
		<p>वेस्टर्न कोलफील्ड्स लिमिटेड Western Coalfields Limited (मिनीरत्न कंपनी) (A Miniratna Company) (A Subsidiary of Coal India Limited)</p>	 <p>ANGARA- Official mascot of Coal India Limited</p>
<p>उपक्षेत्रीय प्रबंधक कार्यालय, घोरावाडी कोलियरी न.2 -तानसी उपक्षेत्र, पो. घोरावाडी, जिला-छिन्दवाडा(म.प्र.) ४८०५५५ CIN- U10100MH1975GOI018626</p>		<p>OFFICE OF THE SUB AREA MANAGER, GHORAWARI-TANDSI SUB AREA PO- Ghorawari, Distt. Chhindwara (MP) 480555</p>	
<p>पंजी.कार्या.:कोल इस्टेट, सिविल लाइन्स, नागपुर -४४०००१</p>		<p>Regd. Office: Coal Estate, Civil lines, Nagpur-440001</p>	
<p>सन्दर्भ:- वेकोलि/कन्हान/घोरा.ता.उ.क्षे/उप.क्षे.प्र /2026/199</p>		<p>दिनांक- 25.05.2026</p>	

प्रति,

1.Regional Officer,  
Integrated Regional Officer(Bhopal),MOEF&CC,  
Kendriya Paryavarn Bhavan, Link Road No.3,  
E-5,Ravishankar Nagar, Bhopal-462016(M.P)

2. Director (Monitoring Cell), MOEF&CC,  
Indira Paryavarn Bhayan,Jorbag Road,Aligunj,  
New Delhi-110003

**विषय:** Submission of Six Monthly EC Compliance Report of Ghorawari OC Mine (EC letter no -11015/367/2008/IA.II (M) dated 26.12.2008 For production Capacity 1.50 MTPA in Area of 1296.011 HA) for the period of Oct-2025 to March 2026 .

महोदय,

Reference to the above subject, please find enclosed herewith Six Monthly EC Compliance Report of Ghorawari OC Mine of Kanhan Area, WCL for the period of Oct-2025 to March 2026 for kind perusal.

  
उपक्षेत्रीय प्रबंधक

घोरावाडी तानसी उपक्षेत्र

प्रतिलिपि:

1. महाप्रबंधक (माइनिंग)/विभागाध्यक्ष (पर्यावरण) वेकोलि मुख्यालय, नागपुर
2. क्षेत्रीय महाप्रबंधक, कन्हान क्षेत्र
3. क्षेत्रीय नोडल अधिकारी(पर्यावरण), कन्हान क्षेत्र

#NowForClimate



WORLD  
ENVIRONMENT  
DAY



# **SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE**

## **GHORAWARIOC PATCHES**

**(1.50 MTPA IN AREA OF 1296 HA)**

**EC NO. - J-11015/367/2008/IA.II (M)**

**DATED 26.12.2008**



**WESTERN COALFIELDS LIMITED**

**KANHAN AREA**

**PO: DUNGARIA, CHHINDWARA (MP)-480553**

**PERIOD-OCTOBER 2025 TO MARCH 2026**

# Western Coalfields Ltd.



Present Status

Kanhan Area

## **Ghorawari OC Patches**

(1.5 MTPA)

<b>Sl.No</b>	<b>Contents</b>
1.	Data Sheet
2.	Information about mine, Status of EMP provision, Status of compliances
3.	EC Clearance letter
4.	Compliance Status of Environmental Clearance Condition
5.	Environmental Management at Ambara OC mine- Air Pollution & Water Pollution Control Measures
6.	Accreditation Certificate Environmental Laboratory
7.	Consent to Operate (CTO) letter obtained from MPPCB
8.	Production Details
9.	Environment Monitoring Reports for the period the period of Oct. 2025 to Mar 2026
10.	Groundwater Monitoring Reports for the period Oct 2025 to March 2026
11.	Copy of Approval letter & Approved Mine Closure Plan

# Monitoring Implementation of Environmental Safeguards

**Ministry of Environment & forest  
Western Regional, Regional office, Bhopal  
MONITORING REPORT**

## DATA SHEET

Sno.	PARTICULARS	DETAILS.
1.	Project type : River Valley/Mining/Industry /Thermal/N/other (Specify)	Mining.
2.	Name of Project	GHORAWARI OPENCAST PATCHES MINE
3.	Clearance letter (s) OM No.& date	MOEF OM No. J-11015/367/2008-IA.II (M) dated 26.12.2008
4.	Location a).District b) state (s) c). Location Latitude. Longitude.	Chhindwara. Madhya Pradesh  N 22 <sup>0</sup> ,11'43" E 77 <sup>0</sup> 31'69"
05.	Address for Correspondence a), Address of the Concerned Project Chief Engineer (with pin code & telephone/telex/fax numbers)  b) Address of the Executive/Project Engineer/Manager (with pin code & telephone/telex/fax numbers)	C/O : General Manager, Kanhan Area, WCL Post : Dungaria, District-Chhindwara (M.P.), 07160-231245-48, 07160-230504  Sub Area Manager, Ghorawari Sub Area,Kanhan Area WCL, Distt-Chhindwara (M.P.)
06	a) Salient Features of the project	i) Production Capacity :- 1.50 MTPA ii) Total lease Area :-1296.011 ha. Agri.(Tenancy)Land : 178.10 ha Forest Land : 593.00 ha Other land (Govt+WCL) : 524.911 Total 1296.011 ha iii) Break up of Land : 178.10 ha a) Mining Right (Agriculture : 192.00 ha land )  b) Mining Right (Forest Land) :- iv) Work Force : 80 v) Balance Life : 16 years vi) Capital Out Lay : 3737 Lakhs – (Rs in Lakhs) (As on 30.09.2021) vii) Method of Mining : Opencast Method i) PH held on 22.11.2005 ii) No objection certificate for 0.45 MTPA issued by MPPCB on 08.02.2006 iii) Environment Clearance for 1.50 MTPA coal

		<p>production issued by MOEF vide letter No. J-11015/367/2008-IA.II(M) 26.12.2008</p> <p>iv) Mining Plan of Bharat OC patch (under Ghorawari OC Patch) has been approved by WCL Board on 21.07.2024 for production capacity of 0.47MTPA in ML Area of 111.489 Ha)</p> <p>iv) Plantation/ Green Belt</p> <p>a) Around Colony &amp; Infrastructure –2500Nos/Ha.</p> <p>b) Vacant land : 2500 Nos/Ha.</p> <p>v) Pollution Control Measures: Regular dust suppression by water through tankers during mine operations.</p>
--	--	--

06 (b) Salient features of the environmental Management plans.

S.No.	Environmental issues *	Already practiced, if applicable	Proposed
01	Air pollution	1) Regular dust suppression by water spraying through tankers. 2) Plantation.	To be continued
02	Water pollution	Mine water is allowed to settle in sedimentation tank. It is utilized in dust suppression and spraying during mine operations. The domestic sewage is treated in conventional soak pit provided to individual quarters.	To be continued
03	Water conservation	Abandoned OC patches acts as rainwater harvesting structures and water is being supplied from the abandoned quarries to WCL colony and nearby villages for domestic use. 1. Abandoned Quarry 6A/6B OC Patch Total Area -2.07 Ha Approximate Depth- 15 m  2. Abandoned Quarry Kothideo OC Patch Total area - 5.20 Ha Approximate Depth -25 m  3. Abandoned Quarry Neemdhana OC Patch (GHC-3 OC)	-

		Total Area – 1.13 Ha Approximate Depth– 11 m	
04	Noise pollution	Ear muffling provided to workers Plantation around mine, workshops etc.	To be continued
05	Solid waste/Tailings (overburden).	Used for back filling	To be continued
06	Land degradation	Plantation on back filled area.	To be continued.
07	Erosion & Sediment	Plantation	-
08	Top Soil	Dump separately	To be continued.
09	Ground vibration	Controlled blasting	-
10	Wildlife conservation	-	-
11	Forest protection	As per FC Act.	To be continued.
12	Others (specify)	-	-
		SN Measures/ Actions	Agency/ Responsibility
		<b><u>Environmental Monitoring, Control &amp; Implementation-</u></b>	
		1. Area General Manager, Kanhan Area 2. General Manager (Oprn.) Kanhan Area. 3. Area Nodal Officer (Environment), Kanhan Area 4. Sub Area Manager, Ghorawari Sub Area. 5. Staff Officer, (Civil) Kanhan Area. 6. Sub-Area Manager, Ghorawari Sub-Area 7. Nodal Officer (Env.), Ghorawari Sub Area 8. Environment Cell, (WCL HQ) 9. Environmental Laboratory of CMPDI, RI-IV	
7.	Break up of the project area a) Submergence area : Forest & non-forest b) Others.	a) NIL b) Agri.(Tenancy)Land : 178.10 ha Forest Land : 593.00 ha Other land (Govt+WCL) : 524.911 ha	
		Total	1296.011 ha
8.	Break up to the project affected population with enumeration of those losing housing /dwelling units & agricultural land & landless laboures/articians a) SC,ST/Adivasi b) Others. (Please indicate whether these figures are based on any scientific & systematic survey carried out or only provisional figures, if a survey is carried out give details & years of survey)	NIL  Not applicable.	

9.	<p>Financial details</p> <p>a) Project cost as originally planned &amp; subsequent revised estimates &amp; the year of reference.</p> <p>b) Allocation made for environment management with item wise &amp; year wise break up</p> <p>c) Benefits Cost ratio/Internal rate of return &amp; the years of assessment</p> <p>d) Whether ( c ) includes the cost of environmental management as shown in the above</p> <p>e) Actual expenditure incurred on the environmental management plans so far.</p>	<p>a) Rs. 3737 Lakhs as on 30.09.2021</p> <p>b) Rs. 3.00/t for following works</p> <p>i) Plantation</p> <p>ii) Environment Monitoring /Auditing</p> <p>iii) –Socio-economic welfare measures compliance statutory obligation like consent operate fee, water cases payment authorizations under different legislations.</p> <p>(c)---</p> <p>(d)--</p> <p>(e)Final Audited Figures to be furnished.</p>
10.	<p>Forest land requirement.</p> <p>a) The status of approval for acquisition of forest land for non forestry use</p> <p>b) The status of cleaning /felling</p> <p>c) The status of compensatory afforestation if any</p> <p>d) Comments on the viability &amp; sustainability of compensatory afforestation programme in the light of actual field experience so far</p>	<p>a) Stage II Clearance for 14.00 Ha of Forest land required for Bharat OC Phase-3 patch of Ghorawari OC patches has been acquired vide Letter No. 8-112/2006-FC Vol (E-171036) Dated 09-03-2026.</p> <p>b) Total 425 No.s trees cutting permission received.</p> <p>c) Not applicable</p> <p>d) Not applicable</p>
11.	<p>The status of clear felling in non-forest areas (such) as submergence area of reservoir, approach road etc.) if any with quantitative information required.</p>	<p>Not applicable.</p>
12.	<p>Status of construction (Actual &amp; or planned)</p> <p>a) Date of commencement (Actual &amp;/or Planned)</p> <p>b) Date of completion (Actual &amp; /or planned)</p>	<p>a) 1993-94</p> <p>b) Mine already commenced</p>
13.	<p>Reason for the delay, if the project is yet to start .</p>	<p>Not applicable.</p>
14.	<p>Dates of site visit</p> <p>a) Date on which the project was monitored by the Regional Office on previous occasions if any Site Visit.</p> <p>b) Date of site visit for this monitoring report.</p>	<p>17.03.2010</p> <p>March 2013</p> <p>--</p>
15.	<p>Details of correspondence with project authorities for obtaining act</p>	<p>Nil</p>

	<p>on plan/information on status of compliance to safeguards other than the routine letters for logistic support for site visit) (the first monitoring report may contain the details of all the letters issued so far but the later reports may cover only the letter issued subsequently.</p>	
--	---	--

**WESTERN COALFIELDS LIMITED**  
**Six Monthly Environmental Monitoring Report**  
**Project of Kanhan Area for the period**  
**OCT 2025 TO MAR 2026**  
**Ghorawari OC**

PART-I

Name of the Project	GHORAWARI OPENCAS
Location and Address	Village - Ghorawari Khurd, Distt-Chhindwara, State – M.P. ,PIN 480555
Address for Correspondence	P.O. GhorawariKhurd,Distt.Chhindwara (M.P.) Pin No. - 480555
MOEFs Clearance letter No.& Date	J-11015/367/2008-IAII (M)Dated 26 Dec.2008
Period of Status Report	<b>April 2025 to September 2025</b>
Date of Commencement of Project work	1993-94

**STATUS OF LAND ACQUISITION**

Type of Land	Required as per EMP (ha)	Actual acquired (ha)
Forest	593.000 ha.	8.5 ha.
Agriculture & Tenancy	178.100 ha.	76.816
Other	524.911 ha.	
<b>TOTAL</b>	<b>1296.011 ha.</b>	

**STATUS OF LEGAL COMPLIANCES**

(A). Consent under Water (Prevention and Control of Pollution ) Act.1974	Consent to Operate U/S 25 & 26 of the Water (Prevention & Control Of Pollution)Act 1974, Granted by MPPCB Vide Consent no. AW 63807 dated 11/02/2026 valid up to 31/01/2028.
(B). Consent under Air (Prevention and Control of Pollution ) Act.1981	Consent to Operate U/S 21 of the Air (Prevention & Control Of Pollution)Act 1981 Granted by MPPCB Vide Consent no. AW 63807 dated 11/02/2026 valid up to 31/01/2028.
(C). Environment (Protection) Rule.1986	Environment Audit statement for FY 2024-25 submitted.
(D). Forest (Conservation) Act.1980.	1. GoI, New Delhi L.N 8-112/2006-FC (Vol) Dt. 17.01.2015 2. MP Forest Dept. vide L.N 479/342/2015/10-3 dt. 26.02.2012 3. GoI, New Delhi L.No. 8-112/2006-FC Vol (E-171036) Dated 09-03-2026.

## PART – II

### STATUS OF ENVIRONMENT

#### AIR POLLUTION CONTROL:-

(A) No. of Ambient Air Monitoring Stations .	04 (Three) Nos.
(B) Name of the Location (*),	1. Office of the Manager, Ghorawari 2. SAM, Office Ghorawari , 3. Colony health centre, Ghorawari 4. Panara Village
(C) Ambient Air Quality status for the parameters Prescribed by state pollution control boards (average 9% time weighted values) **	Monitoring report for period of Oct. 2025 to Mar. 2026 is enclosed.

(\*) Location of sampling stations are to be delineated on the working mine plan.

\*\* Detailed report of sampling and analysis of ambient air quality carried out as per statute through Standard and approved laboratory to be enclosed.

#### WATER POLLUTION CONTROL :-

(a) No. of stations and frequency of monitoring :-Monitoring report for period of Oct. 2025 to Mar. 2026 is enclosed.

(b) Description of Location (\*) :-Monitoring report for period of Oct. 2025 to Mar. 2026 is enclosed.

(c) Average Concentrations of major pollutants :- Monitoring report for period of Oct. 2025 to Mar. 2026 is enclosed.

(\*) Locations of sampling stations enclosed and delineated on the working mine plan.

\*\* Detailed report of sampling and analysis of effluent quality as per statute through standard laboratory enclosed.

#### NOISE POLLUTION CONTROL:-

(a) No. of noise monitoring stations :-02 (Two) Nos. Near Manager Office & Colony

(b) Description of Location (\*) and dB (A) Value\*\*:- Monitoring report for period of Oct. 2025 to Mar. 2026 is enclosed.

(\*) Locations points delineated on the working mine plan.

\*\* Detailed report of monitoring of noise level as per statute to be enclosed

**PART – III**

**STATUS OF IMPLEMENTATION OF PROVISIONS OF EMP**

**LAND USE STATUS:-**

S. No	Particulars	2025-26	Progressive upto 31.03.2026	Remark
01	Area excavated (ha)	Nil	144.70 Ha	<b>Mine to resume its operation in FY 2026-27, currently not operational.</b> Stage II Clearance for 14.00 Ha of Forest land required for Bharat OC Phase-3 patch of Ghorawari OC patches has been acquired vide Letter No. 8-112/2006-FC Vol (E-171036) Dated 09-03-2026.
02	Top soil removed (Mm3)	Nil	NA	
03	OB removed (mm3)	Nil	NA	
04	OB backfilled (mm3)	Nil	NA	
05	External dumped (Mm3)	Nil	NA	
06	Area recovered for reclamation (Physical reclamation)	Nil	92.55 Ha	
07	Area reclaimed biologically (Tree plantation on back filled area)	Nil	66.28 Ha	

**Production:-**

(1) Targeted Capacity: 1.50 million tonnes per annum (MTPA) of coal production.

**Expenditure on EMP:-**

S.No.	Account Head	2023-24	2024-25	2025-26
01	Afforestation (Tree plantation)	0.0	76.37 Lakhs	-
02	Monitoring (Environmental)	Air, water and Noise monitoring: 13.46 lakhs	Air, water and Noise monitoring: 59.36 lakhs	80.92 lakhs
03	Consent Fees	51.84 lakhs upto 31/01/2026		51.84 lakhs upto 31/01/2028
04	Air Pollution Control	<b>Nil; Mine not in operation since May 2020</b>	<b>Nil; Mine not in operation since May 2020</b>	<b>Nil; Mine not in operation since May 2020</b>

Note-Tentative figure, final audited figure to be furnished.

No.J-11015/367/2008-IA.II(M)  
 Government of India  
 Ministry of Environment & Forests

Paryavaran Bhawan,  
 C.G.O.Complex,  
 New Delhi-110510.

Dated: 26<sup>th</sup> December 2008

To  
 Director (Tech.)  
 M/s Western Coalfields Ltd.,  
 Coal Estate, Civil Lines,  
 Nagpur- 440001.

**Sub: Ghorawari Opencast Coal Mine Project (from 0.45 MTPA to 1.50 MTPA) of M/s Western Coalfields Ltd. (WCL), located in village Ghorwari Khurd, Tehsil Junnardeo, District Chindwara, Madhya Pradesh - Environmental clearance – reg.**

Sir,

This has reference to letter No. 43011/65/2008-CPAM dated 30.07.2008 forwarding the application and letters dated 18.11.2008 and 18.11.2008 on the above-mentioned subject. The Ministry of Environment & Forests has considered the application. It has been noted that the project proposal is to mine coal from patches of old UG workings by opencast operations **and expansion in production of coal from 0.45 MTPA to 1.50 million tonnes per annum(MTPA)**. EC was granted for 0.45 MTPA capacity project on 19.02.2008. The total lease area is 1296.011 ha of which 178.10 ha is agricultural land, 593 ha is forestland, 192 ha is grazing land, and 332.911 ha is Govt. land. Forestry clearance has been applied for for renewal of lease. There area no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. River Kanhan flows at a distance of 6-7km from the ML. It is not proposed to modify the existing natural drainage.

There is no change in the geo-mining characteristics of the working of the various patches within the ML. Of the total lease area, area for excavation is 750.36 ha, area for OB dumps 217.86 ha, infrastructure is 12.34 ha, roads is 2.65 ha, area for green belt is 497.049 ha, area for township is 140 ha, and area for rationalisation is 172.80 ha. The proposal is to mine coal from patches of old UG workings by opencast operations as given below:

S.N.	Name of OC Patch	Quarry Area (ha)	TOTAL		Quarry Depth (m)		Final Backfilled Area (ha)	Final Void (ha)
			Balance Coal in LTPA	Balance OB in Lakh M3	Present	Max.		
<b>A. Present Working Patches</b>								
1.	No. 16/17	17						

<b>B. Proposed upto 2015-16</b>								
1.	No. 16 & 17 B. Ph.III	40.50	6.90	61	--	54	40.50	Nil
2.	Ghogra OC Patch	8.0	3.99	13.13	--	53	6	2
3.	Kathideo OC Patch	12.50	5.23	17.81	--	34	10	2.50
<b>TOTAL =</b>		<b>61</b>	<b>16.12</b>	<b>9194</b>			<b>56.50</b>	<b>4.50</b>
<b>C. Proposed beyond 2015-16 upto 2025-26</b>								
1.	Ghorawari Kalan OC Patch	15	4.50	28.45	--	30	10.44	4.56
2.	Dungarai A OC Patch	39	10.60	109.50	--	50	27.13	11.87
3.	Panara OC Patch	12.50	4.25	39.75	--	67	14.61	6.39
4.	Bharat Colliery OC Patch	79.20	24.0	198.0	--	48	55.10	24.10
5.	Chikalam AU OC Patch	21.0	4.89	61.44	--	67	14.61	6.39
6.	South Panara OC Patch	21.25	7.69	81.29	--	62	14.778	6.472
<b>TOTAL =</b>		<b>187.95</b>	<b>55.84</b>	<b>518.48</b>			<b>130.758</b>	<b>57.192</b>
<b>D. Proposed beyond 2015-16 upto 2025-26</b>								
1.	Vegin Patch	168	Individual Schemes will be firm up after 2021-22					
2.	Datla East	120.0						
<b>TOTAL =</b>		<b>424.594</b>						
<b>E. Abandoned Patches</b>								
1.	No. 16 & 17 OC Patch Phase-I	12.50	Not Applicable				12.50	Nil
2.	No. 6 & 7 OC Patch Ph.I & II	7.50					7.50	Nil
3.	Gh-2 OC Patch	6.0					6.0	Nil
4.	Gh-3 OC Patch	4.50					4.50	Nil
5.	Kolhiya OC Patch	4					4	Nil
6.	DQ-3 OC Patch	5.316					5.316	Nil
<b>TOTAL =</b>		<b>39.816</b>				<b>39.816</b>	<b>Nil</b>	
<b>GRAND TOTAL (A+B+C+D+E)</b>		<b>750.36</b>	<b>646.44</b>			<b>78.55</b>	<b>254.574</b>	<b>71.192</b>

Mineral transportation of **1100 TPD** of coal is by road to railway siding covering a distance of 12 km and

the balance 270 TPD is by road. Ultimate working depth of the mine is 45m below ground level (bgl). Present working depth is 40m bgl. Water table is in the range of 4.05m-17.20 m bgl during pre-monsoon season and 0.05-8m bgl during post-monsoon. Mining has intersected water table. Peak water requirement is 440 m<sup>3</sup>/d, which will be met from mine pit water. Presently a total of 11.82 Mm<sup>3</sup> of OB has been generated of which 11 Mm<sup>3</sup> has been used for backfilling and 0.82 Mm<sup>3</sup> has been dumped in ext. OB dump. An estimated 64.64 Mm<sup>3</sup> of OB would be generated in the balance life of mine which be backfilled simultaneously.

Of the total quarry area of 750.36 ha of which 552.07 ha would be backfilled and plantation developed thereon as per table below:

S.N.	Area (ha)	Existing	Status upto 2015-16	Status upto 2025-26	Status beyond 2025-26	Status at the end of mine life
1.	Excavation	66.36	98.0	187.95	424.594	750.36
2.	Backfilled	39.816	84	130.758	297.500	552.074

Balance life of the mine at the rated capacity is 20 years. A void of 198.286 ha with a max. depth of 10-15m would be left at the end of mine life which would be converted into a reservoir. Public Hearing was held on 22.11.2005. NOC has been obtained on 08.02.2006. The project was approved by M/s WCL on 16.12.2005. The capital cost of the project is **Rs. 1.37 crores**.

2. The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned **Ghorawari Opencast Coal Mine Project of M/s WCL for production of coal at 0.45 MTPA rated capacity** under the provisions of the Environmental Impact Assessment Notification, 2006 subject to the compliance of the terms and conditions mentioned below:

#### A. Specific Conditions

No mining operations shall be undertaken in the forestland until clearance for renewal has been obtained under the provisions of FC Act, 1980.

- (ii) The environmental clearance is only for the specific patches consisting of details submitted to the Committee and summarised in the table.
- (iii) OC mining should be carried out at a safe distance for old UG workings.
- (iv) Prior permission of DGMS shall be obtained before start of the working based on the Environmental Clearance.
- (v) Prior permission of DGMS shall be obtained before start of the working adjacent to Takiya nala.
- (vi) Safe distance shall be maintained for working adjacent to agricultural fields.
- (vii) The entire OB being generated in the balance life of mine shall be backfilled.

Reclamation, monitoring and management of the existing external OB dumpsite should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment &

Forests and its Regional office located at Bhopal on yearly basis.

Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilised for watering the mine area, roads, green belt development, etc. The drains should be regularly desilted and maintained properly.

Garland drains (size, gradient and length) and sump capacity should 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 should also provided adequate retention period to allow proper settling of silt material.

Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data.

Mining shall be carried out as per statuette at a safe distance from the Pench River flowing adjacent to the lease boundary.

(xii) The road for coal transport shall be black topped and avenue trees developed on both sides.

(xiii) Drills should be wet operated or with dust extractors.

(xiv) Controlled blasting should be practiced with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders should be implemented.

(xv) Area brought under afforestation shall be not less than 61.727 ha and include, external OB dump (9.15 ha), backfilled area (52.077ha), along ML boundary, along roads and area in township located within and outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.

(xvi) A Progressive Mine Closure Plan shall be implemented by reclamation of decoaled quarry area and afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.

(xvii) Regular monitoring of groundwater level and quality should be carried out by establishing a network of exiting wells and construction of new peizometers. The monitoring for quantity should 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 should be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.

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 agency such as NIOH, Ahmedabad within a period of one year and the results reported to this Ministry and to DGMS.

(xix) An STP shall be provided for the township/colony to treat the domestic effluents to prescribed standards and for their reuse in project activities.

(xx) For monitoring land use pattern and for post mining land use, a time series of landuse maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time

series), and the report submitted to MOEF and its Regional office at Bhopal.

(xxi) Digital processing of the entire lease area using remote sensing technique should be done regularly once in 3 years for monitoring land use pattern and report submitted to MOEF and its Regional office at Bhopal.

(xxii) The detailed Final Mine Closure Plan along with details of Corpus Fund should be submitted within six months to the to the Ministry of Environment & Forests Regional Office, Bhopal.

## **B. General Conditions**

(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.

(ii) No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.

(iii) Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO<sub>2</sub> and NO<sub>x</sub> monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.

(iv) Fugitive dust emissions (SPM and RPM) from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points should be provided and properly maintained.

(v) Data on ambient air quality (SPM, RPM, SO<sub>2</sub> and NO<sub>x</sub>) should be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six months.

(vi) Adequate measures should 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 should be provided with ear plugs/muffs.

(vii) Industrial wastewater (workshop and wastewater from the mine) should 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 should be installed before discharge of workshop effluents.

(viii) Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.

(ix) Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.

(x) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

Occupational health surveillance programme of the workers should be undertaken periodically to

observe any contractions due to exposure to dust and to take corrective measures, if needed.

(xi) A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the company.

(xii) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should be reported to this Ministry and its Regional Office at Bhopal.

(xiii) The Regional Office of this Ministry located at Bhopal 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.

(xiv) A copy of the will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.

(xv) State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.

(xvi) The Project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at <http://envfor.nic.in>.

3. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.

5. 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.

(Dr.T.Chandini)  
Director

**Copy to:**

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Madhya Pradesh, Secretariat, Bhopal.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Area Colony, Bhopal ? 462016.
4. Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal ? 462016.
5. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110032.

**Part-IV**  
**Status of Compliance**

**Name of the Project:-** Ghorawari Opencast Mine Project 1.50 MTPA **Lease Area :-** 1296.011 ha .  
**MOEF Environmental clearance letter No. -**J-11015/367/2008-IA.II (M) Dated 26Dec.2008

SN	Conditions of Environment clearance	Compliance
<b>A</b>	<b>Specific Conditions</b>	
(i)	No mining operations shall be undertaken in the forest land until clearance for renewal has been obtained under the provisions of F.C. Act 1980	Forest Clearance has been obtained for the patches where mining has been undertaken in Forest land.
(ii)	The environmental clearance is only for the specific patches consisting of details submitted to the committee as summarized in the table.	Only specific patches, details of which have been submitted, shall be worked.
(iii)	OC Mining should be carried out at a safe distance for old underground workings.	OC Mining is carried out as per the permission from D.G.M.S.
(iv)	Prior permission of DGMS shall be obtained before start of the working based on the environmental clearance.	Workings are started only after obtaining permission from D.G.M.S.
v)	Safe distance shall be maintained for working adjacent to agricultural fields.	Safe distance shall be maintained as per statute.
vi)	The entire OB being generated in the balance life of mine shall be backfilled.	Shall be complied with.
vii)	No OB generated in the balance life of the mine shall be dumps. Reclamation, monitoring and management of the existing external OB dump site should continue until the vegetation becomes self sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhopal on yearly basis.	Being complied.
Viii)	Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area. Roads, green belt development etc. The drains should be regularly de-silted and maintained properly Garland drains (size, gradient & length) and sump capacity should be designed keeping 50% safety margin over & above the peak sudden rain fall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.	Catch drains are provided and are being de-silted as and when required. Old quarry is being used as settling pond having adequate sump capacity. as there is no necessity of this water for watering the Mine Area, roads, green belt Development etc . The accumulated water is only dewatered when needed. Shall be complied with as desired.
(ix)	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check runoff and siltation should be based on the rainfall data.	Catch drains /garland drains are constructed around the periphery of the OB dump which arrest the flow of silt and sediments. The entire silt gets accumulated in the drains &are de-silted before onset of every monsoon. As such construction of retaining wall is not required.
x)	Mining shall be carried out as per statute at a safe distance from the Pench river flowing adjacent to the lease boundary.	Being Complied. Mining is carried out as per the D.G.M.S. Permission.
xi)	The road for coal transport shall be black topped and avenue trees developed on both side.	Coal transportation roads are black topped and wherever possible avenue plantation has been carried out.
Xii)	Drills should be wet operated or with dust extractor.	The drills are wet operated as and when

		considered necessary and also implemented as per guide lines of DGMS.
(xiii)	Controlled blasting should be practices with use of delay detonators; the mitigative measures for control of ground vibration and to arrest the fly rocks and boulders should be implemented.	Controlled blasting is being carried out according to the D.G.M.S. permission.
xiv)	Area brought under a forestation shall be not less than 61.727 ha. and includes external OB dump (9.15 ha), backfilled area (52.077 ha), along ML boundary along roads and area in township located within and out side the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of trees should be around 2500 plants per ha.	Shall be complied with in due course. However this is in practice.
xv)	Progress mine closure plan shall be implemented by reclamation of decoaled quarry area and forestation by planting native plants species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.	Being complied. Reclamation is being carried out in de-coaled quarry areas per EIA/EMP. The density of the plantation carried out is 2500/Ha
xvi)	Regular monitoring of ground water level and quality should be carried out by establishing a network of exiting wells and construction of new pedometers. The monitoring for quantity should 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 should be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.	Monitoring of ground water level along with quality is being done through a certified agency-Anacon Laboratories, four times a year as specified. The annual ground water monitoring and groundwater quality reports are submitted to Regional Offices of MOEF Bhopal and CGWB Bhopal. Monitoring report for the Oct-25 to Mar-26 is enclosed.
xvii)	Besides carrying out regular periodic health check up of their workers, 10% of the workers identified from work forced engage in active mining operations shall be subject to health check up for occupational diseases and hearing impairment, if any through an agency such as NIOH, Ahmadabad within a period of one year. And the resulted reported to this ministry and to DGMS.	Periodic medical examination(P.M.E.) are carried out compulsorily on each employee once in five years with the purpose of detecting and keeping the record of diseases with specific importance to the coal workers viz. Pneumoconiosis. During P.M.E. the candidates are subject to complete clinical examination reeling to occupational diseases and hearing impairment. As WCL is having all the infrastructure facilities to comply with all statutory obligations regarding occupational health survey of all its employees, help from external organization i.e.: NIOH, Ahmadabad is not required.
xviii)	An STP shall be provided for the township/colony to treat the domestic effluents to prescribe standards and for their re-use in project activities.	An STP of capacity 0.17 MLD has been commissioned at the colony for treating the domestic effluent. Presently the STP is not in operation as the sewage feed from quarters is not sufficient to operate the plant. As the maximum number of quarters have been vacated since nearby Jharna UG mine has been closed permanently and employees have been transferred to other projects. Individual Septic tanks and soak pits have been provided in the colony and are upgraded from time to time as per the requirements.
xix)	For monitoring land use pattern and for post mining land use, a time series of land use map, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of project until end of mine life	Land Use monitoring is being done through satellite imagery as specified. The land use monitoring report for PENCH-KANHAN- TAWA valley for the year 2020 is uploaded on the

	shall be prepared once in three years( for any one particular season which is consistent in the time series),and the report submitted to MOEF and its Regional Office at Bhopal.	website of WCL (westerncoal.in). The hyperlink of the report is - <a href="http://103.59.142.228:8081/wclweb/TPK_C_F_2020.pdf">http://103.59.142.228:8081/wclweb/TPK_C_F_2020.pdf</a>
xx)	Digital processing of the entire lease area using remote fencing technique should be done regularly once in three years for monitoring land use pattern and reports submitted to MOEF and its Regional Office at Bhopal.	Complied. Digital processing of lease area is being done through CMPDIL and the reports are uploaded on the company's website – <a href="http://westerncoal.in">westerncoal.in</a>
<b>B</b>	<b>GENERAL CONDITIONS</b>	
i)	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Noted for compliance. No change in mining plan is proposed
ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste should be made	Noted for compliance.
(iii)	Four Ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO <sub>2</sub> and NO <sub>x</sub> monitoring. Location of the stations should be decided based on the meteorological data topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board	The ambient air quality station of this Mine Area is as follows. 1. Office of the Manager, Ghorawari Colliery 2. SAM, Office Ghorawari , 3. Colony health centre, Ghorawari 4.Panara Village  The details of monitoring stations, methodology and monitoring results are communicated to MOEF, Bhopal and MPPCB regional office.
iv)	Fugitive dust emissions (SPM & RPM) from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangements on haul roads, wagon loading, dump trucks (loading & unloading) points should be provided & properly maintained.	Fugitive Dust emissions are monitored every 15 days. Water sprinkling through mobile sprinklers is being done to suppress such emissions.
v)	Data on ambient air quality (SPM,RPM, SO <sub>2</sub> and NO <sub>x</sub> ) should be regularly submitted to the Ministry including its Regional office at Bhopal and to the State Pollution Control Board and the Central Pollution Control board once in a six months.	Being complied regularly. The details of monitoring stations, methodology and monitoring results are communicated to MOEF, Bhopal and MPPCB regional office
vi)	Adequate measures should be taken for control of noise level below 85 DBA in the work Environment. Workers engaged in blasting and drilling operation, operation of HEMM etc. should be provided with Ear plugs/muffs .	Noted for compliance
vii)	Industrial waste water (workshop (waste water from the mine) should be properly collected, treated so as to conform in the standard prescribed under GSR 422 (E) dtd.19 <sup>th</sup> May 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time before discharge .oil & grease trap should be installed before discharge of work shop effluents.	Mine is operated in patches. During operation, mine water quality is monitored every fortnight as per Environmental protection (Amendment) Rules 2000 and all parameters are found to be well within the permissible limits.
VIII)	Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the minerals should be covered with tarpaulins and optimally loaded.	Vehicles with valid P.U.C. certificate only are allowed to ply in the mine. The coal transportation trucks are covered with tarpaulin and also optimally loaded.
ix)	Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	A well-equipped Environmental laboratory which is NABL accredited is already established at C.M.P.D.I.L., Nagpur.(Copy of certificate enclosed). Monitoring and

		analysis is carried out through CMPDIL. Complied
x)	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers should be undertaken periodically to observe any contraction due to exposure to dust and to take corrective measures if needed.	Periodical medical examination(P.M.E.) are carried out compulsorily on each employee once in five years with the purpose of detecting and keeping the record of diseases with specific importance to the coal workers viz. Pneumoconiosis. During P.M.E. the candidates are subject to complete clinical examination reeling to occupational diseases and hearing impairment. As WCL is having all the infrastructure facilities to comply with all statutory obligations regarding occupational health survey of all its employees, help from external organization i.e.: NIOH, Ahmedabad is not required. Mine is not operational since May 2020.
xi)	A separate Environmental management Cell with suitable qualified personnel should be set up under the control of a Senior Executive who will report directly to the Head of the Company.	There is well established environmental cell at corporate HQ, headed by GM (Env) reporting to Director (Tech) P & P .He is assisted by well qualified & well trained team of Engineers of Mining, Civil & Environment disciplines. At area level, the team is headed by General Manger (Operations) & assisted by Area Nodal Officer (Environmental) under the overall control of General Manger of the Area. At project level the team is headed by Sub Area Manger of the project & assisted by project Nodal officer (Environment).
xii)	The funds earmarked for Environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional office at Bhopal.	A separate revenue and capital budget for Environment protection works in WCL which is not Diverted to any other expenditure head.
xiii)	The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated condition .The Project Authority shall extend full co-operation to the office (s) of the Regional office by furnishing the requisite data, information / monitoring report	Noted.
xiv)	A copy of the clearance letter shall be marked to concerned Panchayat/ local NGO if any, from whom any suggestion/ representation has been received while processing the proposal.	Complied.
xv)	State Pollution Control board should display a copy of the clearance letter at the Regional office, District industry center and collector's. office /Tahsildar office for 30 days.	This is for MPPCB
xvi)	The project Authorities should advertise at least in two local news papers 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 Environment al Clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the Ministry of Environment & Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a>	Advertised in two local news paperswidely circulated around the project i.e. in DainikBhaskar and Nav Bharat Hindi news papers (local language of the state).
3.	The Ministry or any other competent authority may	Noted.

	stipulated any further condition for environmental protection	
4.	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provision of the Environment (Protection) Ac.1986	Noted
5.	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 public liability insurance Act,1991 along with their amendments and Rules .	Noted

## Environment Management at Ghorawari OC mine

### Air Pollution Control Measures- Mine currently not in operation since May 2020.

- ▶ 01 Nos. of mobile water tanker (Capacity -4500 Litres) provided for dust suppression on coal transport roads **when mine is operational.**
- ▶ Green belt consisting of 165700 Nos of plants has been developed in and around mine premises and along coal transportation roads
- ▶ Wind barrier of height 20 feet and length 455 metres has been provided at Hirdagarh railway siding for air pollution control
- ▶ Internal roads for coal transport are black-topped
- ▶ 38500 nos. of plants planted in FY 2024-25

### PLANTATION -25000 NOS, YEAR -2017



# PLANTATION -35000 NOS, YEAR -2018





Wind Barrier at Hirdagarh Railway Siding

**Plantation 38500 carried out in FY 2024-25**



GPS Map Camera

Ghodawadi Khurd, Madhya Pradesh, India  
Unnamed Road, Ghodawadi Khurd, Jharna Ghorawadi, Madhya Pradesh 480556, India  
Lat: 22.490891°  
Long: 78.503316°  
22/10/24 11:01 AM GMT +05:30





वेस्टर्न कोल्ड फिल्ड्स लिमिटेड  
कारखाना क्षेत्र  
सहायक प्रशासकीय कार्यालय - 2024-25  
1. रोड का नाम - अननाम रोड  
2. लंबाई - 38500  
3. शुरुआत का तिथि - 18.09.2024  
4. समाप्ति तिथि - 30.09.2024  
5. कार्यवाही का अधिकारी - विभागाध्यक्ष (स. प्र.)

GPS Map Camera

Ghodawadi Khurd, Madhya Pradesh, India  
Unnamed Road, Ghodawadi Khurd, Jharna Ghorawadi, Madhya Pradesh 480555, India  
Lat 22.191187°  
Long 78.503096°  
22/10/24 11:25 AM GMT +05:30



Google



GPS Map Camera

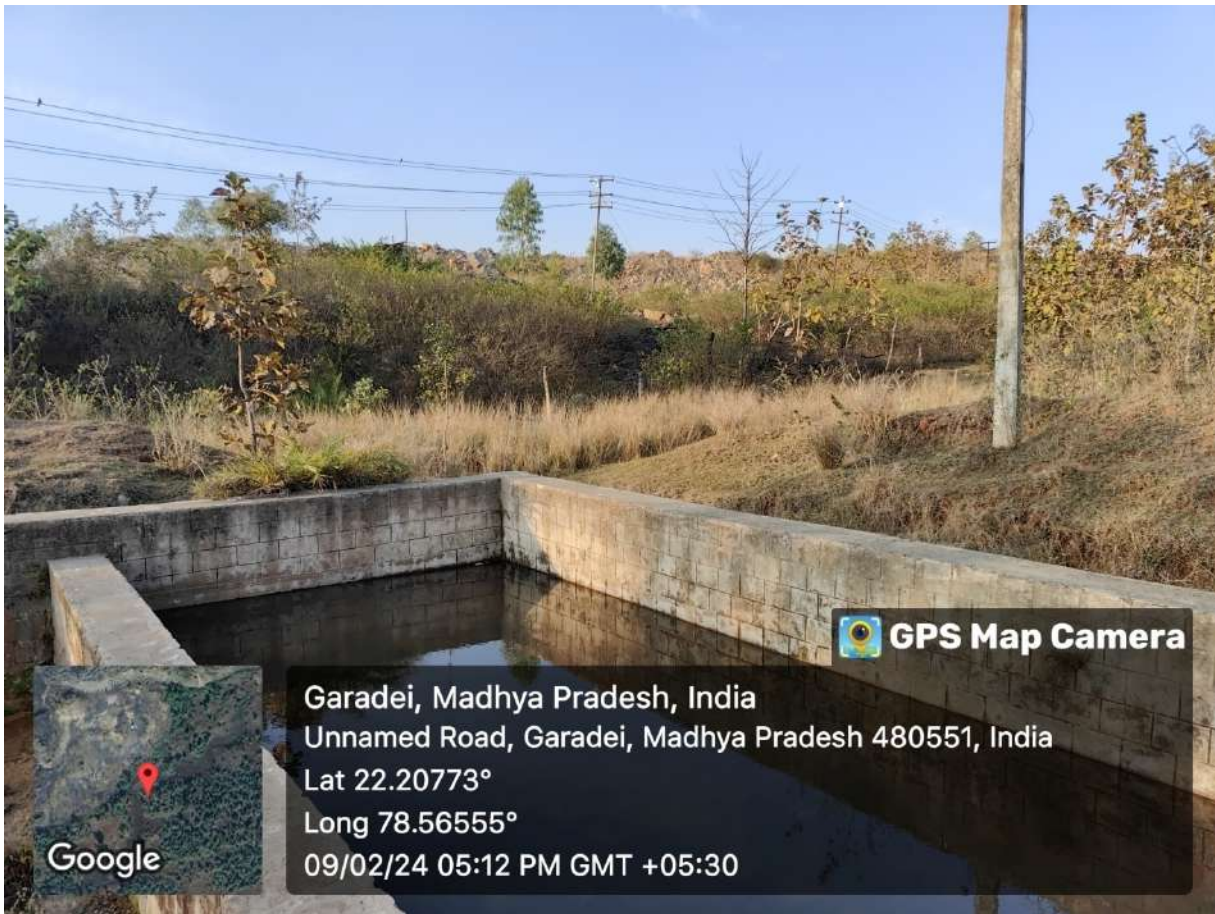
Ghodawadi Khurd, Madhya Pradesh, India  
5GP2+G4H, Damua Rd, Ghodawadi Khurd, Nandora, Madhya Pradesh 480555, India  
Lat 22.187094°  
Long 78.501653°  
22/10/24 11:24 AM GMT +05:30



Google

**Water Pollution Control Measures-Mine currently not in operation since May 2020**

- ▶ RCC Sedimentation Tank (Capacity-125 cum.).Year of commissioning of new sedimentation tank– Year 2015 (maintained periodically)
- ▶ Mine water is utilized for dust suppression and for domestic water supply to colonies.
- ▶ Mine water also utilized for spraying on coal transport roads and for mobile water tankers.





National Accreditation Board for  
Testing and Calibration Laboratories

**CERTIFICATE OF ACCREDITATION**

**ENVIRONMENT LABORATORY, CMPDI**

has been assessed and accredited in accordance with the standard

**ISO/IEC 17025:2017**

**"General Requirements for the Competence of Testing &  
Calibration Laboratories"**

for its facilities at

GROUND FLOOR, CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED, REGIONAL  
INSTITUTE-IV, NAGPUR, MAHARASHTRA, INDIA

in the field of  
**TESTING**

Certificate Number: TC-7102

Issue Date: 29/06/2024

Valid Until: 28/06/2026

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.  
(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Name of Legal Entity: CENTRAL MINE PLANNING & DESIGN INSTITUTE LIMITED

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer



## Consent Order



M.P. Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal - 16 MP, Tele : 0755-2466191, Fax-0755-2463742

RED-LARGE

CCA-Renewal

CONSENT NO: \*\*\*

PCB ID: 15969

Outward No:129430,11/02/2026

Consent No:AW-63807

To,

The Occupier,  
M/s. Ghorawari OC Coal Mine, WCL, Khanan Aera,  
Aera - 1296.011 Hct., Ghorawari Khurd,  
Tehsil: Jamai, Dist : Chhindwara (M.P.)-480555



**Subject:** Grant of Renewal of Consent to Operate under section 25 of the Water (Prevention & Control of Pollution) Act,1974 & under section 21 of the Air (Prevention & Control of Pollution) Act,1981.

**Ref:** Your Application Receipt No. 1417501 Dt. 15/01/2026 and last communication received on Dt.13/01/2026.

With reference to your above application for renewal of consent to operate has been considered under the aforesaid Acts and existing rules therein. The M. P. Pollution Control Board has agreed to grant consent up to **31/01/2028**, subject to the fulfillment of the terms & conditions, enclosed with this letter and-

### SUBJECT TO THE FOLLOWING CONDITIONS :-

- Location:** Aera - 1296.011 Hct., Ghorawari Khurd, Tehsil: Jamai, Dist : Chhindwara (M.P.)-480555  
Latitude : 22.1925 Longitude : 78.5011
- Mining Lease Area :** 1296.011 Ha
- Product & Production Capacity:**

Activity/Product	Production capacity
Mining of Coal	15,00,000 Metric Ton Per Year

Note :-

- For any change in above industry shall obtain fresh consent from the Board.
- As per Environmental Clearance letter dt 26.12.2008 & conditions mentioned in earlier CTE / CTO granted by the Board "No mining shall be done in Forest Land without obtaining Forestry Clearances", Hence PP shall ensure that mining in 14.000 Hact. of Forest Area; whose Forest Clearance is in process, shall only be undertaken after grant of the Forest Clearance by MoEF & CC Government Of India.
- Management shall ensure timely repair and maintenance of damaged coverings of transfer points and proper maintenance of conveyor belt to avoid any leakages/ spillage of coal dust. Mine management shall ensure proper maintenance of STP and ETP so as to treat and properly utilize the treated industrial effluent. All internal drains shall be made pucca in time bound manner.
- Industry shall have to use the Tarpaulin cover with minimum 400 GSM thickness. The automatic mechanical covering system shall be used in coal transporting vehicles.
- Industry shall install PTZ Cameras at various strategic points to monitor above covering system in transporting vehicles.
- As per provision of Fly Ash Utilization Notification Issued by MoEF & CC, GOI on dt 31.12.2021; The PP shall ensure compliances listed in the notification. The utilization of fly ash in the OB dumps/Mine voids shall be done under EPR as per provision of above rules.

The Validity of the consent is up to **31/01/2028** and has to be renewed before expiry of consent validity. Online application through XGN with annual license fees in this regard shall be submitted to this office 6 months before expiry of the consent/Authorization. Board reserves the right to amend/cancel / revoke the above condition in part or whole as and when required.

### Enclosures:-

- \* Conditions under Water Act
- \* Conditions under Air Act
- \* General conditions

CC to :-

- District Mining Officer, (Mining Section), Collector office, Chhindwara Dist. Chhindwara (M.P.) for information.
- M.P. State Mining Corporation, Arera Hills, Jail Road, Bhopal (M.P.) for necessary action please.
- Regional officer, Regional office, MPPCB, Chhindwara (M.P.)



(Organic Authentication on AADHAR from UIDAI Server)  
TPAV # 5M4J250015

*Achyut Mishra*

ACHYUT ANAND MISHRA  
Member Secretary

Signature Not Verified

Digitally Signed by : A. A  
Mishra, Member Secretary

This Certificate generated from xgn.mp.nic.in are valid and does not require physical verification. This Certificate can be validated online from xgn.mp.nic.in using "TPAV" Number.

Page: 1 / 7



## Consent Order



M.P. Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal - 16 MP , Tele : 0755-2466191, Fax-0755-2463742

### **CONDITIONS PERTAINING TO WATER (PREVENTION & CONTROL OF POLLUTION) ACT 1974 :-**

1. The daily quantity of generation of trade effluent from the mine shall be nil, and the daily quantity of sewage generation of the mine shall not exceed 160.0 KL/day which shall be properly treated through STP & used for horticulture/dust suppression purposes.

#### **2. Trade Effluent Treatment:-**

The applicant shall operate and maintain effluent treatment system and maintain the same properly to achieve following standards-

pH	Between	5.5 – 9.0	TDS	Not exceed	2100 mg/l.
Suspended Solids	Not exceed	100 mg/l.	Chlorides	Not exceed	1000 mg/l.
BOD <sub>5</sub> Days 27 °C	Not exceed	30 mg/l.			
COD	Not exceed	250 mg/l.			
Oil and grease	Not exceed	10 mg/l.			

*For other parameters general standards of discharge as notified under EP Act 1986 and standards notified by MPPCB from time to time shall be applicable.*

#### **3. Sewage Treatment :-**

The applicant shall operate and maintain sewage treatment facility to achieve following standards-

pH	Between	6.5 – 9.0
Suspended Solids	Not exceed	100 mg/l.
BOD 3 Days 27 °C	Not exceed	30 mg/l.
COD	Not exceed	250 mg/l.
Oil and grease	Not exceed	10 mg/l.
fecal coliform	Not exceed	1000 MPN/100 ml

4. The effluent shall be treated up to prescribed Standards and reuse in the process, for cooling and for green belt devolvement/gardening within premises. Hence **zero discharge condition** shall be practiced. In no case treated effluent shall be discharged outside of industry/unit premises.

5. Water meter preferably electromagnetic/ultrasonic type with digital flow recording facilities shall be installed separately for category wise consumption of water for mine spray, process & domestic purposes and data shall be submitted online through XGN monthly patrak/statements. The industry/unit shall also monitor the treated wastewater flow and report the same online through monthly patrak/statements.

Sr	Water Code (Qty in KLD)	WC : 700.0	WWG : 160.0	Water Source	Remark
1	Domestic Purpose	250.0	160.0	Other	Proper treatment & disposal of treated effluent to be ensured.
2	Plantation/Horticulture	50.0	0.0	Mine Water	Treated STP Effluent & Water stored in mine pit shall be used
3	Spray in mines	400.0	0.0	Mine Water	

6. Any change in production capacity, process, raw material used etc. and for any enhancement of the above prior permission of the Board shall be obtained. All authorized discharges shall be consistent with terms and conditions of this consent. Facility expansions, production increases or process modifications which result new or increased discharges of pollutants must be reported by submission of a fresh consent application for prior permission of the Board.

7. All treatment/control facilities/systems installed or used by the applicant shall be regularly maintained in good working order and operate effectively/efficiently to achieve compliance of the terms and conditions of this consent

8. The specific effluent limitations and pollution control systems applicable to the discharge permitted herein are set forth as above conditions.

#### **9. Compilation of Monitoring data-**

i. Samples and measurements taken to meet the monitoring requirements specified above shall be representative of the volume and nature of monitored discharge.

ii. Following promulgation of guidelines establishing test procedures for the analysis of pollutants, all sampling and analytical methods used to meet the monitoring requirements specified above shall conform to such guidelines unless otherwise specified sampling and analytical methods shall conform to the latest edition of the Indian Standard specifications and where it is not specified the guidelines as per standard methods for the examination of Water and Waste latest edition of the American Public Health Association, New York U.S.A shall be used.





## Consent Order



M.P. Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal - 16 MP, Tele : 0755-2466191, Fax-0755-2463742

far as possible. The sewage treated or untreated shall not be disposed in the Balia nala in any case.

- Rain water harvesting shall be undertaken to recharge ground water source and status of implementation shall be submitted to the Board. Hydro-geological study of the area shall be reviewed annually. In case any adverse effect on ground water quality and quantity is observed, mining shall be stopped and resumed only after applying mitigating steps to restore the same.
- Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and for waste dump & sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. The garland drain shall be stone pitched /lined to prevent the erosion. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and de-silted at regular intervals. Mine Management shall construct proper Garland drains & sump of appropriate size before onset of monsoon.
- The mine water should be treated in siltation ponds. The quality of siltation pond water shall be regularly monitored and mitigation measure shall be taken.
- Mine management shall ensure proper and timely maintenance of ST.P so as to ensure quality of treated effluent within the prescribed limits.
- The mine management shall comply with the conditions stipulated in the Environmental Clearance granted by MoEF&CC.

### **CONDITIONS PERTAINING TO AIR (PREVENTION & CONTROL OF POLLUTION) ACT 1981 :-**

1. The applicant shall operate and maintain air pollution control system to achieve the level of pollutants to the following standards:-

Name of section	Control equipment to be installed	SPM/RSPM/SO <sub>x</sub> /NO <sub>x</sub> (mg/NM <sup>3</sup> ) (Annual Average)
Loading-unloading, Haul road, Coal Transportation Road, CHP, Railway Siding, Blasting, Drilling, OB Dumps etc	Dust Collector, Dust Suppressor, Green Belt, Water Sprinkler, Wind Breaking Wall	430 / 215/80/80 ( 24 Hr. Average : 600/300/120/120)

2. Ambient air quality at the boundary of the industry/unit premises shall be monitored and reported to the Board regularly on quarterly basis. The Ambient air quality norms are prescribed in MoEF gazette notification no. GSR/826(E), dated: 16/11/09. Some of the parameters are as follows:

- Particulate Matter (less than 10 micron) - 100 µg/m<sup>3</sup> (PM10 µg/m<sup>3</sup> 24 hrs. basis)
- Particulate Matter (less than 2.5 micron) - 60 µg/m<sup>3</sup> (PM2.5 µg/m<sup>3</sup> 24 hrs. basis)
- Sulphur Dioxide [SO<sub>2</sub>] (24 hrs. Basis) - 80 µg/m<sup>3</sup>
- Nitrogen Oxides [NO<sub>x</sub>] (24 hrs. Basis) - 80 µg/m<sup>3</sup>
- Carbon Monoxide [CO] (8 hrs. Basis) - 2000 µg/m<sup>3</sup>

3. The industry shall take adequate measures for control of noise level generated from industrial activities within the premises less than 75 dB(A) during day time and 70 dB(A) during night time.

4. The industry/unit shall make the necessary arrangements for control of the fugitive emission from any source of emission/section/activities.

5. All other fugitive emission sources such as leakages, seepages, spillages etc shall be ensured to be plugged or sealed or made airtight to avoid the public nuisance.

6. The industry/ unit shall ensure all necessary arrangements for control of odour nuisance from the industrial activities or process within premises

7. All the internal roads shall be made pucca to control the fugitive emissions of particulate matter generated due to transportation and internal movements. Good housekeeping practices shall be adopted to avoid leakages, seepages, spillages etc.

8. Industry shall take effective steps for extensive tree plantation preferably of the local tree species within or around the industry/unit premises for general improvement of environmental conditions.

9. In case of emission found exceeding prescribed standards, the unit may be liable to pay environmental compensation as per NGT orders O.A. no 593/2017 dated 22.02.2021 and the industry shall be punishable or court case may be filed by the Board under provisions of the Air (Prevention & Control of Pollution) Act, 1981.

Consent No:AW-63807



## Consent Order



M.P. Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal - 16 MP, Tele :  
0755-2466191, Fax-0755-2463742

### Sector Specific Air condition:-

1. Mine management shall strictly comply with the directions of the Hon'ble NGT in the matter 276/2013 (Ashwani Kumar Dubey vs. Govt. of India & Others) and shall report accordingly to Board with regard to stoppage of coal transportation by road.
2. Mine management shall regularly operate the CAAQMS station to monitor ambient air quality in the Singrauli area in its vicinity and shall provide its suitable unhindered connectivity with Environment Surveillance Centre of the MPPCB and transmit the data within stipulated time.
3. Mine management shall provide continuous water sprinkler systems / rain gun at suitable locations on the road side & provide proper pollution control arrangements to control the fugitive emission generated due to coal transportation.
4. Vehicular emissions should be kept under control and regularly monitored for compliance of emission norms. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded. As far as possible road transportation shall be avoided.
5. Extensive tree plantation shall be done on both sides of Mineral transportation roads and around mining lease area. The tree plantation shall be carried out in phased manner preferably with local species. Good housekeeping practice shall be adopted by the Mine. More plantations with species like Neem, Pipal, Mango, Jamun, Kathal etc shall be planted. Mine management shall submit a proper proposal for green belt development in MP portion of mine lease hold area.
6. The mine shall take effective steps for safe and scientific reclamation of over burden steps shall be taken to keep the geological structure in the natural form by biological reclamation of mines.
7. Mine management shall take appropriate steps to maintain the eco-system of the area through environmental conservation program and the record shall be submitted to the Regional office of the Board annually.
8. Mines management shall provide progressive plantation on the over burden for stabilization of over burden and prevent the soil erosion.
9. Mine management shall provide fencing all around the mining lease area to prevent the occurrence of accident.
10. Mine management shall setup an online or manual coal ash monitoring system for raw or blended or beneficiated coal supplied to thermal power plants as per the MoEF & CC OM dated 26/08/2015 and submits the report to MPPCB.
11. Coal handling and coal loading and unloading in railway wagons / trucks should be provided with adequate number of high efficiency dust extraction / suppression system. Loading and unloading areas including all the operated. Dust control measures shall be adopted at coal transfer point of the high wall mining machine as per the need.
12. Controlled blasting with delay detonators should be used during blasting operations to avoid, noise, flying of debris and stones, air pollution and vibrations. All blast holes should be properly packed and stemmed with locking caps to harness the maximum blast energy and at the same time to minimize and prevent dust, noise, vibrations and dispersal of fly rocks.
13. All materials used in the mining operation including detonators, machineries and packing materials locking caps etc should be procured from the vendors having valid Consents/ Authorization from the SPCBs/PCCs.
14. The vehicles engaged for transportation of material including the coal, detonators etc. and the inspection vehicles should have valid PUC certificate.
15. As per provision of Fly Ash Utilization Notification Issued by MoEF & CC, GOI on dt 31.12.2021, the PP shall ensure compliances listed in the notification. The utilization of fly ash in the OB dumps/Mine voids shall be done under EPR as per provision of above rules.
16. Mine management shall ensure that the height of the coal stock is not higher than the height of the wind barrier.
17. The dust fall at the boundary or beyond the boundary of the mine premises where it originates shall not exceed  
(a) 600 mg/m<sup>2</sup>/day averaged over 30 days in residential and light commercial areas measured using reference method ASTM D1739; or **Consent No:AW-63807**



## Consent Order



M.P. Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal - 16 MP, Tele :  
0755-2466191, Fax-0755-2463742

(b) 1200 mg/m<sup>2</sup>/day averaged over 30 days in areas other than residential and light commercial areas measured using reference method ASTM D1739.

### **GENERAL CONDITIONS:**

#### **1. MANAGEMENT & DISPOSAL OF FLY ASH:-**

MoEF &CC, GOI has issued notification dated 31.12.2021 regarding procedures & mandate to increase utilization of fly ash generated by the thermal power plants through the Coal mines under extended producers responsibility. This notification No.SO 5481 (E) dated 31.12.2021 has been published suppressing the previous Fly Ash Utilization Notification dt 14.09.199 as amended.

Following paras no. 3 & 4 of part B at page no. 16 of the notification are reproduced for taking necessary action at your end –

(3) It shall be obligatory on all mines located within 300 Kilometres radius of thermal power plant to undertake backfilling of ash in mine voids or mixing of ash with external overburden dumps under extended Producer Responsibility (EPR). All mine owners or operators (Government, Public and Private sector) within three Hundred kilometres (by road) from coal or lignite based thermal power plants, shall undertake measure to mix at least 25 percent of ash on weight to weight basis of the materials used for external dump of overburden, backfilling or stowing of mine (running or abandoned as the case may be) as per the guidelines of the Director General of Mines Safety (DGMS).

Provided that such thermal power stations shall facilitate the availability of required quality of ash by delivering ash free of cost and bearing the cost of transportation or transportation arrangement decided on mutually agreed terms and mixing of ash with overburden in mine voids and dumps shall be applicable for the overburden generated from the date of publication of this notification and the utilisation of ash in the said activities shall be carried out in accordance with guidelines laid down by the Central Pollution Control Board, Director General of Mines Safety and Indian Bureau of Mines.

Explanation- For the purpose of this sub paragraph, it is also clarified that the provisions of ash free of cost and free transportation shall be applicable, if thermal power plants serve a notice on the mine owner for the same and the mandate of using 25 percent of ash for mixing with overburden dump and filling up of mine voids shall not be applicable unless a notice is served on the mine owner by thermal power plant

(4) (i) All mine owners shall get mine closure plans (progressive and final) to accommodate ash in the mine voids and the concerned authority shall approve mine plans for disposal of ash in mine voids and mixing of ash with overburden dumps. The Ministry of Environment Forest and Climates Change (MOEFCC) has issued guidelines on 28th August, 2019 regarding exemption of requirement of Environment Clearance of thermal power plants and coal mines along with the guidelines to be followed for such disposal.

(ii) The Ministry in consultation with Central Pollution Control Board (CPCB), Director General of Mine Safety (DGMS) and Indian Bureau of Mines (IBM) may issue further guidelines time to time to facilitate ash disposal in mine voids and mixing with overburden dumps and it shall be the responsibility of mine owners to get the necessary amendments of modification in the permission issued by various regulatory authorities within one year from the date of identification of such mines.

2. The non hazardous solid waste arresting in the industry/unit/unit premises sweeping, etc. be disposed off scientifically so as not to cause any nuisance/pollution. The applicant shall take necessary permission from civic authorities for disposal to dumping site. If required.

#### **Non Hazardous Solid wastes:-**

Type of waste	Quantity	Disposal
Scrap/ Plastic packing material wood, card board, gunny bags etc	Record should be maintained	Sale to authorized party/As Per CPCB, MoEF Guide lines / Others.

3. The applicant shall allow the staff of Madhya Pradesh Pollution Control Board and/or their authorized representative, upon the representation of credentials:

- To inspect raw material stock, manufacturing processes, reactors, premises etc to perform the functions of the Board.
- To enter upon the applicant's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this Consent.
- To have access at reasonable times to any records required to be kept under the terms and conditions of this Consent.
- To inspect at reasonable times any monitoring equipment or monitoring method required in this Consent: or,
- To sample at reasonable times any discharge or pollutants.



## Consent Order



M.P. Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal - 16 MP, Tele :  
0755-2466191, Fax-0755-2463742

4. This consent is transferable in nature, in case of any change in ownership / management, the new owner / partner / directors / proprietor shall immediately apply for the consent with new requisite information.
  5. The issuance of this Consent does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any invasion of personal rights, nor any infringement of Central, State or local laws or regulations.
  6. Industry shall install separate electric metering arrangement for running of pollution control devices and this arrangement shall be made in such fashion that any non functioning of pollution control devices shall immediately stop electric supply to the production and shall remain tripped till such time unless the pollution control device/devices are made functional. The record of electricity consumption for running of pollution control equipment shall be maintained and submitted to the Board every month.
  7. This consent is granted in respect of Water pollution control Act 1974 or Air Pollution Control act, 1981 only and does not relate to any other Department/Agencies. License required from other Department/Agencies have to be obtained by the unit separately and have to comply separately as per there Act / Rules.
  8. Balance consent fee, if any shall be recoverable by the Board even at a later date.
  9. The applicant shall submit such information, forms and fees as required by the board not later than 180 day prior to the date of expiration of this consent.
  10. The industry/unit shall establish a separate environmental cell, headed by senior officer of the unit for reporting the environmental compliances. The industry/ Unit shall submit environmental statement for the previous year ending 31st March on or before 30th September every year to the Board.
  11. The industry/unit shall also monitor the treated wastewater flow and report the same online through monthly patrak/statements.
  12. The applicant shall take samples and measurement to meet the monthly requirements specified above and report online through XGN the same to the Board.
  13. Ambient air quality at the boundary of the industry/unit premises shall be monitored and reported to the Board regularly on quarterly basis.
  14. The record of electricity consumption for running of pollution control equipment shall be maintained and submitted to the Board every month.
  15. Mine management shall ensure the disposal of Garbage/ Municipal solid waste of mine's colony area as per the Solid Waste Management Rules, 2016.
  16. Industry shall obtain membership of Emergency Response Center of the Board if needed.
  17. Knowingly making any false statement for obtaining consent or compliance of consent conditions shall result in the imposition of criminal penalties as provided under the section 42(g) of the Water Act or section 38 (g) of the Air Act.
  18. After notice and opportunity for the hearing, this consent may be modified, suspended or revoked by the Board in whole or in part during its term for cause including, but not limited to, the following :
    - (a) Violation of any terms and conditions of this Consent.
    - (b) Obtaining this Consent by misrepresentation of failure to disclose fully all relevant facts.
    - (c) A change in any condition that requires temporary or permanent reduction or elimination of the authorized discharge.
  19. On violation of any of the above-mentioned conditions the consent granted will automatically be taken as canceled and necessary action will be initiated against the industry.
- Renewal of Consent as required under the Water (Prevention & Control of Pollution) Act, 1974 & The Air (Prevention & Control of Pollution) Act, 1981 is granted to your industry subject to fulfillment of all the conditions mentioned above. For renewal purpose you shall have to make an application to this Board through XGN at least six months before the date of expiry of this consent. The applicant without valid consent (for operation) of the Board shall not bring in to use any outlet for the discharge of effluent and gaseous emission.**



(Organic Authentication on AADHAR from UIDAI Server)  
TPAV # 5M4J250015

M.F

Achyut Anand Mishra  
Member Secretary

Member Secretary

Consent No:AW-63807



**OFFICE OF THE SUB AREA MANAGER**  
**Western Coalfields Limited** GHORAWARI COLLIERY, DATLA SUB AREA  
PO.GHORAWARI KHURD, DISTT-CHHINDWARA(M.P.) 480555

Regd. Office ,: Coal Estate Civil Lines , Nagpur-440001

**CERTIFICATE**

This is to certified that coal Production of Ghorawari OC Mine (Ghorawari Colliery) WCL, for last five years are as under :-

S.No	Year	Production
1	2019-20	0.164 MTPA
2	2020-21	0.04 MTPA
3	2021-22	Mine presently not in operation since May 2020. Forest Clearance of 14.00 Ha of Bharat OC phase-III patch of Ghorawari OC patches mine is under process with MoEF&CC. Mine to start operation after obtaining forestry clearances.
4	2022-23	
5	2023-24	
6	2024-25	
7	2025-26	Stage II FC for 14 Ha of Forest land obtained vide Letter No8-112/2006-FC Vol (E-171036) Dated 09-03-2026. Mine to resume its operation in FY 2026-27.



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

# GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



APRIL 2025

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

AN ISO 9001:2015 COMPANY

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>		<b>Test Report</b>			
TEST REPORT NO.	RIN/TR/APRIL-25/70	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, NO <sub>2</sub> : IS 5182 Part-06, SO <sub>2</sub> :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		

<b>MANAGER OFFICE-GHORAWARI OC   KGOA1</b>							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM <sub>5</sub>	PM <sub>10</sub> <sub>5</sub>	PM <sub>2.5</sub> <sub>2</sub>	NO <sub>2</sub> <sub>6</sub>	SO <sub>2</sub> <sub>10</sub>	
14-04-2025	15-04-2025	311	203	50	20	15	Clear sky / Calm
22-04-2025	23-04-2025	326	212	52	22	17	Clear sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 <sup>TH</sup> September 2000		600	300	-	120	120	

<b>SAM-OFFICE GHORAWARI   KJUA2</b>							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM <sub>5</sub>	PM <sub>10</sub> <sub>5</sub>	PM <sub>2.5</sub> <sub>2</sub>	NO <sub>2</sub> <sub>6</sub>	SO <sub>2</sub> <sub>10</sub>	
14-04-2025	15-04-2025	295	198	48	16	14	Clear sky / Calm
23-04-2025	24-04-2025	303	208	53	18	15	Clear sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 <sup>TH</sup> September 2000		600	300	-	120	120	

<b>COLONY HEALTH CENTER JHARNA   KJUA3</b>							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub> <sub>5</sub>	PM <sub>2.5</sub> <sub>2</sub>	NO <sub>2</sub> <sub>6</sub>	SO <sub>2</sub> <sub>10</sub>		
03-04-2025	04-04-2025	82	24	8	BDL	Clear sky / Calm	
04-04-2025	05-04-2025	84	26	7	BDL	Clear sky / Calm	
10-04-2025	11-04-2025	87	29	8	BDL	Clear sky / Calm	
11-04-2025	12-04-2025	90	31	10	BDL	Clear sky / Calm	
18-04-2025	19-04-2025	89	28	9	BDL	Clear sky / Calm	
19-04-2025	20-04-2025	91	30	11	BDL	Clear sky / Calm	
28-04-2025	29-04-2025	94	32	12	10	Clear sky / Calm	
29-04-2025	30-04-2025	93	33	14	11	Clear sky / Calm	
NAAQS, 2009		100	60	80	80		

<b>PANARA VILLAGE   KJUA4</b>							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub> <sub>5</sub>	PM <sub>2.5</sub> <sub>2</sub>	NO <sub>2</sub> <sub>6</sub>	SO <sub>2</sub> <sub>10</sub>		
03-04-2025	04-04-2025	81	23	7	BDL	Clear sky / Calm	
04-04-2025	05-04-2025	83	25	8	BDL	Clear sky / Calm	
10-04-2025	11-04-2025	85	27	9	BDL	Clear sky / Calm	
11-04-2025	12-04-2025	88	30	10	BDL	Clear sky / Calm	
18-04-2025	19-04-2025	91	32	13	11	Clear sky / Calm	
19-04-2025	20-04-2025	93	33	11	BDL	Clear sky / Calm	
28-04-2025	29-04-2025	90	29	12	10	Clear sky / Calm	
29-04-2025	30-04-2025	94	34	11	BDL	Clear sky / Calm	
NAAQS, 2009		100	60	80	80		

*J. Shrivastava*  
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:	16-04-25 TO 15-05-25	

DATE(dd:mm:yy) OF SAMPLING		WEIGH BRIDGE   KGUF1		ENVIRONMENT CONDITIONS (Sky/Wind)
		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )		
FROM	TO	SPM	PM <sub>10</sub>	
27-04-2025	28-04-2025	354	240	Clear sky / Calm

*J. Chavhan*

Analysed by

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE:		KGON1	
MONTH	DATE OF SAMPLE	NOISE LEVEL IN dB(A)	
	COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'25	08-04-2025	44.9	41.3
APRIL'25	28-04-2025	44.1	41.0
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>75</b>	<b>70</b>

COLONY(JHARNA):		KGON2	
MONTH	DATE OF SAMPLE	NOISE LEVEL IN dB(A)	
	COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'25	08-04-2025	40.9	38.2
APRIL'25	28-04-2025	42.8	40.3
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>55</b>	<b>45</b>



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

# GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



JUNE 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/JUNE-25/70	DATE OF ISSUE	25-07-2025		
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	

MANAGER OFFICE-GHORAWARI OC   KGOA1							
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	
07-06-2025	08-06-2025	270	163	52	15	13	Clear sky / Calm
22-06-2025	23-06-2025	245	140	44	12	10	Cloudy sky / Light breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 <sup>TH</sup> September 2000		600	300	-	120	120	

SAM-OFFICE GHORAWARI   KJUA2							
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	
07-06-2025	08-06-2025	262	153	50	14	12	Clear sky / Calm
22-06-2025	23-06-2025	254	148	46	13	11	Cloudy sky / Light breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 <sup>TH</sup> September 2000		600	300	-	120	120	

COLONY HEALTH CENTER JHARNA   KJUA3							
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		
03-06-2025	04-06-2025	84	32	11	BDL	10	Clear sky / Calm
04-06-2025	05-06-2025	76	25	6	BDL	10	Clear sky / Calm
12-06-2025	13-06-2025	85	35	12	11	10	Clear sky / Calm
13-06-2025	14-06-2025	82	33	10	BDL	10	Clear sky / Calm
17-06-2025	18-06-2025	78	28	8	BDL	10	Clear sky / Calm
18-06-2025	19-06-2025	79	27	9	BDL	10	Cloudy sky / Light breeze
23-06-2025	24-06-2025	77	26	7	BDL	10	Cloudy sky / Light breeze
24-06-2025	25-06-2025	75	24	6	BDL	10	Rainy / windy
NAAQS, 2009		100	60	80	80	10	

PANARA VILLAGE   KJUA4							
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		
03-06-2025	04-06-2025	83	34	12	BDL	10	Clear sky / Calm
04-06-2025	05-06-2025	77	27	7	BDL	10	Clear sky / Calm
12-06-2025	13-06-2025	80	32	10	BDL	10	Clear sky / Calm
13-06-2025	14-06-2025	81	33	11	10	10	Clear sky / Calm
17-06-2025	18-06-2025	84	35	13	11	10	Clear sky / Calm
18-06-2025	19-06-2025	79	29	9	BDL	10	Cloudy sky / Light breeze
23-06-2025	24-06-2025	76	27	8	BDL	10	Cloudy sky / Light breeze
24-06-2025	25-06-2025	74	25	6	BDL	10	Rainy / windy
NAAQS, 2009		100	60	80	80	10	

*J. Shrivastava*  
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:		KGON1	
MONTH	DATE OF SAMPLE	NOISE LEVEL IN dB(A)	
	COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JUNE'25	04-06-2025	44.5	42.1
JUNE'25	23-06-2025	47.1	46.0
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>75</b>	<b>70</b>

COLONY(JHARNA):		KGON2	
MONTH	DATE OF SAMPLE	NOISE LEVEL IN dB(A)	
	COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JUNE'25	04-06-2025	42.7	40.3
JUNE'25	23-06-2025	43.2	42.3
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>55</b>	<b>45</b>

  
 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

### GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



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-25/70	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		


MANAGER OFFICE-GHORAWARI OC KGOA1							
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>	
06-07-2025	07-07-2025	255	145	43	14	12	Rainy sky / Light breeze
26-07-2025	27-07-2025	273	167	52	16	14	Rainy sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 <sup>TH</sup> September 2000		600	300	-	120	120	

SAM-OFFICE GHORAWARI KJUA2							
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>	
06-07-2025	07-07-2025	280	177	56	19	15	Rainy sky / Light breeze
26-07-2025	27-07-2025	265	159	49	15	13	Rainy sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 <sup>TH</sup> September 2000		600	300	-	120	120	

COLONY HEALTH CENTER JHARNA KJUA3							
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>		
01-07-2025	02-07-2025	78	27	7	BDL	Rainy sky / Light breeze	
02-07-2025	03-07-2025	75	26	6	BDL	Rainy sky / Light breeze	
07-07-2025	08-07-2025	79	29	8	BDL	Rainy sky / Light breeze	
08-07-2025	09-07-2025	77	28	7	BDL	Rainy sky / Light breeze	
13-07-2025	14-07-2025	83	31	10	BDL	Cloudy sky / Calm	
17-07-2025	18-07-2025	85	33	12	10	Cloudy sky / Calm	
22-07-2025	23-07-2025	81	30	9	BDL	Cloudy sky / Calm	
23-07-2025	24-07-2025	86	35	13	11	Cloudy sky / Calm	
28-07-2025	29-07-2025	80	29	8	BDL	Cloudy sky / Calm	
29-07-2025	30-07-2025	82	30	8	BDL	Cloudy sky / Calm	
NAAQS, 2009		100	60	80	80		

PANARA VILLAGE KJUA4							
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>		
01-07-2025	02-07-2025	77	29	9	BDL	Rainy sky / Light breeze	
02-07-2025	03-07-2025	76	27	8	BDL	Rainy sky / Light breeze	
07-07-2025	08-07-2025	80	30	8	BDL	Rainy sky / Light breeze	
08-07-2025	09-07-2025	79	28	7	BDL	Rainy sky / Light breeze	
13-07-2025	14-07-2025	84	33	11	BDL	Cloudy sky / Calm	
17-07-2025	18-07-2025	83	32	10	BDL	Cloudy sky / Calm	
22-07-2025	23-07-2025	81	31	10	BDL	Cloudy sky / Calm	
23-07-2025	24-07-2025	88	36	13	11	Cloudy sky / Calm	
28-07-2025	29-07-2025	86	34	12	10	Cloudy sky / Calm	
29-07-2025	30-07-2025	85	32	10	BDL	Cloudy sky / Calm	
NAAQS, 2009		100	60	80	80		

  
Analysed by

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

**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 : L SOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:	16-07-25 TO 15-08-25	

WEIGH BRIDGE   KGUF1				
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	S	S	
02-07-2025	03-07-2025	357	248	RAINY / LIGHT BREEZE

*J. Singh*  
Analysed by


<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7182
---	--------------------	---

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE:		KGON1	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
JULY'25	12-07-2025	58.6	57.2
JULY'25	26-07-2025	57.4	54.2
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>75</b>	<b>70</b>

COLONY(JHARNA):		KGON2	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
JULY'25	12-07-2025	44.5	43.4
JULY'25	26-07-2025	43.4	41.3
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>55</b>	<b>45</b>

  
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

# GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



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-25/70	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, NO <sub>2</sub> : IS 5182 Part-06, SO <sub>2</sub> :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	

MANAGER OFFICE-GHORAWARI OC KGOA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					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	
14-04-2025	15-04-2025	311	203	50	20	15	Clear sky / Calm
22-04-2025	23-04-2025	326	212	52	22	17	Clear sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 <sup>TH</sup> September 2000		600	300	-	120	120	

SAM-OFFICE GHORAWARI KJUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					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	
14-04-2025	15-04-2025	295	198	48	16	14	Clear sky / Calm
23-04-2025	24-04-2025	303	208	53	18	15	Clear sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 <sup>TH</sup> September 2000		600	300	-	120	120	

COLONY HEALTH CENTER JHARNA KJUA3							
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		
03-04-2025	04-04-2025	82	24	8	BDL	Clear sky / Calm	
04-04-2025	05-04-2025	84	26	7	BDL	Clear sky / Calm	
10-04-2025	11-04-2025	87	29	8	BDL	Clear sky / Calm	
11-04-2025	12-04-2025	90	31	10	BDL	Clear sky / Calm	
18-04-2025	19-04-2025	89	28	9	BDL	Clear sky / Calm	
19-04-2025	20-04-2025	91	30	11	BDL	Clear sky / Calm	
28-04-2025	29-04-2025	94	32	12	10	Clear sky / Calm	
29-04-2025	30-04-2025	93	33	14	11	Clear sky / Calm	
NAAQS, 2009		100	60	80	80		

PANARA VILLAGE KJUA4							
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		
03-04-2025	04-04-2025	81	23	7	BDL	Clear sky / Calm	
04-04-2025	05-04-2025	83	25	8	BDL	Clear sky / Calm	
10-04-2025	11-04-2025	85	27	9	BDL	Clear sky / Calm	
11-04-2025	12-04-2025	88	30	10	BDL	Clear sky / Calm	
18-04-2025	19-04-2025	91	32	13	11	Clear sky / Calm	
19-04-2025	20-04-2025	93	33	11	BDL	Clear sky / Calm	
28-04-2025	29-04-2025	90	29	12	10	Clear sky / Calm	
29-04-2025	30-04-2025	94	34	11	BDL	Clear sky / Calm	
NAAQS, 2009		100	60	80	80		

*J. Shrivastava*  
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:	16-04-25 TO 15-05-25	

DATE(dd:mm:yy) OF SAMPLING		WEIGH BRIDGE KGUF1		ENVIRONMENT CONDITIONS (Sky/Wind)
		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )		
FROM	TO	SPM	PM <sub>10</sub>	
27-04-2025	28-04-2025	354	240	Clear sky / Calm

*J. Chavhan*

Analysed by

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE:		KGON1	
MONTH	DATE OF SAMPLE	NOISE LEVEL IN dB(A)	
	COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'25	08-04-2025	44.9	41.3
APRIL'25	28-04-2025	44.1	41.0
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>75</b>	<b>70</b>

COLONY(JHARNA):		KGON2	
MONTH	DATE OF SAMPLE	NOISE LEVEL IN dB(A)	
	COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'25	08-04-2025	40.9	38.2
APRIL'25	28-04-2025	42.8	40.3
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>55</b>	<b>45</b>

  
 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

### GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



OCTOBER 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/OCT-25/70		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2:IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN :	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		LQR 47 16-10-25 TO 15-11-25	


<b>MANAGER OFFICE-GHORAWARI OC KGOA1</b>							
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	
04.10.2025	05.10.2025	314	187	53	20	15	Cloudy sky / Light breeze
19.10.2025	20.10.2025	296	178	47	17	13	Cloudy sky / calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH OCTember 2000		600	300	-	120	120	

<b>SAM-OFFICE GHORAWARI  KJUA2</b>							
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	
04.10.2025	05.10.2025	288	169	44	15	12	Cloudy sky / Light breeze
19.10.2025	20.10.2025	325	192	58	23	16	Cloudy sky / calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH OCTember 2000		600	300	-	120	120	

<b>COLONY HEALTH CENTER JHARNA KJUA3</b>							
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		
08.10.2025	09.10.2025	72	27	8	BDL	Cloudy sky / Light breeze	
09.10.2025	10.10.2025	75	29	9	BDL	Cloudy sky / Light breeze	
13.10.2025	14.10.2025	78	30	11	BDL	Cloudy sky / Light breeze	
17.10.2025	18.10.2025	81	32	13	11	Cloudy sky / Calm	
22.10.2025	23.10.2025	83	34	14	12	Cloudy sky / Calm	
23.10.2025	24.10.2025	85	35	15	13	Cloudy sky / Calm	
28.10.2025	29.10.2025	79	31	10	BDL	Cloudy sky / Calm	
29.10.2025	30.10.2025	82	33	12	10	Cloudy sky / Calm	
NAAQS, 2009		100	60	80	80		

<b>PANARA VILLAGE KJUA4</b>							
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		
08.10.2025	09.10.2025	68	25	6	BDL	Cloudy sky / Light breeze	
09.10.2025	10.10.2025	71	27	7	BDL	Cloudy sky / Light breeze	
13.10.2025	14.10.2025	73	29	8	BDL	Cloudy sky / Light breeze	
17.10.2025	18.10.2025	77	30	9	BDL	Cloudy sky / Calm	
22.10.2025	23.10.2025	80	31	11	BDL	Cloudy sky / Calm	
23.10.2025	24.10.2025	82	33	13	11	Cloudy sky / Calm	
28.10.2025	29.10.2025	84	34	14	12	Cloudy sky / Calm	
29.10.2025	30.10.2025	78	29	9	BDL	Cloudy sky / Calm	
NAAQS, 2009		100	60	80	80		

*J. Singh*  
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:	16-10-25 TO 15-11-25	

DATE(dd:mm:yy) OF SAMPLING		WEIGH BRIDGE KGUF1		ENVIRONMENT CONDITIONS (Sky/Wind)
		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$ )		
FROM	TO	SPM	PM <sub>10</sub>	
30.10.2025	31.10.2025	378	248	CLEAR / CALM



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:		KGON1	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
		OCT'25	11.10.2025
OCT'25	29.10.2025	44.4	41.3
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>75</b>	<b>70</b>

COLONY(JHARNA):		KGON2	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
		OCT'25	11.10.2025
OCT'25	29.10.2025	42.2	40.3
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>55</b>	<b>45</b>

  
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

### GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



NOVEMBER 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/NOV-25/70		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2:IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN :	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		LQR 47 16-11-25 TO 15-12-25	

MANAGER OFFICE-GHORAWARI OC   KGOA1							
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>	
09-11-2025	10-11-2025	274	168	48	16	12	Clear sky / Calm
29-11-2025	30-11-2025	265	153	43	14	11	Cloudy sky / calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH NOVember 2000		600	300	-	120	120	

SAM-OFFICE GHORAWARI   KJUA2							
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>	
09-11-2025	10-11-2025	301	185	56	20	15	Clear sky / Calm
29-11-2025	30-11-2025	290	179	50	18	13	Cloudy sky / calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH NOVember 2000		600	300	-	120	120	

COLONY HEALTH CENTER JHARNA   KJUA3							
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>		
04-11-2025	05-11-2025	65	26	6	BDL	Cloudy sky / calm	
05-11-2025	06-11-2025	70	29	9	BDL	Cloudy sky / calm	
10-11-2025	11-11-2025	68	28	8	BDL	Clear sky / Calm	
11-11-2025	12-11-2025	71	30	10	BDL	Clear sky / Calm	
18-11-2025	19-11-2025	80	33	11	BDL	Cloudy sky / Calm	
19-11-2025	20-11-2025	83	36	13	BDL	Cloudy sky / Calm	
24-11-2025	25-11-2025	67	27	7	BDL	Cloudy sky / Calm	
25-11-2025	26-11-2025	81	31	9	BDL	Cloudy sky / Calm	
NAAQS, 2009		100	60	80	80		

PANARA VILLAGE   KJUA4							
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>		
04-11-2025	05-11-2025	77	29	9	BDL	Cloudy sky / calm	
05-11-2025	06-11-2025	83	32	11	BDL	Cloudy sky / calm	
10-11-2025	11-11-2025	85	34	12	BDL	Clear sky / Calm	
11-11-2025	12-11-2025	65	25	7	BDL	Clear sky / Calm	
18-11-2025	19-11-2025	69	27	8	BDL	Cloudy sky / Calm	
19-11-2025	20-11-2025	76	26	9	BDL	Cloudy sky / Calm	
24-11-2025	25-11-2025	74	28	8	BDL	Cloudy sky / Calm	
25-11-2025	26-11-2025	78	30	10	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
---	--------------------	--

**NOISE LEVEL MONITORING DATA**

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

<b>MANAGER OFFICE:</b>		<b>KGON1</b>	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
	NOV'25	11-11-2025	44.4
NOV'25	26-11-2025	43.4	41.6
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>75</b>	<b>70</b>

<b>COLONY(JHARNA):</b>		<b>KGON2</b>	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
	NOV'25	11-11-2025	43.2
NOV'25	26-11-2025	43.4	41.3
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>55</b>	<b>45</b>

  
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

### GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



DECEMBER 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/DEC-25/70		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2:IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN : LQR 47	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-12-25 TO 15-01-26	

MANAGER OFFICE-GHORAWARI OC   KGOA1							
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>	
13-12-2025	14-12-2025	288	187	52	22	14	Clear sky / Calm
21-12-2025	22-12-2025	295	193	58	26	16	Clear sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

SAM-OFFICE GHORAWARI   KJUA2							
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>	
13-12-2025	14-12-2025	272	174	48	18	13	Clear sky / Calm
22-12-2025	23-12-2025	267	163	44	16	12	Clear sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

COLONY HEALTH CENTER JHARNA   KJUA3							
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>		
02-12-2025	03-12-2025	69	27	9	BDL	Cloudy sky / calm	
03-12-2025	04-12-2025	78	30	12	BDL	Cloudy sky / calm	
09-12-2025	10-12-2025	75	29	11	BDL	Clear sky / Calm	
10-12-2025	11-12-2025	73	28	10	BDL	Clear sky / Calm	
17-12-2025	18-12-2025	74	30	14	BDL	Clear sky / Calm	
18-12-2025	19-12-2025	79	31	16	BDL	Clear sky / Calm	
23-12-2025	24-12-2025	80	33	21	10	Clear sky / Calm	
24-12-2025	25-12-2025	83	35	23	11	Clear sky / Calm	
NAAQS, 2009		100	60	80	80		

PANARA VILLAGE   KJUA4							
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>		
02-12-2025	03-12-2025	72	27	10	BDL	Cloudy sky / calm	
03-12-2025	04-12-2025	78	28	11	BDL	Cloudy sky / calm	
09-12-2025	10-12-2025	75	26	10	BDL	Clear sky / Calm	
10-12-2025	11-12-2025	74	27	9	BDL	Clear sky / Calm	
17-12-2025	18-12-2025	79	30	15	10	Clear sky / Calm	
18-12-2025	19-12-2025	83	34	17	12	Clear sky / Calm	
23-12-2025	24-12-2025	85	35	19	13	Clear sky / Calm	
24-12-2025	25-12-2025	81	29	13	11	Clear sky / Calm	
NAAQS, 2009		100	60	80	80		

  
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

<b>MANAGER OFFICE:</b>		<b>KGON1</b>	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
	DEC'25	12-12-2025	44.5
DEC'25	29-12-2025	46.4	44.6
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>75</b>	<b>70</b>

<b>COLONY(JHARNA):</b>		<b>KGON2</b>	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
	DEC'25	12-12-2025	44.0
DEC'25	29-12-2025	42.3	40.5
<b>NOISE POLLUTION (REGULATION AND CONTROL) RULES</b>		<b>55</b>	<b>45</b>

  
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

### GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



JANUARY 2026

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/JAN-26/70		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2:IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN :	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		LQR 47 16-01-26 TO 15-02-26	

MANAGER OFFICE-GHORAWARI OC   KGOA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM <sub>5</sub>	PM <sub>10</sub> <sub>5</sub>	PM <sub>2.5</sub> <sub>2</sub>	NO <sub>2</sub> <sub>6</sub>	SO <sub>2</sub> <sub>10</sub>	
08-01-2026	09-01-2026	271	174	47	18	15	Cloudy sky / Calm
20-01-2026	21-01-2026	311	203	57	27	20	Cloudy sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

SAM-OFFICE GHORAWARI   KJUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM <sub>5</sub>	PM <sub>10</sub> <sub>5</sub>	PM <sub>2.5</sub> <sub>2</sub>	NO <sub>2</sub> <sub>6</sub>	SO <sub>2</sub> <sub>10</sub>	
08-01-2026	09-01-2026	284	185	50	20	16	Cloudy sky / Calm
20-01-2026	21-01-2026	290	192	54	24	18	Cloudy sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

COLONY HEALTH CENTER JHARNA   KJUA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub> <sub>5</sub>	PM <sub>2.5</sub> <sub>2</sub>	NO <sub>2</sub> <sub>6</sub>	SO <sub>2</sub> <sub>10</sub>		
03-01-2026	04-01-2026	84	33	21	12	BDL	Cloudy sky / Calm
04-01-2026	05-01-2026	81	29	15	BDL	BDL	Cloudy sky / Calm
09-01-2026	10-01-2026	83	31	17	BDL	BDL	Cloudy sky / Calm
10-01-2026	11-01-2026	77	26	13	BDL	BDL	Cloudy sky / Calm
16-01-2026	17-01-2026	79	28	14	BDL	BDL	Cloudy sky / Calm
17-01-2026	18-01-2026	82	31	15	BDL	BDL	Cloudy sky / Calm
21-01-2026	22-01-2026	78	27	11	BDL	BDL	Cloudy sky / Calm
22-01-2026	23-01-2026	85	33	20	13	BDL	Cloudy sky / Calm
27-01-2026	28-01-2026	86	35	23	BDL	BDL	Cloudy sky / Calm
28-01-2026	29-01-2026	88	37	25	14	BDL	Cloudy sky / Calm
NAAQS, 2009		100	60	80	80		

PANARA VILLAGE   KJUA4							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub> <sub>5</sub>	PM <sub>2.5</sub> <sub>2</sub>	NO <sub>2</sub> <sub>6</sub>	SO <sub>2</sub> <sub>10</sub>		
03-01-2026	04-01-2026	87	38	26	11	BDL	Cloudy sky / Calm
04-01-2026	05-01-2026	80	32	22	BDL	BDL	Cloudy sky / Calm
09-01-2026	10-01-2026	84	33	24	BDL	BDL	Cloudy sky / Calm
10-01-2026	11-01-2026	85	36	25	12	BDL	Cloudy sky / Calm
16-01-2026	17-01-2026	79	30	15	BDL	BDL	Cloudy sky / Calm
17-01-2026	18-01-2026	81	31	16	BDL	BDL	Cloudy sky / Calm
21-01-2026	22-01-2026	78	29	14	BDL	BDL	Cloudy sky / Calm
22-01-2026	23-01-2026	76	27	13	BDL	BDL	Cloudy sky / Calm
27-01-2026	28-01-2026	83	34	18	10	BDL	Cloudy sky / Calm
28-01-2026	29-01-2026	80	30	17	BDL	BDL	Cloudy sky / Calm
NAAQS, 2009		100	60	80	80		

*J. Singh*  
Analysed by

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b>	 TC-7142
---	--------------------	--

**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:	16-01-26 TO 15-02-26	

WEIGH BRIDGE KGUF1				
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	S	S	
08-01-2026	09-01-2026	377	269	Cloudy sky / Calm



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:		KGON1	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
JAN'26	10-01-2026	44.4	42.6
JAN'26	29-01-2026	46.2	43.4
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

COLONY(JHARNA):		KGON2	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
JAN'26	10-01-2026	42.2	39.5
JAN'26	29-01-2026	43.3	40.5
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

### GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



FEBRUARY 2026

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/FEB-26/70	DATE OF ISSUE		25-03-2026
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:			16-02-26 TO 15-03-26

MANAGER OFFICE-GHORAWARI OC   KGOA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
08-02-2026	09-02-2026	265	152	42	16	14	Cloudy sky / Calm
27-02-2026	28-02-2026	277	165	45	20	15	Cloudy sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

SAM-OFFICE GHORAWARI   KJUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>	
08-02-2026	09-02-2026	295	190	48	23	17	Cloudy sky / Calm
27-02-2026	28-02-2026	288	179	46	21	16	Cloudy sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

COLONY HEALTH CENTER JHARNA   KJUA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
03-02-2026	04-02-2026	81	32	20	BDL	Cloudy sky / Calm	
04-02-2026	05-02-2026	78	28	19	BDL	Cloudy sky / Calm	
09-02-2026	10-02-2026	76	26	18	BDL	Cloudy sky / Calm	
10-02-2026	11-02-2026	82	31	21	BDL	Cloudy sky / Calm	
17-02-2026	18-02-2026	75	26	17	BDL	Cloudy sky / Calm	
18-02-2026	19-02-2026	74	25	16	BDL	Cloudy sky / Calm	
22-02-2026	23-02-2026	76	27	18	BDL	Cloudy sky / Calm	
23-02-2026	24-02-2026	77	26	16	BDL	Cloudy sky / Calm	
NAAQS, 2009		100	60	80	80		

PANARA VILLAGE   KJUA4							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m <sup>3</sup> )					ENVIRONMENT CONDITIONS (Sky/Wind)
FROM	TO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>2</sub>	SO <sub>2</sub>		
03-02-2026	04-02-2026	83	33	22	BDL	Cloudy sky / Calm	
04-02-2026	05-02-2026	77	29	20	BDL	Cloudy sky / Calm	
09-02-2026	10-02-2026	80	30	21	BDL	Cloudy sky / Calm	
10-02-2026	11-02-2026	82	31	19	BDL	Cloudy sky / Calm	
17-02-2026	18-02-2026	76	26	16	BDL	Cloudy sky / Calm	
18-02-2026	19-02-2026	74	24	15	BDL	Cloudy sky / Calm	
22-02-2026	23-02-2026	75	25	16	BDL	Cloudy sky / Calm	
23-02-2026	24-02-2026	73	24	14	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
---	--------------------	--

**NOISE LEVEL MONITORING DATA**

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

MANAGER OFFICE:		KGON1	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
FEB'26	13-02-2026	45.3	44.6
FEB'26	26-02-2026	47.2	45.4
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

COLONY(JHARNA):		KGON2	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
FEB'26	13-02-2026	42.3	40.5
FEB'26	26-02-2026	42.5	40.8
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

### GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423067



MARCH 2026

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/MAR-26/70		DATE OF ISSUE	
NAME OF CUSTOMER		GM(ENV.), WCL(HQ), NAGPUR			
TEST REQUIRED		SPM: IS 5182 (Part-4), PM-10: IS-5182 (Part 23), PM2.5: IS 5182 (Part 24), NO2: IS 5182 (Part-06), SO2:IS 5182 (Part-2)			
SAMPLE DESCRIPTION		AIR SAMPLE		SAMPLING PLAN : LQR 47	
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-03-26 TO 15-04-26	

MANAGER OFFICE-GHORAWARI OC   KGOA1							
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>	
07-03-2026	08-03-2026	298	188	44	18	15	Clear sky / Calm
21-03-2026	22-03-2026	312	197	53	21	17	Clear sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

SAM-OFFICE GHORAWARI   KJUA2							
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>	
08-02-2026	09-02-2026	308	190	51	20	16	Clear sky / Calm
27-02-2026	28-02-2026	320	210	57	24	18	Clear sky / Calm
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25TH DECEMBER 2000		600	300	-	120	120	

COLONY HEALTH CENTER JHARNA   KJUA3							
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>		
01-03-2026	02-03-2026	73	24	15	BDL	Clear sky / Calm	
02-03-2026	03-03-2026	75	26	16	BDL	Clear sky / Calm	
09-03-2026	10-03-2026	79	28	17	BDL	Clear sky / Calm	
10-03-2026	11-03-2026	81	30	18	10	Clear sky / Calm	
16-03-2026	17-03-2026	83	31	17	BDL	Clear sky / Calm	
17-03-2026	18-03-2026	80	29	18	BDL	Clear sky / Calm	
22-03-2026	23-03-2026	84	32	19	11	Clear sky / Calm	
23-03-2026	24-03-2026	85	34	18	12	Clear sky / Calm	
NAAQS, 2009		100	60	80	80		

PANARA VILLAGE   KJUA4							
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>		
01-03-2026	02-03-2026	74	25	14	BDL	Clear sky / Calm	
02-03-2026	03-03-2026	76	27	15	BDL	Clear sky / Calm	
09-03-2026	10-03-2026	80	33	16	BDL	Clear sky / Calm	
10-03-2026	11-03-2026	78	29	15	BDL	Clear sky / Calm	
16-03-2026	17-03-2026	82	34	17	BDL	Clear sky / Calm	
17-03-2026	18-03-2026	86	36	18	11	Clear sky / Calm	
22-03-2026	23-03-2026	83	35	15	BDL	Clear sky / Calm	
23-03-2026	24-03-2026	84	34	17	10	Clear sky / Calm	
NAAQS, 2009		100	60	80	80		

  
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:		KGON1	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
MAR'26	11-03-2026	45.2	42.1
MAR'26	27-03-2026	44.9	43.3
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

COLONY(JHARNA):		KGON2	
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
	DETECTION LIMIT	DAY TIME	NIGHT TIME
MAR'26	11-03-2026	42.4	39.4
MAR'26	27-03-2026	41.1	39.2
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 \*\*\*\*\*

**REPORT ON**  
**MONITORING OF GROUND WATER LEVEL**  
**OF**  
**GHORAWARI OC MINE,**  
**KANHAN AREA**  
**WESTERN COALFIELDS LTD.**



**PERIOD- MAY 2025 (PRE MONSOON), AUG 2025 (MONSOON), NOV 2025  
(POST-MONSOON) & JAN 2026 (WINTER)**



**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 Jan 2026 (Winter) Period.

The report includes the monitoring of groundwater levels and water quality analysis of observation wells pertaining to GHORAWARI OC MINE, of the Kanhan area of Chhindwara district, M.P.

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  
Jan-2026



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

<b>CONTENTS</b>			
<b>TABLE/FIGURE</b>	<b>NAME OF SUB MINE PROJECT</b>	<b>GROUND WATER MONITORING DETAILS OF WELL</b>	<b>Page No.</b>
I-FIGURE	GHORAWARI OC MINE,	GROUND WATER MONITORING STATION (OBSERVATION WELLS IN AND AROUND GHORAWARI OC MINE,	6
I-TABLE	GHORAWARI OC MINE,	PERIOD- MAY 2025 (PRE MONSOON), AUG 2025 (MONSOON), NOV 2025 (POST-MONSOON) & JAN 2026 (WINTER	7
II-FIGURE	GHORAWARI OC MINE	HYDROGRAPH	10
PHOTOGRAPHS	GHORAWARI OC MINE,	PHOTOGRAPHS	11



*Gawary*

## INTRODUCTION

Environment Department of Western Coalfield Limited (WCL), Nagpur has awarded the assignment engaged M/s Anacon Laboratories Pvt. Ltd, for conducting Ground water Monitoring (i.e. Borewell/Piezometer water level) for the year 2025-26 vide work order no. वेकोलि/मुख्यालय/पर्यावरण/14-L/1122-1148, dated 19.04.2025 for the Jan 2026 (Winter) Period. GHORAWARI OC MINE, is located in Chhindwara district of Madhya Pradesh. All Mines are administered by Kanhan Area of Western Coalfields Limited. Ground water Level monitoring for all the mines have been done for the year 2025-26 i.e **PERIOD- MAY 2025 (PRE MONSOON), AUG 2025 (MONSOON), NOV 2025 (POST MONSOON) & JAN 2026 (WINTER).**

## GENERAL HYDROGEOLOGICAL CONDITION

The major part of the district is occupied by Deccan Trap, consisting of different lava flows whose thickness ranges between 7 to 21 m. The recent alluvium deposits are found at places along the Pench and the Kanhan rivers with thickness varying from 5.00 to 20.00 m. Alluvium comprises clayey material with intercalated layers of sand and gravels. Archaeans are exposed in parts of Sausar, Bichhua, Chhindwara, Jamai and Mohkhed blocks whereas the Coal bearing lower Gondwanas in parts of Jamai, Parasia and Jamai blocks. The upper Gondwanas occupy parts of Harrai and Tamia blocks. Ground water occurs under phreatic and semi-confined to confined conditions. Alluvium, weathered granites/gneisses, lower Gondwana sandstones, weathered, fractured and jointed massive basalts and vesicular basalts form the major phreatic aquifers; and weathered, fractured granites are noticed as main water-bearing zones at deeper levels.



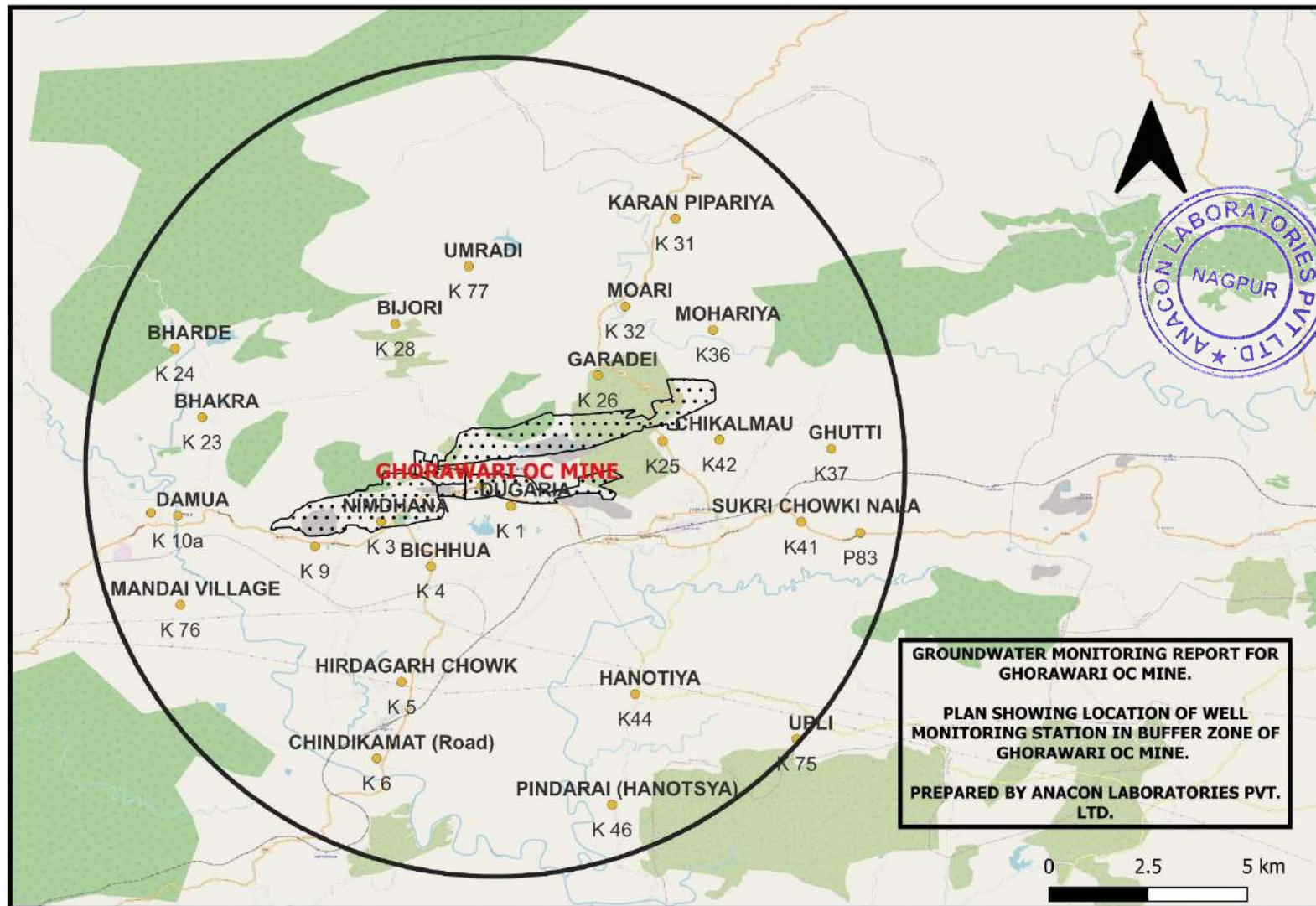
*Gaurav*

**GHORAWARI OC MINE,  
KANHAN AREA  
WESTERN COALFIELDS LTD.**

**PERIOD- MAY 2025 (PRE MONSOON), AUG 2025 (MONSOON), NOV 2025 (POST MONSOON) & JAN 2026  
(WINTER)**



*Gaurav*



**FIGURE I: GROUND WATER MONITORING STATION (OBSERVATION WELLS IN AND AROUND GHORAWARI OC MINE,)**



*J. S.*

**TABLE-I: Ground Water level Monitoring data from dugwells/piezometers in buffer zone Ghorawari OC Mine, KANHAN AREA**

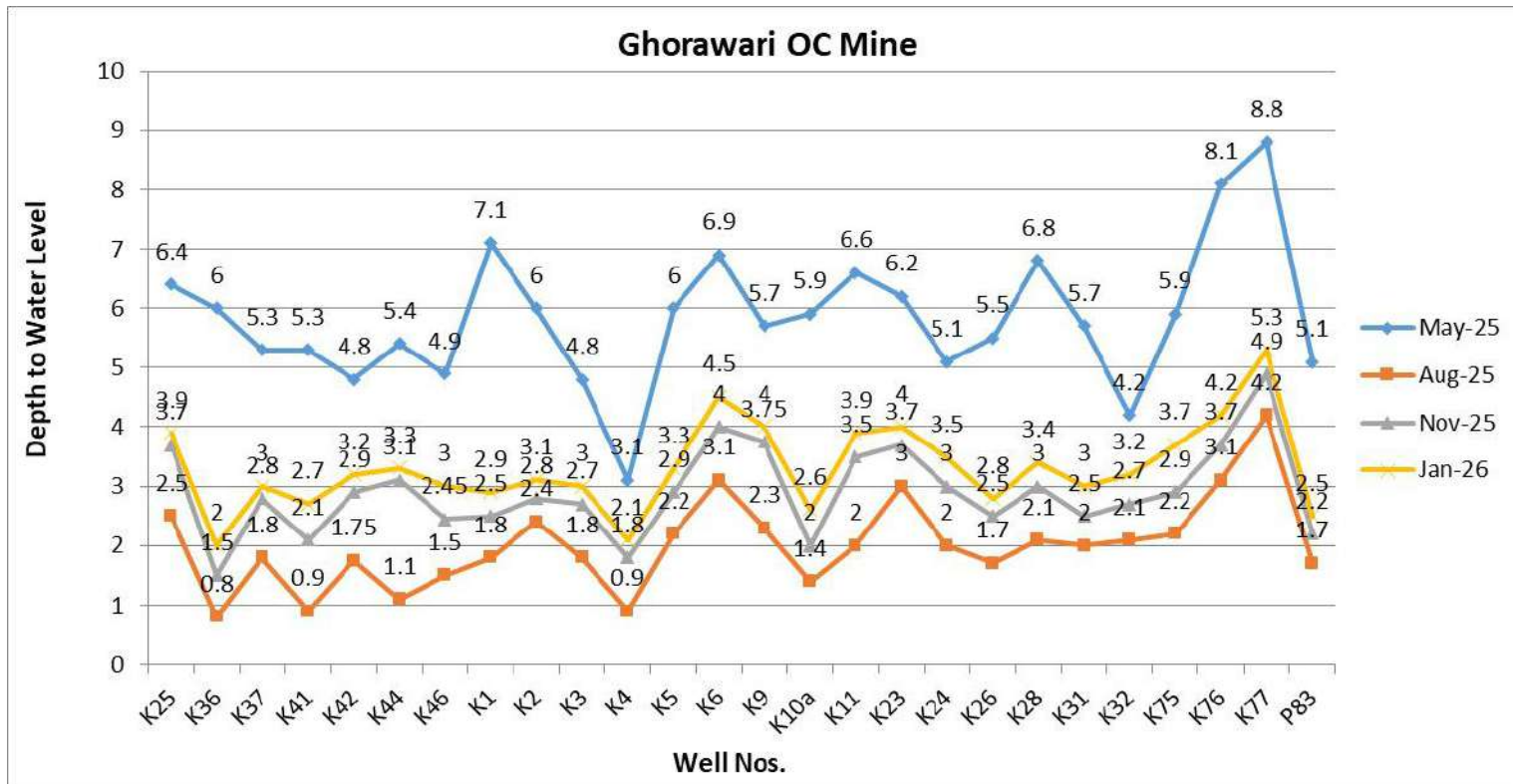
SR. NO	Well No. BA	Name of village	Well location	latitude	longitude	Well depth (m bmp)	R.L. in m	Utility	Well dia (m)	Height of measuring point (m agl)	Depth to Water(BGL-Below Ground Level), m				G/F
											May-25	Aug-25	Nov-25	Jan-26	
1	K25	JUNAR DEV	Side of Tambia Road near Mandir outer limit of municipality	22°12'41.1373310253325"	78°35'6.11457694781721"	11.60	710	Domestic	4.7	0.60.	6.40	2.50	3.70	3.90	M/B sandstone
2	K36	MOHARIYA	In the low lying area North of LP School 100 m from Shivlalone	22°14'19.0276268697772"	78°35'50.3260534574848"	8.0	735	Domestic	6	0.4	6.00	0.80	1.50	2.00	Basalt/sandstone
3	K37	GHUTTI	Near LP school	22°12'34.4655112699527"	78°37'34.3253991360017"	10.00	726	Domestic	6.4	0.6	5.30	1.80	2.80	3.00	M/B sandstone
4	K41	SUKRI CHOWK I NALA	In the openfield Near Nala on Parasis-Jurdeo Road	22°11'30.143403543605"	78°37'8.20198943747972"	10.2	650	Irrigation	5.8	0	5.30	0.90	2.10	2.70	M/B sandstone
5	K42	CHIKAL MAU	In the centre of village Near house HARICHANDRA DHURVE	22°12'42.4488104302284"	78°35'56.0797409136397"	8.5	685	Domestic	3.2	0.7	4.80	1.75	2.90	3.20	M/B sandstone
6	K44	HANOTIYA	In the compound of school Near Hospital	22°8'58.8774587994209"	78°34'41.9888123935357"	9.5	697	Domestic	4.6	0.8	5.40	1.10	3.10	3.30	M/B sandstone
7	K 46	PINDARAI (HANTSYA)	In the openfield of BISHEN DHURVE near Nala	22°7'21.4838508542115"	78°34'21.6662491197645"	7.60	700	Domestic	5.6	0.5	4.90	1.50	2.45	3.00	Metamorphics
8	K 1	DUGARIA	In the compound of Mr. B.S. Rajput South of Road	22°11'44.2617224650192"	78°32'52.7335491283725"	10.10	750	Domestic	3.7	0.75	7.10	1.80	2.50	2.90	M/B sandstone
9	K 2	KOLIYA (Nishtaritalab)	Back side of H/O ASHARUNARE Near small Dam	22°12'1.93877427962832"	78°32'27.0735663609333"	9.20	754	Domestic	3.7	0.65	6.00	2.40	2.80	3.10	M/B sandstone
10	K 3	NIMDHANA	North of junction of Damua & Nayagaon Road (Hirdagarh Rly. Siding)	22°11'30.3944299377847"	78°30'58.6821946446491"	7.80	785	Domestic	3.2	0.4	4.80	1.80	2.70	3.00	M/B sandstone

SR. NO	We II No. BA	Name of village	Well location	latitude	longitude	Well depth (m bmp)	R.L. in m	Utility	Well dia (m)	Height of measuring point (m agl)	Depth to Water(BGL-Below Ground Level), m				G/F
											May-25	Aug-25	Nov-25	Jan-26	
11	K 4	BICHHU A	In the openfield of Mr Budhu Near G.P. office	22°10'51.0628115082554"	78°31'42.479025275545"	4.10	699	Domestic	3.5	0.35	3.10	0.90	1.80	2.10	Talchir
12	K 5	HIRDAG ARH CHOWK	Near chowk in the compound of Mr. Binod kumar Vayas	22°9'9.42905908661942"	78°31'16.7884172076149"	7.50	678	Irrigation	7.5	0.5	6.00	2.20	2.90	3.30	Talchir
13	K 6	CHINDI KAMAT (Road)	About 200 m North of Kanhan bridge centre of small village	22°8'2.27598180455857"	78°30'54.8746760214442"	10.20	725	Domestic	6.2	0.5	6.90	3.10	4.00	4.50	Talchir
14	K 9	GHORA WARI BAZAR	Opposite CHANIPAN PALACE	22°11'8.63455654322252"	78°30'0.483201419484658"	8.50	745	Domestic	3.2	0.5	5.70	2.30	3.75	4.00	MB Sandstone
15	K10 a	DAMU A	On the road side Junnardeo-sarni near telephone tower	22°11'35.58"	78°28'0.1"	8.60	718	Domestic	7.2	0	5.90	1.40	2.00	2.60	M/B sandstone
16	K 11	DAMU A (UPKAR CHOWK )	About 100 m North of Khan Niwas	22°11'38.0589935825881"	78°27'36.3297271996077"	9.20	719	Domestic	2.9	0.7	6.60	2.00	3.50	3.90	M/B sandstone
17	K 23	BHAKR A	In the house of Dilip Behari	22°13'2.17527992752622"	78°28'21.4480062706354"	9.80	719	Domestic	5.4	0.6	6.20	3.00	3.70	4.00	M/B sandstone
18	K 24	BHARD E	In the house of Munibai	22°14'2.44020977866484"	78°27'57.5201437224836"	8.15	720	Domestic	5.6	0.4	5.10	2.00	3.00	3.50	M/B sandstone
19	K 26	GARAD EI	Near Mandir on junction of Tambia & Umrai Road	22°13'38.9377166427664"	78°34'9.36236865993356"	7.20	715	Domestic	3.7	0.4	5.50	1.70	2.50	2.80	M/B sandstone
20	K 28	BIJORI	Centre of village in the field of Montilal	22°14'24.2474540971273"	78°31'11.2499351264908"	12.08	692	Domestic	4.7	0.65	6.80	2.10	3.00	3.40	Weathered Basalt
21	K 31	KARAN PIPARIY A	100 M back of G.P office	22°15'56.8114772037134"	78°35'17.4804804353185"	4.60	775	Domestic	2.8	0.65	5.70	2.00	2.50	3.00	Basalt

SR. NO	Well No. BA	Name of village	Well location	latitude	longitude	Well depth (m bmp)	R.L. in m	Utility	Well dia (m)	Height of measuring point (m agl)	Depth to Water(BGL-Below Ground Level), m				G/F
											May-25	Aug-25	Nov-25	Jan-26	
22	K 32	MOARI	Back side of Budhanlal & near BHUDAMANSA	22°14'39.6 172601680 121"	78°34'33.28 2639072550 7"	6.00	780	Domestic	4.6	0.5	4.20	2.10	2.70	3.20	Basalt
23	K 75	UPLI	OPEN FIELD	22°8'19.25 "	78°37'3.98"	12.60	690	Domestic	5.6	0.9	5.90	2.20	2.90	3.70	M/B SANDSTONE
24	K 76	MANDAI VILLAGE	ON GP ROAD	22°10'17.2 3"	78°28'2.23"	15.40	686	Domestic	4.2	0.3	8.10	3.10	3.70	4.20	Taalchir
25	K 77	UMRADI	NEAR RADHIKA GENERAL STORE	22°15'14.7 4"	78°32'15.69' '	14.50	690	Domestic	5.4	GL	8.80	4.20	4.90	5.30	M/B SANDSTONE
26	P83	JAMKUNDA	ABOUT 350 METER FROM MAIN ROAD	22°11'20.5 9"	78°37'59.79' '	14.50	710	Domestic	5.8	0.5	5.10	1.70	2.20	2.50	MOTUR



*D. J. Gawari*



II-FIGURE:- HYDROGRAPH OF Ghorawari OC Mine, KANHAN AREA



**K1-DUGARIA**



**K2-KOLIYA**



**K3-NIMDHANA**



**K4-BICHHUA**



**K5-HIRDAGARH CHOWK**



**K6-CHINDIKAMAT (Road)**



**K9-GHORAWARI BAZAR**



**K10A-DAMUA**



**K11-DAMUA (UPKARCHOWK) K23-BHAKRA**



**K24-BHARDE**



**K25- JUNARDEV**



**K26-GARADEI**



**K28-BIJORI**



**K31-KARAN PIPARIYA**



**K32-MOARI**



**K35-MANDKADAI**



**K37-GHUTTI**



**K41-SUKRI CHOWKI NALA**



**K42-CHIKALMAU**



**K44-HANOTIYA**



**K46-PINDARAI (HANOTSYA)**



**K75-UPLI**



**K76-MANDAI VILLAGE**



**K77-UMRADI**



**P83-JAMKUNDA**

**Mine wise details of Mine Closure Plan as Approved by WCL Board in 252<sup>nd</sup> meeting held on 6<sup>th</sup> February 2014**

Sl. No.	Name of Project	Total Project area as per EC (ha)	Closure Cost@ Rs in lakhs/ha	Life as on 01.04.2012 in years	Corpus as on 2009 in Rs Lakhs	WPI considered for current value	Current value in lakhs	Annual Corpus in Rs Lakhs in 2012-13	Total Corpus in Rs Lakhs
1	Gharawari OC	1296.011	6.00	25	7776.06	April'12	9810.07	392.40	18728.11
2	Datia OC	57.753	6.00	0.00	346.51	April'12	437.14	437.14	437.14
3	Padmapur OC	829.19	6.00	9	4975.14	April'12	6276.50	697.38	7689.71
4	Hindustan Lalpeth OC	311.66	6.00	11	1869.96	April'12	2359.09	214.46	3046.79
5	Juna Kunada OC	186.00	6.00	10	1116.00	April'12	1407.91	140.79	1770.84
6	Ukni OC	1285.12	6.00	16	7710.72	April'12	9727.64	607.97	14383.05
7	Extention of Nandan-II UG	656.14	1.00	10	656.14	April'12	827.76	82.77	1041.07
8	Ambara OC	162.153	6.00	9	972.91	April'12	1227.39	136.37	1503.69
9	Damua UG	1080.918	1.00	21	1080.918	April'12	1363.65	64.93	2319.25
10	Pathakhera-I UG	248.50	1.00	0.00	248.50	April'12	313.50	313.50	313.50
11	Pathakhera-II	281.37	1.00	0.00	281.37	April'12	354.99	354.99	354.99
12	Satpura-II UG	458.00	1.00	0.00	458.00	April'12	577.80	577.80	577.80
13	Gouri Deep OC	356.11	6.00	21	2136.66	July'13	2891.75	137.70	4918.54

## Chapter - 1 INTRODUCTION

### 1.1 About the Mine

Ghorawari Opencast Mine is under Kanhan Area of Western Coalfields Limited, a subsidiary of Coal India Limited. The method of mining adopted is Open Cast Mining by Shovel Dumper combination. Mine produced 0.59 MTPA during 2012-13.

The total project area is 1296.011ha. The financial provision for Mine Closure Plan of this mine at present works out to around Rs 18728.11 lakhs (Based on April 2012 WPI)

The salient features of the mine are as under:-

#### 1.1.1 Name of mine owner/company

Mine : Ghorawari Opencast Mine  
Area : Kanhan Area  
Company : Western Coalfields Limited  
Mine Owner : (Director.Tech.)(P&P), WCL.

#### 1.1.2 Address for Communication and Phone Nos.

Mine : Ghorawari Opencast Mine  
PO : Ghorawari Khurd (Via- Junnardeo)  
District : Chhindwara,  
State : Madhya Pradesh  
Telephone : 07160-266311

#### 1.1.3 Location of mine

Mine : Ghorawari Opencast Mine  
Area : Kanhan Area  
Latitude : N 22<sup>0</sup> 10' 53" - 22<sup>0</sup> 11' 44"  
Longitude : E 78<sup>0</sup> 28' 51" - 78<sup>0</sup> 31' 54"

#### 1.1.4 Date of start :

Date of start of development work :1982

Date of start of Production : 1982

**1.1.5 Total Project Area of the mine:** 1296.011 Ha

**1.1.6 Communication**

**Road:** The mine is well approachable from Junnardeo town which is on state highway about 60 km away from Chhindwara town.

**Rail:** Nearest railway station is Junnardeo which is about 10 km from the mine. Junnardeo railway station is located on Amla-Chhindwara line of Western - central railways.

**Airways:** The nearest airport is Nagpur which is about 180 km away from the mine.

**1.1.7 Topography of the area**

The project has gently undulating slope, the elevation varies from 780.00 m to 800.00 m. Drainage of the area is mainly controlled by Kanhan river lying about 6 -7 Km away from Project.

**1.2 Reasons for Closure**

The reason for closure of mine will be exhaustion of coal reserve from approved PR/scheme limits.

**1.3 Need of Mine Closure Planning**

1.3.1 Mining activities leave long lasting impacts on the landscape, ecology and on local inhabitants. These activities disturb the delicate environmental and social equilibrium that exists in its area of influence. Hence, it becomes imperative on part of the mine operator to restore the equilibrium in the mine affected area that existed in the pre-mining period. Thus, any mining venture must have adequate closure plan, aimed at rehabilitation of disturbed area, which should be acceptable to local community as well as regulatory authority.

1.3.2 Mine closure encompasses rehabilitation process designed to restore physical, chemical and biological quality disturbed by the mining activities. Mine closure is not just something that happens at the end of a mine's life rather mine closure is an ongoing series of decisions and activities beginning in the pre-mining stage of mine and ending with a sustainable site that can be returned to the community.

1.3.3 Thus, a Mine closure plan needs to define the liabilities, responsibilities and authorities of the different agencies like the mine management, other regulatory bodies, Central and State Governments after mine closure Various objectives of the advance mine closure planning are as follows:

- a. To allow productive and sustainable after-use of the site, which is acceptable to the mine owner and the regulatory authority.
- b. To protect public health and safety.
- c. To eliminate environmental damage and thereby encourage environmental sustainability.
- d. To minimize adverse socio-economic impacts of mining activities.
- e. To protect the flora and fauna of the area affected by the mining.
- f. Effective use of the assets created in course of mining.

1.3.4 Primarily, the mine closure activities are planned in two stages. The initial plan identifies the activities required to be executed as the mining activities progress after the inception of the mine. These activities may undergo minor changes depending upon the actual site condition during implementation. Finally, a detailed closure plan is prepared 4-5 years before the actual closure time of the mine depending upon the existing parameters at that point of time.

**1.4 Mine closure planning strategy in respect of Ghorawari OC mine based on existing set of parameters.**

The life of the mine as on 1.04.2012 is 25 years and coal production Programme from 2013-14 is given below.

S.No.	Year	Coal production(Mt)	S.No.	Year	Coal production(Mt)
1.	2013-14	0.65	13.	2025-26	0.75
2.	2014-15	0.60	14.	2026-27	0.65
3.	2015-16	0.70	15.	2027-28	0.65
4.	2016-17	0.60	16.	2028-29	0.55
5.	2017-18	0.55	17.	2029-30	0.50
6.	2018-19	0.65	18.	2030-31	0.50
7.	2019-20	0.70	19.	2031-32	0.50
8.	2020-21	0.70	20.	2032-33	0.50
9.	2021-22	0.75	21.	2033-34	0.55
10.	2022-23	0.65	22.	2034-35	0.55
11.	2023-24	0.65	23.	2035-36	0.65
12.	2024-25	0.70	24.	2036-37	0.697
				Total	14.947

Following activities are envisaged towards mine closure programme in respect of Ghorawari Open cast Mine.

Progressive mine closure activities will continue as envisaged in the approved Project Report/Scheme and as enumerated in the various approvals, permits, consents etc for which adequate financial provision is available.

### 1.5 Statutory Obligations

The statutory obligations on part of the mine operator have been enumerated in various approvals, permits, consents etc. such as lease deed, approved Mining Plan, approval obtained from MoEF , approval/consent from State Pollution Control Board and the other relevant statutes .The copies of environment clearance and consent to operate obtained from State Govt. are enclosed.

All the applicable obligations are being strictly complied with and regular reports, wherever required is being sent to respective authorities.

Some obligations relating to the mine management companies arise as follows:

- a) **Health and safety:** Regulation Nos. 6, 61,106,112 of coal mines regulations, 1957 and its related DGMS circulars.

b) **Environment:**

- i) Water ( prevention and control of pollution act 1974)
- ii) Air ( prevention and control of pollution act 1981)  
environmental protection act , 1980 and environmental  
protection act 1986 and environmental protection (amendment)  
2000 and DGMS directives on noise and ground vibrations :

c) **Forest:** Forest conservation Act , 1980 – not applicable

d) **Rehabilitation:** CIL'S R & R policy.

\*\*\*\*\*

## **Chapter - 2**

### **MINE DESCRIPTION/MINING PARAMETERS**

#### **2.0 Geology in brief:-**

## A. Part of lease 29, Lease Nos. 9,10,11 &amp; 13:

In Ghorawari Area the sediments encountered in the drilled boreholes are represented by Moturs, Barakars, & Talchir. Northern peripheral parts are covered by flows of basalts and underneath which the sediment occurs.

In the West, the hilly region is occupied by basaltic rock of Deccan trap. Besides this few prominent Dolerite dykes traverse through the area having EW to NE-SW trend. Few boreholes drilled by MECL have encountered the dykes.

## B. Part of lease 26 &amp; west of lease 26 :-

Based on the sediments encountered in the drilled boreholes in the area. It is observed that they represent Moturs below solid cover followed by Barakar & Talchir. A small outcrop of Barakar sandstone is noted in the North Eastern part of the block. The eastern part is covered by Deccan trap.

## C. Lease 5,6,7,8,14,15 &amp; 16 :-

Based on the data of drilled boreholes, it reveals that soil is mostly followed by coal bearing Barakars which is followed by Talchir, however few boreholes encountered Moturs above Barakars.

AGE	FORMATION	LITHOLOGY
Sub Recent to Recent	Soli/ Detrtal Mantle	Sandy clays & Black cotton soil
-----UNCONFORMITY-----		
MIDDLE PERMIAN	Muturs	Greenish purplish, & Variegated clays intercalated with cgd.sst.
LOWER PERMIAN	Barakar	White to grayish mgd to cgd sst. Shale, car, shale and Coal
-----UNCONFORMITY-----		
UPPER CARBONIFEROUS	TAICHIR	Greenish to blackish splintery shale, sst. & boulder beds
-----UNCONFORMITY-----		
ARCHEANS	METAMORPHICS	Schist & gneisses

**Structure of the area****A.** Part of lease 29, Lease Nos. 9,10,11 & 13:

Strike ( on the basis of drawn floor contours) is almost EW with minor swings while at places it is NE- SW & ESE- WNW with Northerly dip varying from  $6^{\circ}$  to  $7^{\circ}$ .

**B.** Part of lease 26 west of lease 26 :-

Strike is almost EW to N  $70^{\circ}$  E – S  $70^{\circ}$  W. at places it is NE-SW. dip is northerly which varies from  $5^{\circ}$  to  $13^{\circ}$ .

**C.** Lease 5,6,7,8,14,15 & 16 :-

Strike is almost EW to NE-SW. Dip is Northerly with varying from  $8^{\circ}$  to  $9^{\circ}$  (Gradient 1 in 6 to 1 in 7.8)

**2.1 Brief description of mining system:**

The mine is being worked by inclined slicing method i.e. conventional benching system with shovel dumper combination, with main sump at the floor of the seam. The thickness of composite seam is about 5 – 8 m.

**2.2 Seam-wise Mine Details**

Prospecting for the area under consideration for this project was done by MECL, IBM & NCDC and as per reports it has been correlated that the workable coal seams from top to bottom as Seam I, II & III. In the area two of these seams viz. seam –I & II occur in splits sections and are designated as I A, I B, II B (split of seam II) etc, but due to thickness are declared unworkable seams. As such only Seam –III has been considered for extraction by opencast method. The quality of coal is designated as Grade – D.

Details about the MEC III (TOP) which is being worked with production figures and has been shown in the following tables:

**Table-1**

Seam	Thickness Range	Depth (m)	Gr.	Balance Mineable Reserves as on 1.04.2013
MEC III (TOP)	5 - 8 M	10 m to 90 m	D	14.947 Mt

Table-2 Performance for last 5 years

Particulars	Unit	Year				
		2008-09	2009-10	2010-11	2011-12	2012-13
Production	Mt	0.5441	0.3900	0.4386	0.534	0.591
OMS	t	16.81	12.01	17.44	22.75	17.04
CPT	Rs/t	526.11	768.63	747.82	675.46	1176.04
SPT	Rs/t	914.76	975.85	1082.54	862.82	1083.00
Profit	Rs/t	388.65	207.22	334.72	187.36	-93.04
Total Profit	Rs Lakhs	2114.64	808.15	1468.08	1000.58	-549.87

### 2.3 Mine boundary details

North : Forest

South : Residential Area

East : Junnardeo Town

West : Damua Town

### 2.4 Surface water bodies and their status

Kanhan River which flows southwesterly at a distance of 6-7 Km from lease boundary, controls the master drainage of the area.

### 2.5 OB dumps and their status

External Dump			
S.NO.	Dump Area(ha)	Dump Height(m)	Volume(Mm3)
1.	24.02	20-30	13.95
Internal Dump			
S.NO.	Dump Area(ha)	Dump Height(m)	Volume(Mm3)
1.	76.75	20-30	55.80

**2.6 Maximum depth of the OCM workings**

The maximum depth of workings is 90m

**2.7 Coal processing/beneficiation operation**

A Coal Handling Plant at Hirdagarh is under construction for Ghorawari OC.

\*\*\*\*\*

## **Chapter - 3**

### **Closure Plan and Related Activities**

#### **3.1 Mined out Land & proposed final land use**

##### **3.1.1 Management of mined out area**

- a. Total Mined out area (ha)–Present:59.50ha Proposed-690.86ha  
Total-750.360ha.
- b. Backfilled area (ha) - present : 47.60ha. Proposed : 504.48ha.  
Total-552.48ha
- c. Balance mined out area (ha) which will not be backfilled – 198.28ha.
- d. Land use of balanced mine out area:  
A part of the land will be backfilled and remaining decoaled void will be developed into a water lagoon. The water lagoon will be handed over to State Authorities for conversion into a picnic spot with proper fencing and security. If necessary the lagoon may also be used by the State authority for supplying water to local community after proper treatment of the same.
- e. Details of past subsidence – Not applicable because it is an open cast mine.

#### **3.2 Water Regime Management**

##### **3.2.1 Drainage pattern of the area (pre and post closure)**

###### **Existing drainage pattern:**

Kanhan river which flows southeasterly at a distance of 6-7 Km from lease boundary, controls the master drainage of the area.

Some part of the mine water is discharged through settling pond into seasonal nalas which leads ultimately to the Kanhan River.

###### **Post Closure drainage pattern**

In course of mining throughout the life, the general drainage pattern would not be disturbed. As regards the drainage from the mined out area and the OB Dumps,

Garland drain of appropriate cross section would be provided around the quarry edge and toe of external OB dump of the project. This drain would be connected to the above natural seasonal nalas, which would carry the run-off water to the Kanhan River.

### **3.2.2 Mine water discharge details.**

#### **Existing mine water discharge details**

- a. Water required for Industrial use is provided from the mine water discharge.
- b. Excess pumped out mine water is allowed to flow into the surface drainage system after passing through a settling pond constructed in a suitable place.

#### **Post closure Mine water discharge**

A major portion of the quarry will be backfilled and the remaining decoaled void will act as water reservoir. It is proposed to develop a water lagoon in the dip side area of the quarry, which could not be back filled. The water lagoon will be handed over to State Authorities for conversion into a picnic spot with proper fencing and security. If necessary, the lagoon may also be used by the State Authority for supplying water to local community after proper treatment of the same. The existing water supply facilities would be handed over to the State authorities for future upkeep and maintenance. If required local authorities may use the lagoon as a source of domestic water supply for the local community.

### **3.2.3 Water Quality Monitoring**

#### **Present Practice**

Fortnightly samples of mine water as well as Quarterly samples of drinking water are collected and the samples are analyzed at Environmental Laboratory, CMPDI, Nagpur and the results are compared with MoEF standard.

#### **Present status of water quality.**

Test results of the samples collected from the surface water bodies have shown that the water quality of surface water bodies is matching with the standards prescribed by MoEF.

Results of various quality checks have been furnished below in tabular format.

## Drinking water quality report

**DRINKING WATER QUALITY MONITORING DATA**

NAME OF THE COMPANY : WCL YEAR : 2012  
 NAME OF THE AREA : KANHAN Q.E. : JUN.  
 NAME OF THE PROJECT : GHORAWARI OC DATE : 23.05.12

**Name of the Location : Drinking water from Manager office**

Sl. No.	Parameter	Analysis Result	Standard (IS 10500 : 1991)	
			Desirable limit	Permissible limit in the absence of alternate source
1.	Colour (Hazen)	3	5	25
2.	Odour	Unobject.	Unobject.	-
3.	Taste	Agreeable	Agreeable	-
4.	Turbidity (NTU)	4	5	10
5.	pH value	7.57	6.5 to 8.5	No relaxation
6.	Total Hardness(as CaCO <sub>3</sub> ) (mg/l)	324	300	600
7.	Iron (mg/l)	BDL	0.3	1.0
8.	Chlorides (mg/l)	22	250	1000
9.	Residual, Free Chlorine (mg/l)	BDL	0.2	-
10.	Dissolved Solids (mg/l)	430	500	2000
11.	Calcium (mg/l)	81	75	200
12.	Copper (mg/l)	BDL	0.05	1.5
13.	Manganese (mg/l)	0.02	0.1	0.3
14.	Sulphate (mg/l)	78	200	400
15.	Nitrate (mg/l)	3.52	45	100
16.	Fluoride (mg/l)	0.57	1.0	1.5
17.	Selenium (mg/l)	BDL	0.01	No relaxation
18.	Arsenic (mg/l)	BDL	0.05	No relaxation
19.	Cadmium (mg/l)	BDL	0.01	No relaxation
20.	Lead (mg/l)	BDL	0.05	No relaxation
21.	Zinc (mg/l)	0.02	5	15
22.	Chromium (Cr <sup>6+</sup> ) (mg/l)	BDL	0.05	No relaxation
23.	Alkalinity (mg/l)	148	200	600
24.	Aluminium (mg/l)	BDL	0.03	0.2
25.	Boron (mg/l)	BDL	1	5
26.	Phenolic Compounds (mg/l)	BDL	0.001	0.002
27.	Coliform (MPN / 100 ml)	NIL	Shall be absent	-

(BDL – Below Detectable Limit)

## Mine water quality report

## EFFLUENT WATER QUALITY MONITORING DATA

NAME OF THE COMPANY : WCL YEAR : 2012  
 NAME OF THE AREA : KANHAN Q.E. : JUN.  
 NAME OF THE PROJECT : GHORAWARI OC

Name of the Location : Mine water discharge - KGOW-1

Month	Date of Sample collection	Analysis Results			
		pH	TSS (mg/l)	COD (mg/l)	O & G (mg/l)
APR. 2012	08.04.12	7.25	58	120	BDL
MAY. 2012	23.05.12	7.56	36	60	BDL
JUN. 2012	24.06.12	7.54	60	120	BDL
TLV as per Env.(Protection) Amendment rule 2000		5.5 - 9.0	100	250	10

(BDL - Below Detectable Level- Value < 1.0 mg/l)



## Well Water Level monitoring report

TABLE V-A: Groundwater monitoring data of dugwells in buffer zone of Ghorawari OC mine, Kanhan Area

Well No.	Name of village	Well location	Owner	Utility	Well dia (m)	Height of measuring point (m agl)	Well depth (m bmp)	WATER TABLE(m-bmp)				Formation Tapped
								May' 11	Aug' 11	Nov' 11	Jan' 12	
K												
1	DUGARIA (3.5)	In the compound of Mr. B.S. Rajput South of Road	G.P.	Domestic	4.20	0.75	6.55	Dry	1.30	1.80	4.60	M/B sand stone
2	KOLIYA (Nishtari talab)	Back side of H/O ASHARUNARE Near small Dam	G.P.	Domestic	4.60	0.70	12.00	7.25	0.35	1.25	0.55	M/B sand stone
3	NIMDHANA	North of junction of Damua & Nayagao n Road (Hirdagar h Rly. Siding)	G.P.	Domestic	3.40	0.85	8.55	5.45	0.05	1.30	1.75	M/B sand stone
4	BICHHUA	In the openfield of Mr Budhu Near G.P. office	Private	Domestic	3.45	0.40	4.55	2.80	0.00	0.50	0.90	Talchir
5	HIRDAGARH CHOWK	Near chowk in the compound of Mr. Binod kumar Vayas	Private	Irrigation	7.20	0.40	8.05	5.85	1.20	2.40	3.00	Talchir

6	CHINDIKAMAT (Road)	About 200 m North of Kanhan bridge centre of small village	Mr. Shevak Ram	Domestic	6.50	0.65	12.55	11.15	6.25	7.65	8.65	Talchir
8	GHORAWARI (CGWB)	In the openfield near School side of road Jamai KM/11	GP	Domestic	4.00	0.80	6.50	2.40	0.50	0.70	0.70	MB Sand stone
9	GHORAWARI BAZAR	Opposite CHANIPAN PALACE	Rakesh Suryabansi	Domestic	8.25	0.60	11.45	5.55	0.35	0.70	3.40	M/B sand stone
11	DAMUA (UPKARCHOWK)	About 100 m North of Khan Niwas	G.P.	Domestic	2.90	0.90	17.55	10.80	1.40	5.25	7.40	M/B sand stone
12	DONGARIA (BHARTAGARH)	Near G.P. office	G.P.	Domestic	4.25	0.70	6.55	Dry	1.35	1.80	Dry	Talchir
13	MANDAI	Back side of House of Shaktilal Partik	Shaktilal Partik	Domestic	4.25	G.L	12.20	11.70	7.40	8.95	9.50	Talchir
14	BIRAJ PURA	In the openfield Near Road Junction opp. Chamanlal house	Chhanulal	Irrigation	2.80	G.L	10.85	14.05	NA	NA	13.55	Talchir with Dolerite dyke
15	HARYAGARH	Near L.P school & big talab	Ramesh Yadubansi	Domestic	4.80	G.L	10.75	Dry	NA	NA	10.50	Talchir
19	MARKADHAN	On Road to Rakhikol in the openfield	Private	Irrigation	6.05	0.95	7.57	1.75	0.60	1.05	1.20	Talchir
20	RAKHIKOL	Opposite managers office	WCL	Domestic	3.35	0.85	7.10	3.35	1.35	2.95	3.45	M/B sand stone

21	CHIKATWARI	Extreme North of village about 100 m west of Eklama Road in the field	Rojgar Yojna	Domestic	5.40	0.60	9.00	Dry	Dry	Dry	4.70	
23	BHAKRA	In the house of Dilip Behari	Private	Domestic	3.90	0.45	12.00	10.75	2.85	3.95	9.35	M/B sand stone
24	BHARDE	In the house of Munibai	Shymlai	Domestic	3.90	0.45	9.05	6.80	3.60	4.40	5.85	M/B sand stone
25	JUNARDEV	Side of Tambia Road near Mandir outer limit of municipality	Deepchan Pawar	Domestic	4.75	0.85	12.20	10.45	2.65	3.80	8.25	M/B sand stone
26	GARADEI	Near Mandir on junction of Tambia & Umrai Road	G.P.	Domestic	2.65	0.75	7.65	4.05	0.55	1.05	1.25	M/B sand stone
27	UMRAI	In the compound of Ramesh	G.P.	Domestic	4.35	0.75	10.50	5.85	1.30	4.65	5.05	M/B sand stone
28	BIJORI	Centre of village in the field of Montilal	G.P.	Domestic	3.90	0.70	8.90	6.10	1.25	1.90	3.05	Weathered Basalt
32	MOARI	Back side of Budhanlal & near BHUDAMANSA	G.P.	Domestic	3.60	0.75	5.95	4.75	0.80	1.35	4.05	Basalt
44	HANO TIYA	In the compound of school Near Hospital	G.P.	Domestic	6.70	0.75	4.45	1.70	1.00	1.05	1.15	Talchir

Pench area

P												
10	SUKRI	Back side of Kherapati Mandir	Mandir Trust	D	4.00	0.45	16.45	3.65	0.15	0.60	1.00	Motur

Note: m.bmp-meter below measuring point,m agl-meter above ground level,m.bgl-meter below ground level , D-Domestic, I-Irrigation, GP-Gram Panchayat, DCB-Dug cum borewell,TW-Tube well

### Practice after the closure

The above practice of monitoring of quality of water would be continued for a period of 3 years. If required, corrective action/steps would be taken to mitigate any adverse effect on local water regime. The responsibility of maintaining the quality of drinking water will be entrusted on the State Authorities after 3 years of mine closure.

### 3.3 Air quality management :

#### 3.3.1 Present practice :

a. At present air borne dust is suppressed by:

- Sprinkling water on the main haul roads and other roads of the mine where vehicles ply.
- Wet drilling and provision of dust collect in drilling machine
- Water sprinkling at the various points of the CHP, where coal is handled.
- Sufficient numbers of dust extractors have been provided in CHP.
- Avoiding overcharging of shot holes.
- Proper maintenance of I.C. engines.

b. Further, the quality of air is also monitored on regular basis by drawing Samples from the various residential and non-residential areas of the project. The test results are compared with the standards prescribed by the MoEF. The test results of recent sampling are as under:

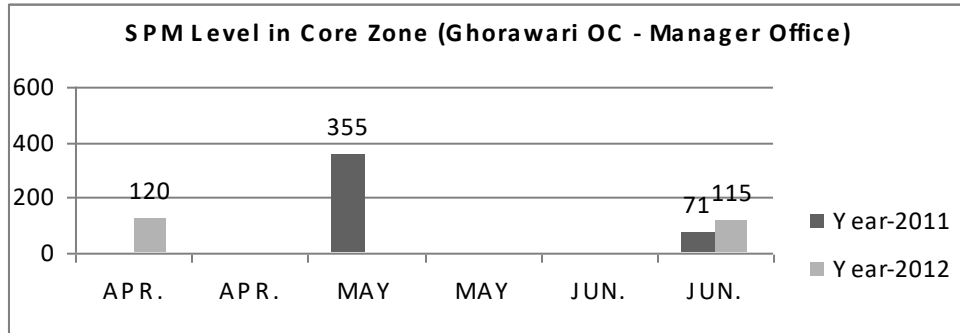
### AIR QUALITY MONITORING DATA

NAME OF THE COMPANY : WCL YEAR : 2012  
 NAME OF THE AREA : KANHAN Q.E. : JUN.  
 NAME OF THE PROJECT : GHORAWARI OC

1. Manager Office - Ghorawadi OC : KGOA-1						
( 24 hourly values in $\mu\text{g}/\text{m}^3$ )						
Month	Dates of Sampling		Parameters			
	From	To	SPM	PM-10	NO <sub>x</sub>	SO <sub>2</sub>
MAY. 2012	11.05.12	12.05.12	120	61	2	1
JUN. 2012	25.06.12	26.06.12	115	63	3	1
TLV as per Env.(Protection) Amendment Rule 2000			<b>600</b>	<b>300</b>	<b>120</b>	<b>120</b>
2. SAM Office - Ghorawadi : KGOA-2						
( 24 hourly values in $\mu\text{g}/\text{m}^3$ )						
Month	Dates of Sampling		Parameters			
	From	To	SPM	PM-10	NO <sub>x</sub>	SO <sub>2</sub>
MAY. 2012	11.05.12	12.05.12	445	213	5	3
JUN. 2012	24.06.12	25.06.12	111	56	3	2
TLV as per Env.(Protection) Amendment Rule 2000			<b>600</b>	<b>300</b>	<b>120</b>	<b>120</b>

3. Colony : KGOA-3						
( 24 hourly values in $\mu\text{g}/\text{m}^3$ )						
Month	Dates of Sampling		Parameters			
	From	To	SPM	PM-10	NO <sub>x</sub>	SO <sub>2</sub>
APR. 2012	08.04.12	09.04.12	186	81	3	2
APR. 2012	23.04.12	24.04.12	144	52	3	1
MAY. 2012	11.05.12	12.05.12	110	40	2	1
MAY. 2012	24.05.12	25.05.12	155	43	3	1
JUN. 2012	06.06.12	07.06.12	173	76	4	2
JUN. 2012	24.06.12	25.06.12	183	88	3	2
<b>PERMISSIBLE LIMIT</b>			<b>200</b>	<b>100</b>	<b>80</b>	<b>80</b>
4. Panara Village : KGOA-4						
( 24 hourly values in $\mu\text{g}/\text{m}^3$ )						
Month	Dates of Sampling		Parameters			

	From	-	To	SPM	PM-10	NO <sub>x</sub>	SO <sub>2</sub>
APR. 2012	08.04.12	-	09.04.12	77	21	2	1
APR. 2012	24.04.12	-	25.04.12	66	25	2	1
MAY. 2012	11.05.12	-	12.05.12	67	22	2	2
MAY. 2012	24.05.12	-	25.05.12	153	41	3	2
JUN. 2012	11.06.12	-	12.06.12	54	17	2	1
JUN. 2012	25.06.12	-	26.06.12	55	24	2	1
<b>PERMISSIBLE LIMIT</b>				<b>200</b>	<b>100</b>	<b>80</b>	<b>80</b>



### FUGITIVE DUST MONITORING DATA

#### 1. PALACHURI SIDING

Month	Dates of Sampling		Parameters	
	From	To	SPM	PM-10
MAY. 2012	12.05.12	13.05.12	260	48

### NOISE LEVEL DATA

NAME OF THE COMPANY : WCL YEAR : 2012  
 NAME OF THE AREA : KANHAN Q.E. : JUN.  
 NAME OF THE PROJECT : GHORAWADI OC

**Name of the Location : Manager Office - KGON-1**

Month	Date of Data collection	Noise Level in dB(A)		Remarks
		Day Time	Night Time	
APR. 2012	08.04.12	57.2	46.7	

APR. 2012	23.04.12	59.2	47.5	
MAY. 2012	09.05.12	52.3	46.9	
MAY. 2012	22.05.12	60.1	55.3	
JUN. 2012	11.06.12	52.4	48.1	
JUN. 2012	22.06.12	56.2	46.2	
<b>Noise Level Standard as per Env. (Protection) Amendment rule 2000</b>		<b>75</b>	<b>70</b>	

**Name of the Location : Colony - KGON-2**

Month	Date of Data collection	Noise Level in dB(A)		Remarks
		Day Time	Night Time	
APR. 2012	08.04.12	49.1	40.9	
APR. 2012	24.04.12	51.5	42.8	
MAY. 2012	09.05.12	50.6	41.7	
MAY. 2012	22.05.12	52.3	43.8	
JUN. 2012	11.06.12	49.3	40.0	
JUN. 2012	22.06.12	51.3	41.7	
<b>Permissible Limit</b>		<b>55</b>	<b>45</b>	

### 3.3.2 Practice after the closure of the mine.

- a. As the sources of dust and fume generation would no longer be present, the present practice of arresting the air pollution, as enumerated above at the Para-3.3.1 would no longer be required after the closure of the mine. However, water sprinkling would be done on the roads, which remain in use after the mine closure.
- b. Quality of air would be monitored for a period of 3 years after the cessation of mining activities. Efforts would be made to bring the air quality to the pre-mining standard.

### 3.4 Dump Reclamation

**External dump**

It is estimated that around 217.86 ha of land shall be occupied by the external dump. The external OB dump shall be formed in suitable lifts of appropriate height keeping an overall slope not exceeding  $28^{\circ}$  from the horizontal. In course of mining and after the completion of the final lift, the external OB dump shall biologically be reclaimed. The dumps shall be afforested by selecting proper plant species in consultation with state Forest Department.

**Internal Dumps:**

Backfilling has already started in the OCP and the final level of reclaimed backfill will be matched with the levels of surrounding ground level leaving a final residual decoaled void which will also serve as a lagoon which may be utilized as water reservoir for the locality. Most of the back filled area shall be afforested by selecting proper plant species in consultation with state Forest Department.

**3.5 Disposal of Buildings, Plants & Machineries****3.5.1 Infrastructural details**

Presently, the Project has following infrastructure and it is most likely that these infrastructures will remain till the completion of the Project.

**a. CHP-Coal handling arrangement at surface with capacity of surface Bunkers.**

There is no CHP in the project area.

**b. Workshop-Size with major equipment & P&M items**

There is no workshop. Work is contractually operated.

**c. Railway Sidings**

There is no railway siding in the Project. The coal is transported Railway siding of Hirdagarh, which is about 10 Km, by tippers.

**d. Colony (number and type of quarters)**

There are 800 company quarters and 1700 private quarters in the project area.

- e. **Water supply arrangements arrangements (source & facilities available like treatment plant and its capacity).**

There is one water treatment plant of 1.35 MLD and one sewage treatment plant, which is under construction in the project.

- f. **Details of non-residential building-Office building, sub-station and any other building.**

Area Workshop-01  
Area Store-01  
Sub Station-02  
Dispensary-02  
Shool-04  
Filter Plant-01  
Overhead Water tank-02

### **3.5.2 Post closer disposal / re-use of the buildings , plants and machineries**

- a) **Disposal or reuse of existing HEMM , CHP , workshop and railway sidling for OC mines.:**

At the time of closure of the mine, it is expected that most of the equipments would complete its rated life and would be surveyed off as per the company's guidelines., The surveyed off equipments would be auctioned.

However, if some of the equipments would not have covered their rated life, they would be diverted to the neighboring projects for gainful utilization.

There are neither CHP nor railway siding in the project area hence these provisions are not applicable in this case.

- b) **Disposal or reuse of transmission lines and sub-station.**

As per the electricity demand of the existing neighboring projects, an analysis would be made as to whether the existing sub-station and transmission lines could be gainful used or not. If the scope of gainful utilization is not found, they will be dismantled and the usable items / spares / conductors etc. would be dispatched to needy areas / projects.

**c) Disposal or reuse of residential and non-residential buildings**

At the time of closure, a list of surface buildings would be prepared in detail. Thereafter following steps would be taken in chronological order in respect of the available buildings:

- An assessment would be made to find that whether the available buildings can be used by the existing neighboring projects or any new project that might have come up in the vicinity .
- Thereafter the state agencies/ local agencies may be asked to take possession of the building, if required by them.
- When there are no takers, the buildings would be demolished and usable items would be recovered for future use.

**3.6 Safety and security arrangement**

**3.6.1 Details of fencing around abandoned quarry.**

As explained earlier a major portion of the quarry will be backfilled and the remaining void will act as water reservoir. It is proposed to develop a water lagoon in the dip side area of the quarry, which could not be back filled. The water lagoon will be handed over to state authorities for conversion into picnic spot.

The remaining void of the quarry would be properly fenced to avoid inadvertent entry of animals or human beings. Sufficient boards and danger signs shall be placed all around.

Later on, the responsibility of keeping the fencing secured would be entrusted on the state authorities. The entry into the mine is the haul road; it will remain for entry into the picnic spot. Both side of this haul road will be afforested.

### **3.6.2 Slope stability arrangement for high wall and back filled dumps**

During operation of the mine, overall slope will be maintained at an angle not exceeding 25-28 degrees. Vegetation cover will also be provided along the slopes to arrest any failure.

As regards stability of back-filled dumps, the final level of reclaimed backfill will be matched with the levels of surrounding ground level leaving a final residual void. For the stability of the back-filled dump the slope of the dump will be maintained at the stable angle of 25-28 degrees. Vegetation cover will also be provided along slopes to arrest any failure.

### **3.7 Survey records of workings**

All the mine workings including quarry, roads, ponds, tanks, etc shall be resurveyed and records shall be updated. Copy of such records shall also be submitted to the appropriate competent authorities, such as DGMS and state authorities.

### **3.8 Disposal management of hazardous material**

At the time of closure, assessment would be made as to find whether there is any hazardous material that could cause problem. Such hazardous material e.g. explosives, chemicals, oil, etc. shall be appropriately disposed off.

### **3.9 Re- deployment of work force**

3.9.1 The current manpower of the project is 134 as on 1.04.2013.

3.9.2 However , at the time of final closure, after exhaustion of entire mineable reserve, following steps would be taken for effective management of available manpower at the time of closure:

A). First, option of VRS would be given to the age group of + 50 years. Some

may accept, others will be gainfully utilized in other projects.

B). After exhausting the above portion, the middle aged group workforce (between 40 – 50 years) would be transferred to the similar projects.

C). If vacancy in similar nature projects gets exhausted. The relatively young workforce would be re-trained and re-deployed in other projects.

### **3.10 Emancipation from the community facilities and the facilities to the PAPs**

3.10.1 The project affected persons (PAPs) and also the local communities are being provided many civic facilities, such as educational facilities, health facilities, and drinking water. At the time of final closure after exhaustion of entire mineable reserve these facilities will be entrusted upon the local people and state authorities so that the same could continue even after mine closure. If needed, a lump sum amount would also be paid to the local bodies/trust of PAPs/ state bodies for proper upkeep and maintenance of various community facilities.

3.10.2 To ensure that no financial loss occurs due to the closure of mining activity to the local community engaged indirectly in the exhausting mine, following steps would be taken:

- Will be given option to shift in the new or expansion mines located in the nearby area.
- They will be given vocational training for continuance / sustenance of income level.
- It is proposed that reclaimed and afforested land may be handed over to state forest dept. for the benefit of local ecosystem as per rules in vogue. The forest wealth can also be utilized by local people or tribal in the form of fruits and fodders.

- The proposed picnic spot would be handed over to society of local people for commercial use of picnic spot by them.

**3.11 Plantation Details of Last Five Years**

Sr.No	Year	No. of Plants
1	2007-08	50,000
2	2008-09	Nil
3	2009-10	20,000
4	2010-11	20,000
5	2011-12	40,000
Total		1,30,000

\*\*\*\*\*

**Chapter - 4**

**ECONOMIC REPURCUSSION OF CLOSURE OF MINE**

**4.1. Manpower of the project:** -The current manpower of the mine is 134 as on 1.04.2013.

**4.2. Assessment of income scenario of local resident employee:** -

- (a) Local employees will be redeployed in other projects of the company
- (b) People engaged in indirect employment / ancillary activities will find no financial loss due to the mine closure as their activities will be shifted in the new or expansion mines located in the coalfield area. As such the direct and indirect manpower will not be affected due to mine closure.
- (c) Resettlement / Redeployment of (a) & (b)
  - Compensation for loosing employment or income.
  - Vocational training for continuance / sustenance of income level.

Note: After the closure of the mine, the reclaimed leasehold area and any structure thereon, which is not to be utilized by the mine owner, shall be surrendered to the state Govt. Concerned following a laid down procedure as in vogue at that point of time.

The forest wealth can also be utilized by local people or tribal in the form of fruits and fodders.

The water reservoir in the mine voids will be utilized for pisciculture, irrigation, domestic drinking water or stabilizing the ground water regime. Landscaping during closure of mine will make the spot for tourist attraction.

\*\*\*\*\*



## **Chapter-6**

### **MINE CLOSURE COST**

- 6.1 The mine closure cost will cover the following activities for which a corpus fund will be created by opening an escrow account with the coal controller organization in nationalised bank. In case of occurrence of acid mine drainage, post closure acid mine drainage management cost shall also be included in the total closure cost. An amount @ Rs 6.00 lakhs per Ha of the project area will be deposited in this account for final mine closure. Progressive mine closure will be done with the fund provided in approved report.
- 6.2 The balance life of the project is 25 years and mine closure fund has been assessed based on project life. However the mine is likely to be extended and the project under reference will get dovetailed into the future /extension project. As such the progressive closure under the extension will continue and final mine closure plan will be prepared 5 years before the cessation of mining activity.
- 6.3 The above rate has been taken from Circular No. 55011-01-2009-CPAM, Government of India, Ministry of Coal, Dated 27 August 2009 duly updated on 7<sup>th</sup> Januaryl 2013.
- 6.4 Type of Mine : Open Cast. Life of Mine(as on 1.04.2012) 25 years  
Total project area of the mine: 1296.011ha  
The financial provision for closure of Ghorawari OC Mine comes to around Rs. 18728.11 lakhs (based on April 2012 WPI at the @ Rs 6 lakh/ Ha.
- 6.5 Mine closure cost break – up for Ghorawari OC mine is hereunder;-

Sl. No.	Activity	% of Total Mine closure Cost	Amount (Rs.in Lakhs)
A	<b>Dismantling of structures</b>		
	Service Building	0.2	37.46
	Residential Building	2.67	500.04
	Industrial Structures like, Workshop, Field substation, etc.	0.3	56.18
B	<b>Permanent Fencing of mine void and other dangerous area</b>		
	Random rubble masonry of height 1.2 meter including leveling up in cement concrete 1:6:12 in mud mortar	1.5	280.92
C	<b>Grading of highwall slopes</b>		
	Levelling and grading of highwall slopes	1.77	331.49
D	<b>OB Dump Reclamation</b>		
	Handling/Dozing of OB Dump into mine void and preparation of Internal dump for reclamation.	88.66	16604.34
	Technical and Bio-reclamation including plantation and post care.	0.4	74.91
E	<b>Landscaping</b>		
	Landscaping of the open space in leasehold area for improving its aesthetic and eco value.	0.3	56.18
F	<b>Plantation</b>		
	Plantation over cleared area obtained after dismantling.	0.5	93.64
	Plantation around the quarry area and in safety zone.	0.2	37.46
	Plantation over the external OB Dump	0.02	3.746
G	<b>Post Closure Env Monitoring/Testing of Parameters for three years.</b>		
	Air Quality	0.22	41.20
	Water Quality	0.2	37.46
H	<b>Entrepreneurship development (vocational/skill development) Training for sustainable income of affected people.</b>	0.26	48.69
I	<b>Miscellaneous and other mitigative measures.</b>	2	374.56
J	<b>Post Closure Man power cost for supervision</b>	0.8	149.82
<b>TOTAL</b>		<b>100%</b>	<b>18728.11</b>

1. Mining is to be carried out in a phased manner initiating afforestation/ reclamation

work in the minedout area of first phase while commencing mining in the 2nd phase.

2. Upto 80% of the total deposited amount including interest accrued in the ECSROW account may be released after every 5 years. The amount released should be equal to expenditure incurred on Progressive Mine closure in past 5 years or 80% whichever is less.
3. The above cost/expenditure will be met from the corpus fund deposited in the escrow account by the mine operator. However, the additional amount beyond the escrow account will be provided by the mine operator after estimating the final mine closure cost (as per the mine closure guideline).
4. The amount indicated separately under each head is indicative only and based on actual expenditure the amount may change.

#### 6.6 Estimate of proposed escrow fund.

The total project area is 1296.011 Ha. So the corpus based on August, 2009 rate is 7776.06 Lakhs @ Rs 6.0 Lakh /ha of project Area. The wholesale price Index in August, 2009 is 129.6 and the WPI, for the month of April 2012 available in the website of Office of Economic Adviser, Ministry of Commerce, Government of India is 163.5. So the current value of corpus is Rs.  $7776.06 \times \frac{163.5}{129.6}$  Lakhs, which comes to Rs. 9810.07 lakhs. This corpus is to be divided by the life of mine i.e. 25 years. So dividing by 25 years, the annual corpus comes to Rs 392.40 lakhs. This amount is to be deposited in escrow account every year with 5% escalation.

S.NO.	FINANCIAL YEAR	AMOUNTS IN LAKHS
1	2012-13	392.40
2	2013-14	412.02
3	2014-15	432.62
4	2015-16	454.25
5	2016-17	476.96
6	2017-18	500.81
7	2018-19	525.85
8	2019-20	552.15
9	2020-21	579.75
10	2021-22	608.74
11	2022-23	639.18
12	2023-24	671.14
13	2024-25	704.69
14	2025-26	739.93

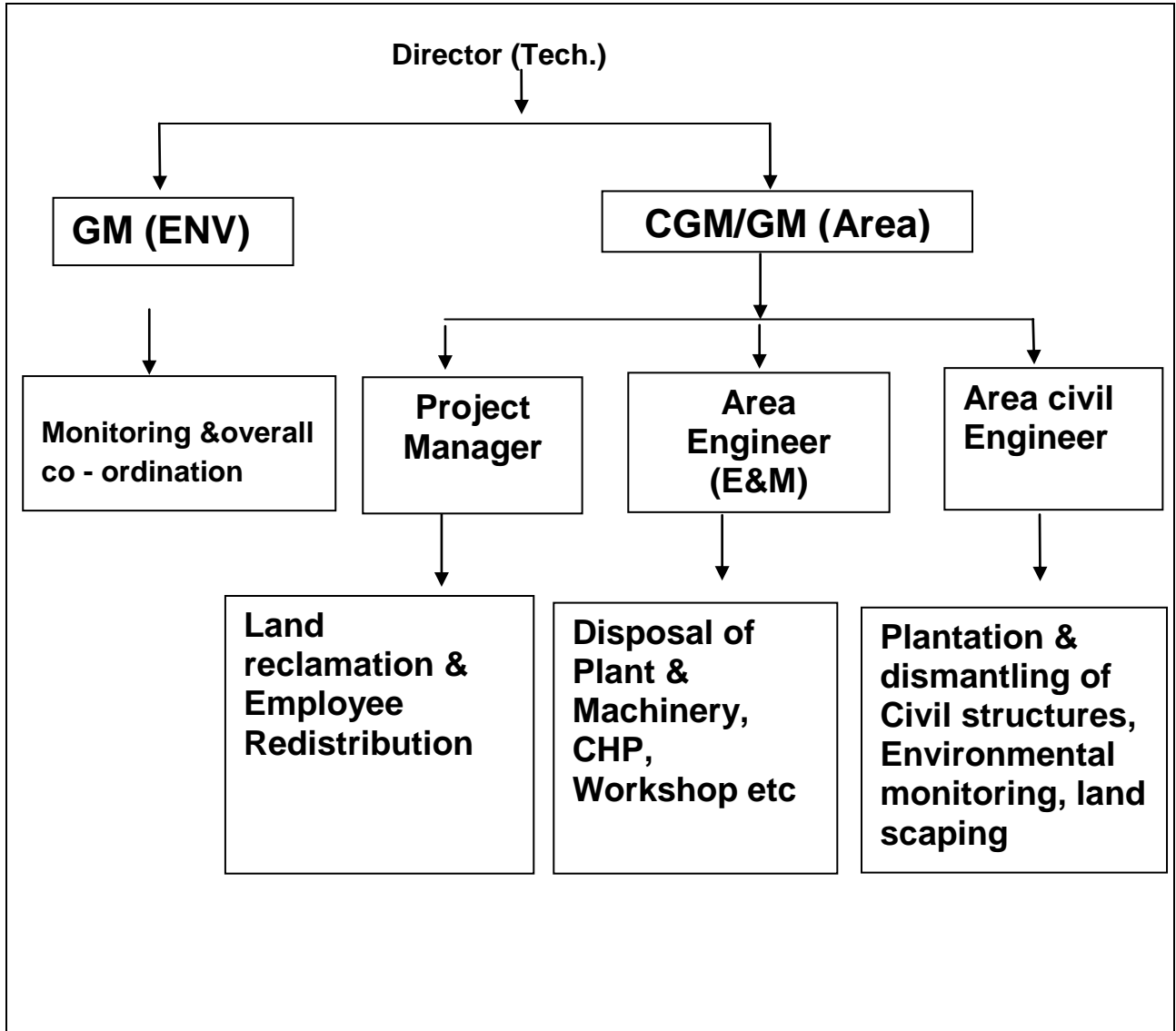
15	2026-27	776.93
16	2027-28	815.77
17	2028-29	856.56
18	2029-30	899.39
19	2030-31	944.36
20	2031-32	991.58
21	2032-33	1041.15
22	2033-34	1093.21
23	2034-35	1147.87
24	2035-36	1205.27
25	2036-37	1265.53
	Total	18728.11

\*\*\*\*\*

## **Chapter-7**

### **IMPLIMENTATION PROTOCOL**

For implementing the mine closure activities, the following organizational structure has been proposed:



Environmental monitoring for three years after closure of mine will be carried out to evaluate the environmental quality of the area. If need be, proper mitigative measures will be taken up after evaluating the environmental quality. The funds for this have been provided in the cost estimate. Before closure of the mine, Area GM will prepare survey and disposal report and the same will be submitted to DGMS for acceptance.

\*\*\*\*\*