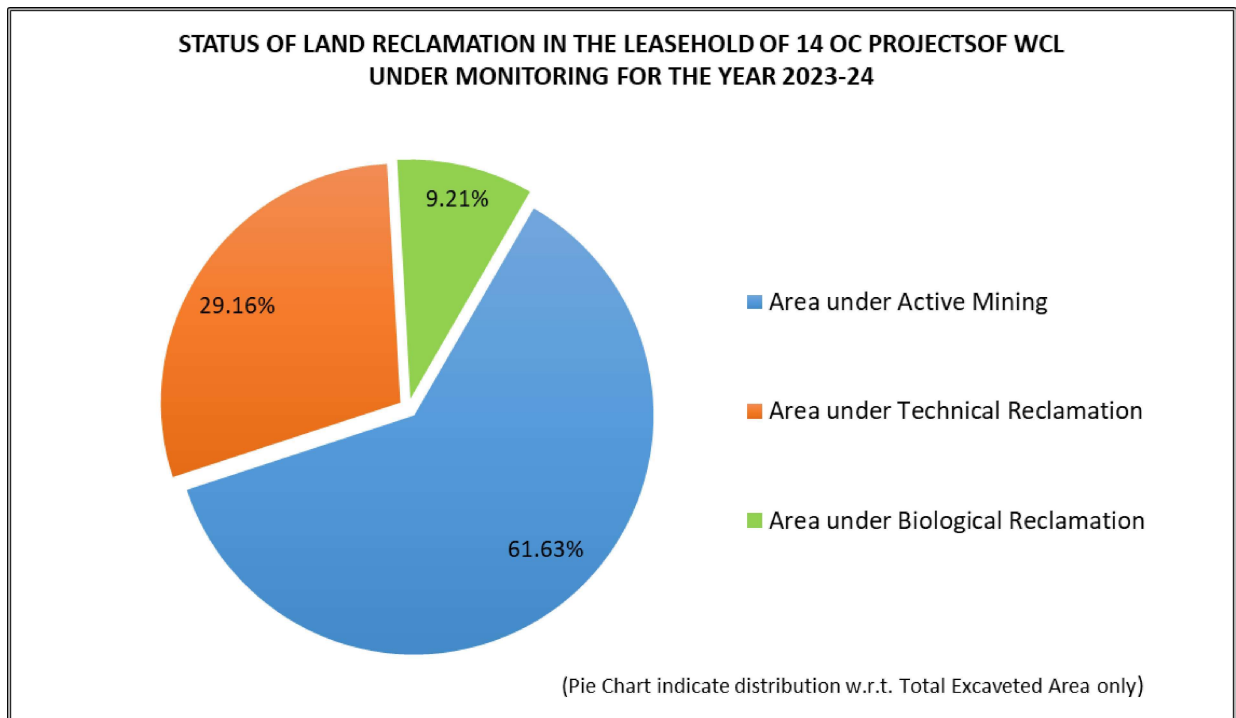
अधिकतम ८५.९५ प्रतिशत हुआ है अतः इसे शीर्ष स्थान पर रखा गया है इसके बाद क्रमशः सास्ती खुली खदान (८०.७३ प्रतिशत) तथा उमरेड (६६.२५ प्रतिशत) खुली परियोजनाओं का स्थान है।

- 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 (बैकफ़ील 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 Area under Backfilling		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 External Over Burden Dumps		Social Forestry, Avenue Plantation Etc.												
1	2	3	4	5	6	7	8	9 (=4+5+8)	10 (=5+6+7)	11 (=4+5)												
		2023	2024	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	3.95	4.36	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	2.14	2.14			
				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	1.70	1.90			
				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	3.14	3.20			
				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	0.54	0.65			
				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	1.59	1.88			
				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	1.88	2.10			
				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	0.41	0.46			
				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	0.75	0.84			
				37.50%	37.17%	0.00%	0.00%					62.50%	62.83%			13.63%	15.47%	37.50%	37.17%			
10	Yekona-&II(Amal)	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	0.01	0.20			
				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%	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%	0.00%	0.00%					100.00%	100.00%			3.65%	5.02%	0.00%	0.00%			
13	MKD -1 (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%	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	37.24	41.50	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+DBI) 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 (± Gross Cover Generated in Leasehold)		Total Area under Reclamation			
			Area under Backfilling	2024	2024	5	2024	Other Plantations		2024	2024								
								Plantation on External Over Burden Dumps	Social Forestry, Araneic Plantation Etc.										
1	2	?	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
14	Bhatadi	8.47	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	1.07	0.39	0.44	
15	Bellora Naigaon	6.65	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	Ballarpur	2.43	2.43	35.44%	37.22%	8.74%	8.97%	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	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	14.89	34.28%	34.17%	4.63%	10.00%	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	HLOOM	3.12	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	Gouri pouni	6.77	12.91	0.89	0.91	0.60	0.79	2.06	2.55	0.62	0.64	0.95	1.00	2.44	3.40	3.28	3.98	1.49	1.70
21	Gondagaon	7.91	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 QC	5.64	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	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	0.75	0.89	0.00	0.00	0.00	0.00	0.30	0.92	1.78	2.12	2.53	3.01	0.30	0.92	0.75	0.89
25	Inder Kamptee Area	11.25	7.95	1.12	0.75	0.09	0.34	0.76	1.41	0.85	0.31	1.47	1.62	2.68	2.71	1.70	2.06	1.21	1.09
26	Dhuptala	-	10.14	-	0.00	-	0.00	-	0.25	-	0.30	-	1.74	-	1.74	-	0.55	-	0.00
	Total-B	82.68	98.11	6.37	6.49	1.30	1.94	8.50	10.70	4.24	5.22	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%	17.98	19.24	5.26	6.08	22.20	25.57	33.43	40.67	56.67	65.99	41.37	47.26	23.24	25.32
				31.73%	29.16%	9.28%	9.21%					58.99%	61.63%			18.38%	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 back fill only.
- 3 Area under Active Mining includes coal quarry, advance quarry & quarry filled with water etc.
- 4 Social forestry and plantation on external DB 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.



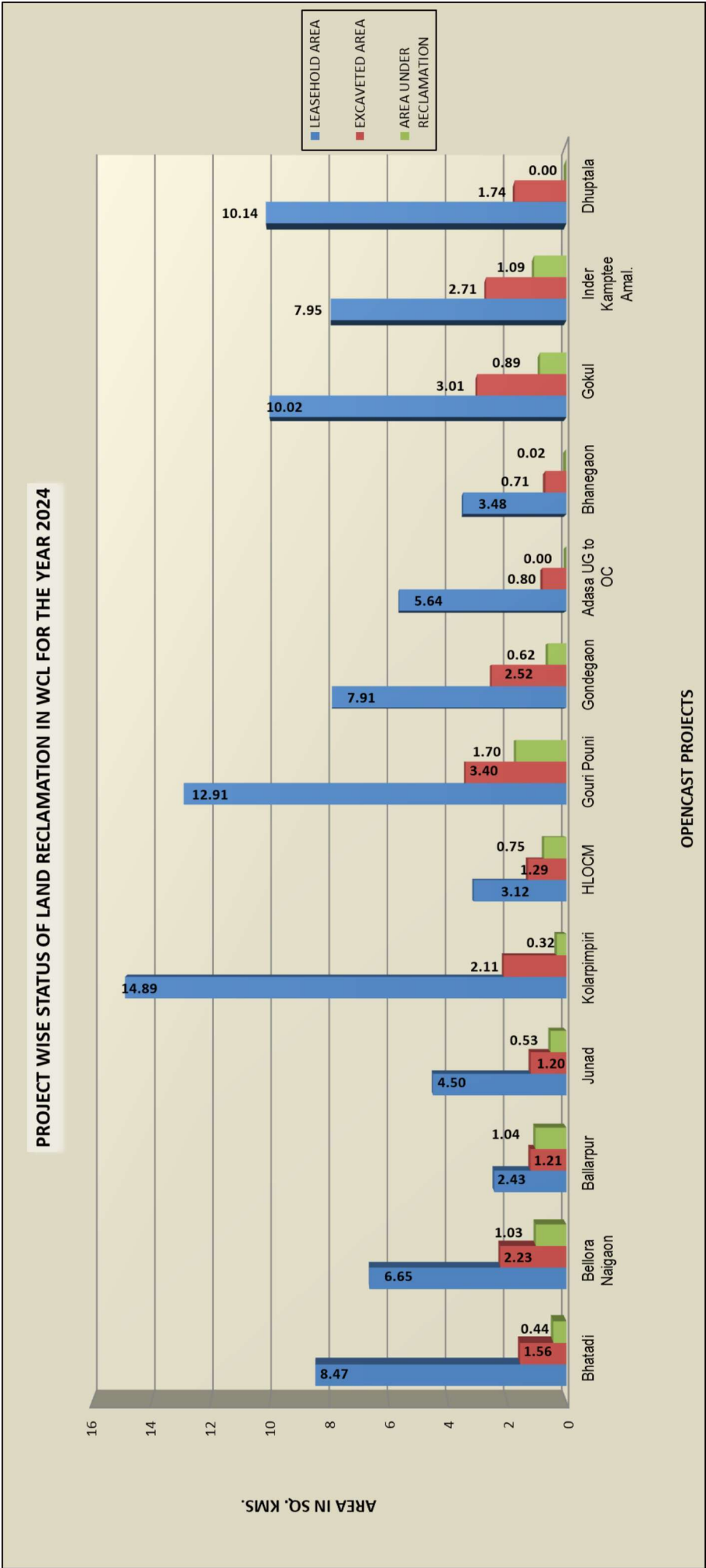


Fig.2: Land reclamation status in 14OC projects of WCL for the year 2024

## **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:

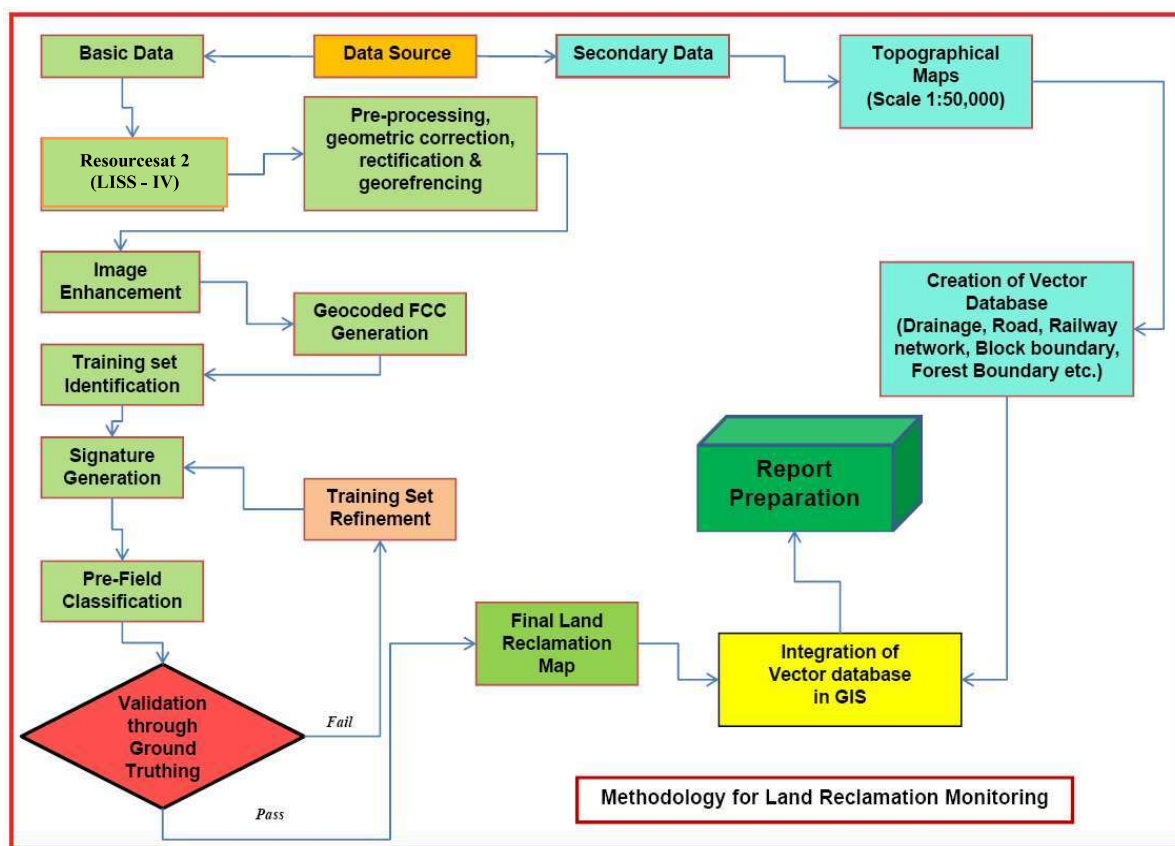


Figure: 3- **Methodology for Land Reclamation Monitoring**

**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)																											
		Sasti		Durgapur		Mungoli		Ummer		Ukni		Nilgai		New Majri		MKD-III		Penganga		Yekona-I&II (Amal)		New Majri Ug to OC		Pauni-II (Expn)		MKD-I (Expn.)		Total	
		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	6.52	0.30	2.74	0.00	0.00	10.39	7.23	
	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	4.96	0.25	2.28	0.10	1.63	14.87	10.35	
PLANTATION	Plantation on Backfill (Biological 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	11.47	0.55	5.02	0.10	1.63	29.40	20.46	
	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	29.12
COAL MINING	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
	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	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
	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 Backfilled 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
	Total Area	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
	Total Area Under Mine Operation	4.43	43.39	5.48	35.35	6.08	48.45	3.22	34.07	6.53	50.82	9.30	52.81	4.40	56.85	4.56	49.40	3.61	47.31	3.71	22.10	2.28	32.29	4.91	44.84	2.64	43.00	61.15	42.55
WASTELANDS	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
	Ply 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, nullah, 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
	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
AGRICULTURE	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
	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	0.36	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	
	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 Nalgaoon		Ballarpur		Junad		Kolar Pimpiri		HLOCM		Gauri-Pouni		Gondegaon		Adasa UG to OC		Dhuplata		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	Scrub	0.97	11.45	0.53	7.97	0.01	0.41	0.51	11.33	2.40	16.12	0.02	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
PLANTATION	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	7.69	0.00	0.00	0.33	9.48	0.10	1.63	9.92	10.30
	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	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
ACTIVE MINING	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
	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	0.91	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	0.09	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	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
	Bareen 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
	Bareen Backfilled 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	5.74	5.96	
WASTELANDS	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	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	0.37	0.38	
WATERBODIES	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
	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	0.33	0.34	
	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	0.37	0.38	
SETTLEMENTS	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	0.49	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	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





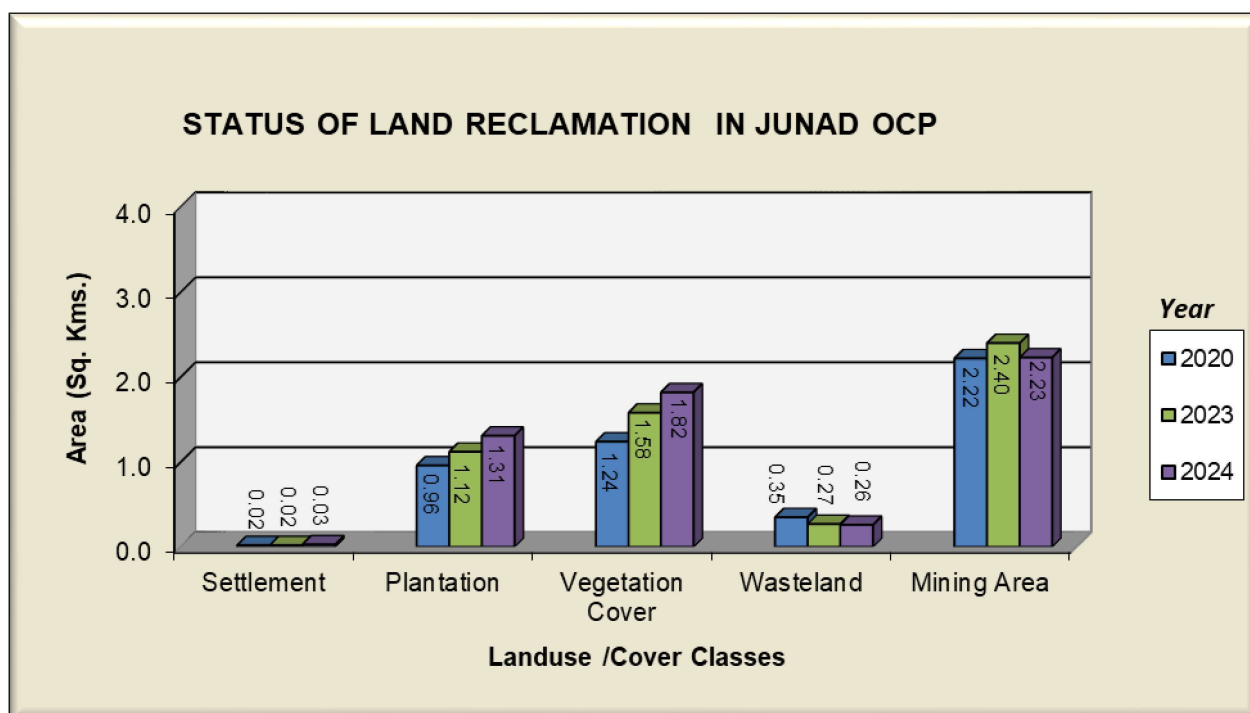


Figure 20

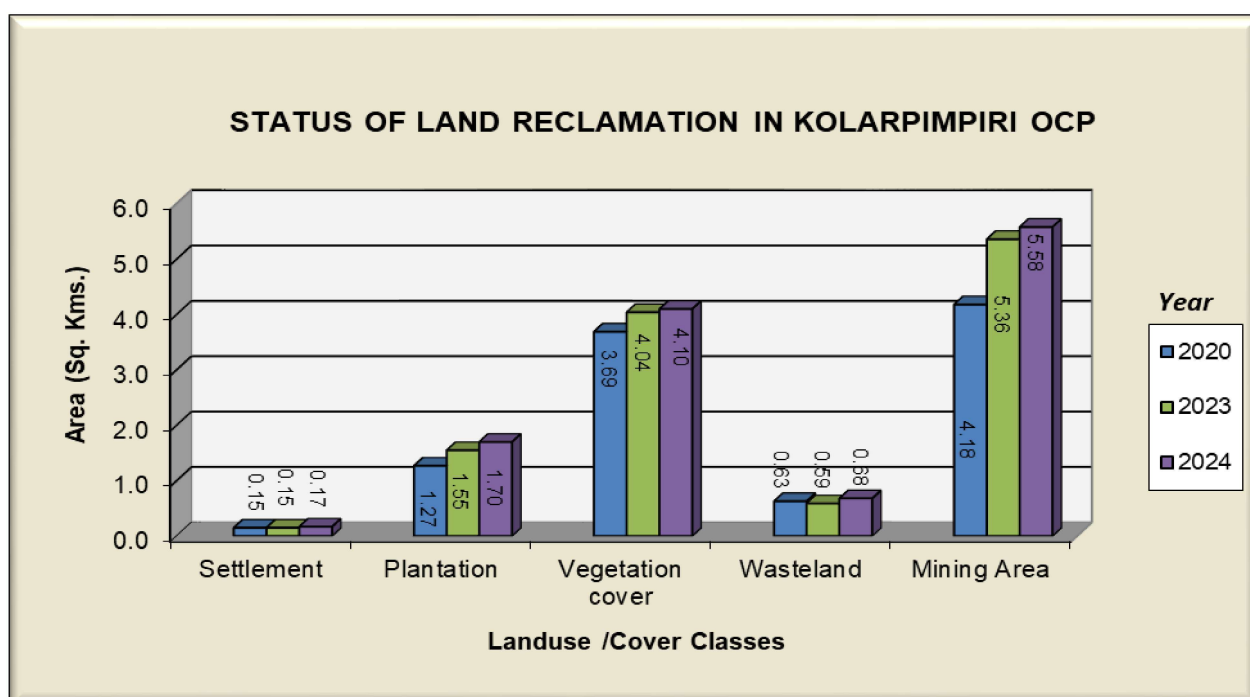
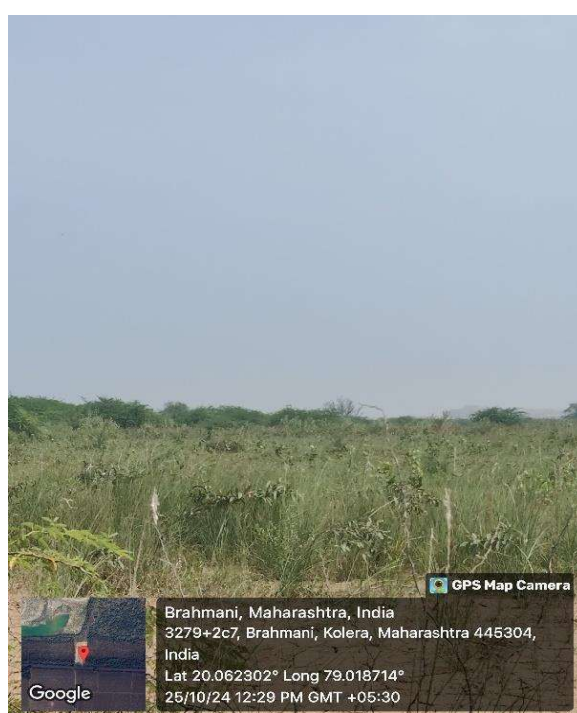


Figure 21



Photograph-17: Social Forestry (Junad OCP)



Photograph-18: Avenue plantation (Kolarpimpiri 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-

---

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

---

**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.

(A Subsidiary of Coal India Ltd.)

Gondwana Place, Kanke Road, Ranchi 834031, Jharkhand

Phone : (+91) 651 2230001, 2230002, 2230483, FAX (+91) 651 2231447, 2231851

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-0000088451

### Submitted Date

30-09-2025

## PART A

### Company Information

#### Company Name

Western Coalfields Limited, Junad Opencast Mine

#### Application UAN number

MPCB-ENVIRONMENT\_STATEMENT-0000058578

#### Address

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

#### Plot no

118,114,115,116,117,123,124

#### Taluka

Wani

#### Village

Ukni

#### Capital Investment (In lakhs)

10612.42

#### 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-0000232993/CR/2509000998

#### Consent Issue Date

2025-09-10

#### Consent Valid Upto

2027-03-31

#### Establishment Year

1998

#### Date of last environment statement submitted

Sep 28 2024 12:00:00:000AM

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

### Product Information

#### Product Name

COAL

#### Consent Quantity

0.9

#### Actual Quantity

0.306

#### 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	
	400.00	400.00	
Cooling	0.00	0.00	
Domestic	14.00	14.00	
All others	3470.00	0.00	
Total	3884.00	414.00	
<u>2) Effluent Generation in CMD / MLD</u>			
Particulars	Consent Quantity	Actual Quantity	UOM
Mine Discharge	3056	3056	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(Cubic meter per annum/Tonne)	0.326	0.493	
<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
Explosive	2.532	11.70	Kg/Annum
<u>4) Fuel Consumption</u>			
Fuel Name	Consent quantity	Actual Quantity	UOM
Diesel	0	1051	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		
	Quantity	Concentration	%variation	Standard	Reason
Water quality monitoring reports have been attached	0	0	0	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		
	Quantity	Concentration	%variation	Standard	Reason
NA	0	0	0	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	4.147	7.884	KL/A
5.2 Wastes or residues containing oil	0.5	0.2	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	2	2	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	7.884	KL/A	-
5.2 Wastes or residues containing oil	0.2	Ton/Y	-
34.2 Sludge from treatment of waste water arising out of cleaning / disposal of barrels / containers	2	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	0	2838000	1621000	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**

<b><i>Detail of measures for Environmental Protection</i></b>	<b><i>Environmental Protection Measures</i></b>	<b><i>Capital Investment (Lacks)</i></b>
Revenue expenditure for Pollution control works	-	14.08

***[B] Investment Proposed for next Year***

<b>Detail of measures for Environmental Protection</b>	<b>Environmental Protection Measures</b>	<b>Capital Investment (Lacks)</b>
Miscellaneous Environment protection measures	-	1

## 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-0000088451

## Submitted On:

30-09-2025