



वेस्टर्न कोलफिल्ड्स लिमिटेड Western Coalfields Limited

(मिनीरल कंपनी) (A Miniratna Company)

(कोल इंडिया लि. की अनुषंगी कंपनी) (A Subsidiary of Coal India Limited)

CIN-U10100MH1975GOI018626



क्षेत्रीय महाप्रबंधक कार्यालय, चंद्रपुर क्षेत्र / Office of Area General Manager, Chandrapur Area

पता: वेकोलि, चंद्रपुर क्षेत्र, पो. बाबुपेठ जि. चंद्रपुर, / Address: WCL, Chandrapur Area, Po- Babupeth,

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संदर्भ संख्या: वेकोलि/चक्षे/क्षेमप्र/पर्यावरण/2023-24/ 120

दिनांक: 28.10.2023

प्रति,

अतिरिक्त प्रधान मुख्य वन संरक्षक,

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय,

क्षेत्रीय कार्यालय (WCZ),

भूतल, पूर्वी विंग, नया सचिवालय भवन,

सिविल लाइन्स, नागपुर- 440001

विषय: Six Monthly Report against Compliance of Conditions of Environmental Clearance letter for **Chanda Rayatwari Colliery UG Mine** of Chandrapur Area, WCL (As on 01.10.2023)

संदर्भ: EC letter No. J-11015/113/2006-IA.II(M) dtd: 17.10.2006

महोदय,

Please find enclosed herewith, Six Monthly Report against Compliance of Conditions of Environmental Clearance letter for **Chanda Rayatwari Colliery UG Mine** of Chandrapur Area, WCL (As on 01.10.2023)

This for your kind information & necessary action please.

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(प्रशांत अश्विनकुमार ठाकर)

क्षेत्रीय केंद्रस्थ अधिकारी (पर्यावरण)

वेकोलि, चंद्रपुर क्षेत्र

संलग्न: यथोपरी

प्रतिलिपी:

1. प्रादेशिक अधिकारी, महाराष्ट्र प्रदूषण नियंत्रण बोर्ड, उद्योग भवन, प्रथम तल, रेलवे स्टेशन रोड चंद्रपुर 442401
2. क्षेत्रीय महाप्रबंधक, वेकोलि, चंद्रपुर क्षेत्र
3. महाप्रबंधक (पर्यावरण), वेकोलि-मुख्यालय, नागपुर
4. ऑफिस कॉपी

SIX MONTHLY COMPLIANCE REPORT ON EC CONDITIONS

AS ON 01-10-2023

**CHANDA RAYATWARI COLLIERY
UNDER GROUND COAL MINE**



WESTERN COALFIELDS LIMITED
CHANDRAPUR AREA

CONTENTS

1	Environmental clearance details
2	Present Status of Project Work Progress.(Part –I to Part-III)
3	Compliance Report against EC of Chanda Rayatwari UG Coal Mine. (Part IV)
4	Data Sheet.
5	Salient features of the project.

ANNEXURS

Sl.No.	DESCRIPTION
A	Copy of Environmental Clearance vide J-11015/113/2006-IA II(M) dt. 17.10.2006
B	Copy of Consent to operate granted by Maharashtra Pollution Control Board
C	Surface plan showing all environment related features.
D	Environmental Monitoring Report of CMPDI for April-2023 to August-2023
E	Ground water monitoring Level Report PERIOD- DEC 2022 (POST-MONSOON), JAN- FEB -2023 (WINTER) & MAY-2023
F	Environmental Statement (2022-23)

**SIX MONTHLY COMPLIANCE STATUS REPORT OF
ENVIRONMENTAL CLEARANCE CONDITIONS
AS ON 01-10-2023**

Environmental clearance details

- Name of Mine /Area : **Chanda Rayatwari Colliery U/G Coal Mine
W.C.L.-Chandrapur Area**
- Location and Address : Colliery Manager,
Chanda Rayatwari Colliery,
P.O. Chandrapur, Dist. Chandrapur
(M.S.) PIN CODE: 442401
- Original Production : 0.06 Million Te./Yr.
- Expansion Production : 0.06 Million Te./Yr.
- Total Lease Area : 194.3 Ha.
- Agricultural(Tenancy land) : 166.0 Ha
- Govt. land : 10.35 Ha
- Forest Land : 17.95 Ha.
- Capital Cost : Rs. 2.16 Crore
- Original Environmental Clearance for 0.12 Million Te./Yr. Coal production vide letter no; J-11015/113/2006/IA-II(M), dt: 17.10.2006.
- Public Hearing Conducted on 20.10.2005
- Consent to Operate for 0.06 Million Te./Yr. issued by MPCB on 12.10.2023 to 31.12.2023 . vide Consent No :- format 1.0 / APAEA Section / UAN No. MPCB-
CONSENT- 0000156351/CR/2310000942 Dt. 12.10.2023

PRESENT STATUS OF PROJECT WORK**PART - I**

Name of the Project	CHANDA RAYATWARI COLLIERY U/G COAL MINE.
Location	At-P.O. Chandrapur, Tahsil-Chandrapur, District-Chandrapur, Maharashtra State.
Address for correspondence	Manager, Chanda Rayatwari Underground Coal Mine, P.O.: Chandrapur, Distt. : Chandrapur (M.S.) - 442 401.
MoEF's Clearance No. & Date	J - 11015 / 113 / 2006 .I A - II (M), Dated - 17.10.2006.
Period of Status Report	01-04-2023 to 30-09-2023.
Date of Submission of Last Report	25.05.2023
Year of Commencement of Project work	1954

STATUS OF LAND ACQUISITION

TYPE OF LAND	REQUIRED AS PER EMP (In Hectares)	ACTUAL AREA ACQUIRED AS ON (In Hectares)
FOREST LAND (Zudpi Jungle)	17.95	17.95
GOVERNMENT LAND	10.35	10.35
PRIVATE LAND	166.00	166.00
TOTAL	194.30	194.30

STATUS OF LEGAL COMPLIANCE

A.	Consent under Water (Prevention & Control of Pollution) Act	Consent to Operate under Air & Water Act & HW (M & H) Rules for a production capacity of 0.06 Million Te./Yr. obtained from MPCB on 12.10.2023 to 31.12.2023 . vide Consent No :- format 1.0 / APAEA Section / UAN No. MPCB- CONSENT- 0000156351/CR/2310000942 Dt. 12.10.2023.
B.	Consent Fees under Water (Prevention & Control of Pollution) Act	Water Cess has been abolished by MPCB w.e.t. July 2017. Ground Water Abstraction Charges is being paid to CGWA.
C.	Environment (Protection) Act	The project has been accorded Environmental Clearance by MOEF for 0.12 Million Te./Yr. on 17.10.2006 vide Letter No. J-11015/113/2006-IA.II(M)
D.	Forest (Conservation) Act	Total Forest land (Zudpi Jungle) within the Leasehold is 17.95 Ha. Out of which 1.89 Ha is not required and proposal for diversion of 16.06 Ha is pending with Forest department.

PART - II

	AIR POLLUTION CONTROL	STATUS OF ENVIRONMENT
A.	No. of Ambient Air Monitoring Stations	04 Nos.
B.	* Name of the Locations	
	CD _R UA – 1	Manager Officer (Mahakali U/G).
	CD _R UA – 2	Substation/Filter plant.
	CD _R UA - 3	Colony
	CD _R UA – 4	Jatwara Milk Scheme.
C.	* Ambient Air Quality Stations for the Parameters prescribed by State Pollution Control Board. Manager Officer (Mahakali U/G). Substation/Filter plant. Colony Jatwara Milk Scheme.	The values of environmental parameters are within permissible limits as per the Environmental Monitoring Reports of CMPDI for the Month of April-2023 to August-2023
	WATER POLLUTION CONTROL	
A.	No. of Stations & Frequency of Monitoring	01 (Fortnightly)
B.	*Description of Locations	CD _R UW – 1 - Mine water Discharge.
C.	Average Concentrations of Major Pollutants prescribed by State Pollution control Board	As seen from the Environmental Monitoring for the Month of April-2023 to August-2023. the values of environmental parameters are within permissible limits..
D.	Quantity of Effluent discharged to Local Water Course in each season (in M ³ / day)	DRY SEASON : 1944 M ³ / day. WET SEASON : 1944 M ³ / day
	NOISE POLLUTION CONTROL	
A.	No. of Noise Monitoring Stations	02 No.
B.	Description of Locations & dB (A) Value	CD _R UN 1 – CHP. CD _R UN 2 - Colony.
C	Average Concentrations of Major Pollutants prescribed by State Pollution control Board	As seen from the Environmental Monitoring for the Month of April-2023 to August-2023. the values of environmental parameters are within permissible limits..

Locations of the Sampling Stations have been delineated on the Working Mine Plan Detailed Report of Sampling & Analysis of Air quality, Effluent Quality and for the Month of April-2023 to August-2023. as per the Statute from a Standard & Approved Laboratory of CMPDIL are enclosed.

PART - III

STATUS OF IMPLEMENTATION OF PROVISIONS OF EMP AS ON 01.10.2023

Sl	PARTICULARS	Current Year 01.04.2023 to 30.09.2023			Progressive
1	Area Excavated (Hectares)	NA			
2	Top Soil Removed (MM ³)				
3	Overburden Removed (MM ³)				
4	Overburden Back-filled (MM ³)				
5	Overburden Dumped (MM ³)				
6	Area recovered for Physical Reclamation (Hectares)				
7	Area Reclaimed Biologically (Hectares)				
8	Annual Production : (Coal in M. Te., OBR in MM ³) Targeted Capacity OB-NIL COAL- Nil PresentCapacity :OB.-NIL COAL:- Nil	O.B.-NIL , as it is u/g mine. Coal – NIL. (Mine Production Closed From 10.08.2017)			OB – Nil Coal – 60,09,551.000 Te. from 1974 to March 19

AFFORESTATION * (Nos.) :

Sl	LOCATION	Current Year	Progressive
1	External OB Dumps	NA	
2	Embankments	NA	
3	Safety Zone	NA	
4	Backfilled Areas	NA	
5	Other Areas	2700	2700 plants
	TOTAL		2700 plants
	Area under Plantation (Progressive)		1.70 HA
	No. of Plants per Hectare	NIL	2500 plants
	Species Planted	ACACIA,NEEM, ASHOKA, etc.	

REHABILITATION & RESETTLEMENT

- | | |
|-------------------------------------|------|
| 1. COMPENSATION FOR LAND ACQUIRED | N.A. |
| 2. COMPENSATION FOR HOUSES ACQUIRED | N.A |

Organisation set up at Project Level(Name & Designation of the Personnel to be given)	Shri. G. D. Khobragade , Colliery Manager, CRC., RSA, Chandrapur Area.
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CAPITAL EXPENDITURE ON POLLUTION CONTROL MEASURES as on 01.10.2023

Sl.No.	Head	From 01.04.2023 to 30.09.2023 In lakhs	Progressive in lakhs
I	AIR POLLUTION		
A	Mist spray system / fixed sprinklers installed / mobile tankers		
1	Spray System at CHP	Nil	4.50
2	Mobile Tanker (10 kl)	Nil	6.90
3.	Installation of fixed Water Sprinklers	Nil	11.80
	Total	Nil	23.20
B 1	Tarrying of 1.5 km long coal transport road	Nil	12.00
2	Approach road to weigh bridge	Nil	4.70
	Total		16.70
C 1	G.I. sheet cladding of coal handling plants	Nil	15.05
		Total	15.05
	TOTAL (A+B+C)		54.95
II	WATER POLLUTION		
1	Construction of Workshop Effluent Treatment Plant	Nil	Nil
2	Construction of Water treatment Plant for mine discharge	Nil	5.00
3	Construction of sewerage Network	Nil	20.60
4	Construction of settling tank at CRC	Nil	5.00
		Total	30.60
	Total Capital expenditure (I+II)		85.55

REVENUE EXPENDITURE ON POLLUTION CONTROL MEASURES
as on 01.10.2023

ACCOUNT HEAD	01.04.2023 to 30.09.2023 (in Rs)	PROGRESSIVE APPROX. (in Rs)
Afforestation	Nil	Nil
Air Pollution Control	Nil	1,13,48,118.33
Water Pollution Control (O&M of Water treatment Plant,) and cleaning of muck from water tank.	Nil	85,36,635.60
Monitoring	Nil	99,34,774.00
Legal Expenses	Nil	11,73,000.00
Water Cess (Ground water Abstraction Charges)	Nil	12,11,572.50
Others (JVS by MPCB)(Dt.-16.06.2017)	Nil	71,030,.00
T O T A L	Nil	3,22,75,130.43


27/10/23

वरीय अधिकारी (खनन) / खान प्रबंधक
चांदा रयतवारी कॉलरी

Project: CHANDA RAYATWARI COLLIERY

**COMPLIANCE STATUS REPORT AGAINST
ENVIRONMENTAL CLEARANCE**

Ref: No. J-11015/113/2006.IA.IIM dtd: 17.10.2006

Sl	A. Specific conditions	Compliance Status
I	All the conditions stipulated by MPCB in their NOC shall be effectively implemented.	Being implemented
ii	Mining shall not be carried in forest land for which forestry clearance has not been obtained under the provisions of FC Act, 1980.	<p>This underground mine is a taken over mine since nationalization of coal mines and is an operating mine under control of WCL since 1/11/1975. The lease area of 194.30 Ha. was inherited by WCL for 30 years i.e. up to 31.10.2005 by virtue of nationalization which includes 17.95 ha of forest land of Zudpi Jungle involved in the above lease before enactment of FC Act, 1980. As such, the underground mining activities with hydraulic sand stowing have been done. Mine is closed from surface on 29.06.2019 and final mine closure activities are in progress.</p> <p>The application for renewal of forest land clearance under FC Act, 1980 has also been made vide our letter dated 27/29-07-2004. All these details have already been incorporated at page 47 to 48 in the EIA/EMP.</p>
iii	Mining shall be carried out as per statute at a safe distance from the river and Nallah flowing within the lease boundary. At the time of depillaring, protective bunds and garland drains shall be provided so that no water from the surface enters the subsidence area and the shaft.	<u>Mining operation has been done as per statute & permission granted by DGMS.</u> Presently mine is closed from surface on 29.06.2019 and final mine closure activities are in progress.
Iv	While extracting panels in the lower seam, all water bodies in the subsidence area shall be drained. Dewatering of the old goaves of the upper seam shall be continued as long as the lower scam is worked to prevent accumulation of large water bodies over working area.	There is no overlying seam at CRC. There is only one seam as such this situation is not applicable in this particular mine.
v.	Sufficient coal pillars shall be left un-extracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.	Sufficient coal pillar had been left un extracted around the airshaft as per statute.
vi.	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	<u>Mining operations has been carried out as per permission of DGMS under Reg. 105 of CMR-1957.</u> Presently mine is closed from surface on 29.06.2019 and final mine closure activities are in progress.
vii	No depillaring operation shall be carried out below the roads and village area found within the lease.	Depillaring operation is being carried out as per permission of Director General of Mines Safety under Coal Mines Regulations 1957. Presently mine is closed.
viii	Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads and surrounds should be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures should be taken to avoid loss of life and material. Cracks should be effectively plugged with ballast and clayey soil/suitable material.	<u>Regular monitoring is being done as per the permission of depillaring granted by DGMS in line with the provisions of Coal Mines Regulation-1957 and related Technical Circulars of DGMS.</u> Presently mine is closed from surface on 29.06.2019 .

ix	Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas 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 sites. Sump capacity should also provide for adequate retention period to allow proper settling of silt material.	Mine is closed from surface on 29.06.2019 and final mine closure activities are in progress.
X	Crushers at the CHP should be operated with high efficiency bag filters and water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points etc.	Chanda Rayatwari Colliery is closed. Crusher is provided at CHP to crush coal received from other mines of Chandrapur Area and adequate water spraying system is provided to suppress the dust.
xi	Drills should be wet operated only.	N.A.
xii	Controlled blasting should be practiced with use of delay detonators	N.A.
xiii	A time-bound action plan for afforestation shall be prepared for implementation for area along ML boundary, along roads, vacant land and area in township by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.	The maximum land available is covered with plants and trees.
xiv	The company shall obtain approval of CGWA/CGWB Regional Office for use of ground water if any, for mining operations.	CGWA NOC obtained vide NOC No. CGWA/NOC/MIN/ORIG/2023/18983 dtd: 08.08.2023 valid upto 29.03.2024
xv	The company shall identify sites for construction of water harvesting structures for augmentation of ground water resource in consultation with the Panchayats of the village(s) in the affected areas and shall complete their construction within an agreed time frame.	Mine is closed from surface on 29.06 2019 and final mine closure activities are in progress.
xvi	Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and construction of new piezo meters. 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.	Regular monitoring of ground water level and quality is done in the buffer area of the mine through a network of observation wells as prescribed. Report of the same is regularly submitted to CGWA and MOEFCC
xvii	The project authorities should meet, water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	N.A.
xviii	ETP should be provided for workshop and CHP waste water.	Mine is closed from surface on 29.06.2019 and final mine closure activities are in progress.
xix	Besides carrying out regular periodical 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.	<p>WCL is having occupational health committee at the corporate (HQ) level as well as at the unit (Area/Project level).</p> <p>At corporate level, the committee consists of the following :</p> <ul style="list-style-type: none"> • Chief General Manager (Safety) • Chief of Medical Services • Periodical Medical Examination (PME) Incharge of HQ. <p>The committee scrutinizes the report of the area every quarter.</p>

	<p>At Unit level, the committee consists of the following –</p> <ul style="list-style-type: none"> • General Manager (Operations) • Area Medical Officer • Area Safety Officer • Periodical Medical examination (PME) Incharge of Area. <p>The above committee takes the review at area level every month. There are 11 hospitals having PME centres in the hospitals. The PME Centres are well equipped with Spirometry (Lung Function test), Audiometry (for testing hearing impairment) along with the facilities for X – Ray & other bio – Chemical tests.</p> <p>The details are as follows :</p> <table> <tr> <td>Periodical Medical examination (PME) Centres (Occupational Health Centres)</td> <td>11</td> </tr> </table> <ul style="list-style-type: none"> • Nos.of Doctors engaged in periodical medical Exam. 11 • Nos of Doctors trained in periodical medical Exam. 22 • Nos.of X – Ray machines (300 mA) 09 • Nos. of X – Ray machines (500 mA) 02 • Nos of ILO film tests 10 • Nos of Audiometer units 07 (4 units are under process of procurement) • Nos.of Spirometer units 08 (3 units are under process of procurement) • Nos.of Pathology Labs 11 • Nos.of X- ray technicians 14 • Nos.of Laboratory Technicians 22 <p>All the PME Centres are fully computerized.</p> <p>As per the statute/Mines Act,1952, all the workers are examined every five years and the disease profile is maintained in PME centres in different colour codes as given below :</p> <ul style="list-style-type: none"> • Yellow card - Hypertension • Green card - Diabetes • Red card - Ischaemic Heart Disease <p>The pneumoconiosis cases are also followed up regularly by the PME Centres. Recently WCL has started PME every two and half years for underground workers between the age group of 50 to 60 years.</p> <p>The mineworkers who have been detected with hypertension or diabetes or Ischaemic heart disease, the records of those workers are well maintained are advised to attend OPD regularly. Attendants of the patient are also advised to take care regarding the diet and medication of the patient.</p> <p>Workers exposed to high decibel machineries i.e. more than 90 decibels and are found to have developed hearing impairment, are subjected to repeated audiometric tests. Chronic obstructive Pulmonary disease cases are followed by regular Pulmonary functions tests.</p> <p>In suitable cases, as per the recommendation of the Apex medical Board, the change of job is also suggested and implemented accordingly.</p> <p>In addition, the Welfare Board of WCL time to time make visits to different area hospitals & PME Centres so as to take stock of the ground realities.</p>	Periodical Medical examination (PME) Centres (Occupational Health Centres)	11
Periodical Medical examination (PME) Centres (Occupational Health Centres)	11		


		<p>WCL is one of the nominee in the Governing Body of the National Institute of Miners Health (NIMH). An autonomous institute under Ministry of Coal & Mines, Govt.of India, Nagpur.</p> <p>Recently, NIMH has asked WCL for intervention study in coalmines of WCL.</p> <p>WCL has already given consent to NIMH regarding carrying out the above-mentioned study.</p> <p>The subject work by NIMH has already been started in two mines of WCL. The workers, those are detected having lung diseases and hearing impairment, they are kept on constant monitoring & supervision under physicians and they are advised for periodical checkups and necessary Pulmonary function tests & Audiometry tests are done time to time.</p> <p>NIMH is also going to help WCL in such cases. As such, help from organization such as NIOH may not be required at present.</p> <p>As such, it is requested to waive of the condition of carrying out occupational survey through NIOH, Ahmedabad.</p> <p>This matter has already been taken up with MOEF vide letter no. WCL/HQ/ENV/3-B/1186 Dated : 19.10.2006</p>
xx	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.	This work is awarded to CMPDI by WCL HQ. The latest copy of survey report is available at : http://www.westerncoal.in/images/Wardha_valley_CF_2_019.pdf
xxi	A final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests of final mine closure for approval.	Final Mine closure plan shall be submitted to MOEF, 5 years before actual closure.
xxii	No mining operation shall be under taken until consent to operate is revalidated from SPCB.	Consent to Operate has been revalidated by MPCB on 12.10.2023 to 31.12.2023 . vide Consent No :- format 1.0 / APAEA Section / UAN No. MPCB- CONSENT-0000156351/CR/2310000942 Dt. 12.10.2023.

Sl	B. General conditions	Compliance Status
i)	No .Change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.	Noted
ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.	Mine is closed from surface on 29.06.2019 and final mine closure activities are in progress.
iii)	Four ambient air quality monitoring stations should be established in the core zone as well as in the bluffer zone for SPM, RPM, SO2 and Nox monitoring.. Location of the stations should be decided based on the meteorological date, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.	<p>Monitoring stations have been established in consultation with MPCB.</p> <ol style="list-style-type: none"> 1. Manager Office (Mahakali U/G) 2. Sub Station – CRC 3. Colony 4. Jatwara Milk Scheme.
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.	This underground mine is closed. As such, only source of fugitive emission is during coal transportation by trucks from other units. <u>Water spraying arrangements along road and wagon loading is provided and maintained.</u>

v)	Data on ambient air quality (SPM, RPM, SO ₂ and NO _x) 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.	Data on ambient air quality is regularly submitted to MPCB & MOEF. Monitoring report April-2023 to Aug-2023 . Is enclosed.
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.	This Under Ground Mine is closed from surface on 29.06. 2019. Final mine closure activities are in progress
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 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.	This Under Ground Mine is presently closed from surface on 29.06 2019. Final mine closure activities are in progress.
viii)	Vehicular emissions should be kept under control and regularly monitored. Vehicular used for transporting the mineral should be covered with tarpaulins and optimally loaded.	This Under Ground Mine is closed from surface on 29.06. 2019. Final mine closure activities are in progress
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.	It exists at CMPDIL, Nagpur and monitoring is entirely carried out by this institution.
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.	N.A (This Under Ground Mine is closed from surface on 29.06 2019. Final mine closure activities are in progress.)
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.	At project level Env. Management Cell is headed by Sub Area Manager and is directly assisted by Project Nodal Officer. At Area level the C.G.M. heads the cell assisted by Area Nodal Officer (Env.). At WCL HQ/Corporate level HOD (Env.) heads the Env. Deptt. assisted by multi disciplinary team of qualified and trained engineers.
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.	Separate fund for environmental protection measure is being kept in separate account and year wise expenditure is being reported to the 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.	Noted
Xiv)	A copy of the environmental 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 Centre and Collector's Office/Tehsildar's office for 30 days.	Noted.
Xvi	The Project authorities should advertise at lease 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 .	Complied.

3	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Noted
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.	Noted
5	The above conditions will be enforced <i>inter-alia</i> , 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.	Noted


 वरीय अधिकारी (खनन) / खान प्रबंधक
 चांदा रयतवारी कॉलरी

MONITORING THE IMPLEMENTATION OF ENVIRONMENTAL

SAFE GUARDS

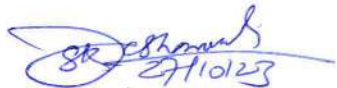
MINISTRY OF ENVIRONMENT & FORESTS-REGIONAL OFFICE(W), BHOPAL.

MONITORING REPORT

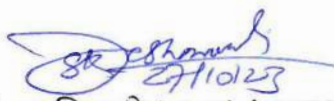
DATA SHEET

1.	Project type: River- valley/Mining /Industry/ Thermal/Nuclear/Other (Specify)	MINING
2.	Name of the Project	CHANDA RAYATWARI COLLIERY
3.	Clearance letter (s)/ OM No. & date	J-11015/113/2006-IA .II (M), dtd. 17.10.2006 of Addl. Director, MoEF- NEW DELHI.
4.	Location	
	a) District	CHANDRAPUR
	b) State	MAHARASHTRA
	c) Latitude/Longitude	Latitude 19-58' to 19-54'-33" N Longitude 79-18'-04" to 79-19'-30" E
5.	Address for correspondence	
	a) Address for Concerned Project Chief Engineer (with Pin. Code & Telephone No./telex/Fax. Numbers	AREA GENERAL MANAGER WESTERN COALFIELDS LIMITED CHANDRAPUR AREA PO: BABUPETH (MAHARASHTRA) PIN- 442403 07172-253322..23..24..25 07172-256715,256124 Fax-07172-255287
	Address of Executive Project Engineer /Manager (with Pin. Code & Fax numbers)	COLLIERY MANAGER, CHANDA RAYATWARI COLLIERY, W.C.L.-P.O. CHANDRAPUR, Dist.- Chandrapur, Maharashtra.
6.	i) Salient features of the project ii) Salient features of the Environmental management Plan	Enclosed Enclosed
7.	Break up of the project area	194.30 Ha
	a) submergence area : forest & non forest	Not Applicable
	b) others	Pvt. Land.....166.00 Ha. Forest Land.....17.95Ha. <u>Govt. land10.35Ha</u> T O T A L 194.30 Ha
8.	Break up of the project affected population with enumeration of those losing houses/ dwelling units only, agricultural land only, both dwelling units & agricultural land & landless laborers/artisan	Not Applicable
	a) SC, ST/ ADIWASI	Not Applicable
	b) Others (Please indicate whether these figures are based Available Record on any scientific and systematic survey carried out or only provision figures, if as survey is carried out give details and years of Survey).	Not Applicable
9.	Financial details :	
	a) Project cost as originally planned and subsequent revised estimates and year of price reference	Rs. 15.4485 Crores

	b) Allocation made for environmental management plans with item wise and year wise break-up	--
	c) Benefit cost ratio/Internal Rate of Return and the year of assessment	--
	d) Whether (c) includes the cost of environmental management	--
	e) Actual expenditure incurred on the Project so far.	Rs. 2.16 Crore
	f) Actual expenditure incurred on the environmental management plans so far	Capital -Rs. 85.55 lakhs (Progressive up to 30.09.2023). Revenue -Rs. 3,22,75,130.43 (progressive up to 30.09.2023). (Details given in Part-III)
10.	Forest land requirement: a) The status of approval for diversion of forestland for non-forestry.	Diversion of Forest Land under Forest Conservation Act 1980, mining lease of 17.95 Hec. Of forest land for underground mining has been applied to MOEF.
	b) The status of clearing felling	NOT APPLICABLE
	c) The status of compensatory afforestation, if any	NOT APPLICABLE
	d) Comments on the viability & sustainability of compensatory afforestation programme in the light of actual field experience so far.	NOT APPLICABLE
11.	The status of clear felling in non-forest areas (such as reservoir, approach roads), if any with quantitative information.	NOT APPLICABLE
12.	Status of construction:	
	a) Date of commencement (Actual and/or planned)	Existing Mine
	b) Date of completion (Actual and/or planned)	
13.	Reasons for the delay if the project is yet to start.	Existing Mine, Year of Opening 1954
14.	Dates of site visits a) The dates on which the project was monitored by the Regional Office on previous occasions, if any.	Not yet visited
	b) Date of site visit for this monitoring report	Not yet visited
15.	Details of correspondence with project authorities for obtaining action plans information on status of compliance to safeguards other than the routine letters for logistic support for site visits) (The first monitoring report may contain the details of all the letters issued so far, but the later reports may cover only the letters issued subsequently)	Not yet visited


 वरीय अधिकारी (खनन) / खान प्रबंधक
 चांदा रयतवारी कॉलरी

	b)Allocation made for environmental management plans with item wise and year wise break-up	--
	c)Benefit cost ratio/Internal Rate of Return and the year of assessment	--
	d)Whether (c) includes the cost of environmental management	--
	e) Actual expenditure incurred on the Project so far.	Rs. 2.16 Crore
	f)Actual expenditure incurred on the environmental management plans so far	Capital-Rs. 85.55 lakhs (Progressive up to 30.09.2023). Revenue-Rs. 3,22,75,130.43 (progressive up to 30.09.2023) .(Details given in Part-III)
10.	Forest land requirement: a) The status of approval for diversion of forestland for non-forestry.	Diversion of Forest Land under Forest Conservation Act 1980, mining lease of 17.95 Hec. Of forest land for underground mining has been applied to MOEF.
	b) The status of clearing felling	NOT APPLICABLE
	c) The status of compensatory afforestation, if any	NOT APPLICABLE
	d) Comments on the viability & sustainability of compensatory afforestation programme in the light of actual field experience so far.	NOT APPLICABLE
11.	The status of clear felling in non-forest areas (such as reservoir, approach roads), if any with quantitative information.	NOT APPLICABLE
12.	Status of construction:	
	a) Date of commencement(Actual and/or planned)	Existing Mine
	b)Date of completion (Actual and /or planned)	
13.	Reasons for the delay if the project is yet to start.	Existing Mine, Year of Opening 1954
14	Dates of site visits a) The dates on which the project was monitored by the Regional Office on previous occasions, if any.	Not yet visited
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15.	Details of correspondence with project authorities for obtaining action plans information on status of compliance to safeguards other than the routine letters for logistic support for site visits) (The first monitoring report may contain the details of all the letters issued so far, but the later reports may cover only the letters issued subsequently)	Not yet visited


 वरीय अधिकारी (खनन) / खान प्रबंधक
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SALIENT FEATURES OF THE PROJECT

Name of project	:	Chanda Rayatwari U/G Coal Mine Project
Capacity of project	:	0.06 Million Te./Yr.
• Capital Investment	:	Rs. 2.16 Crore
Life of project from	:	33 years (Mine production already closed 10-08-2017) (As per Environment clearance from MOEF)
Land Required	:	NIL
Quarry/Excavation Area.	:	N. A.
No. of Seams/Seam thickness	:	1/16.87 m
Depth of Working (Maximum)	:	210 mtr. BGL
Total Coal Production (Mine Production from 1954 Up to Mine production closed ie 10.08.2017)	:	60,09,551.000 Te.. :

No.J-11015/113/2006-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O.Complex, Lodi Road,
New Delhi -110003.

Dated: 17th October 2006

To
Head of Dept. (Env. (Civil),
M/s Western Coalfields Ltd.,
Coal Estate, Civil Lines,
Nagpur- 440001.

Sub: Chanda Rayatwari Underground Coal Mine Project (from 0.12 MTPA) of M/s Western Coalfields Ltd. (WCL), located in village Chanda Rayatwari, Tehsil & District Chandrapur, Maharashtra - Environmental clearance - reg.

Sir,

This has reference to letter No. 43011/87/2006-CPAM of Ministry of Coal dated 05.07.2006 forwarding your application and letter of M/s Coal India Ltd. dated 19.07.2006 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It has been noted that the project is for obtaining environmental clearance for lease renewal of the existing Chanda Rayatwari Underground Coalmine Project. The total lease area is 194.30 ha of which 166 ha is agricultural land, 17.95 ha is forestland, and 10.35 ha is Govt. land. Forestry clearance has not been obtained. Of the total lease area, area for UG mining is 1540.18 ha, surface rights are for an area of 44.12 ha which includes infrastructure, mine entries, roads, township. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. River Erai flows at a distance of 5 km from the ML boundary. The project does not involve modification of the natural drainage. No embankment is proposed. Project does not involve R&R. Mining is underground by manual method and does not involve blasting. Rated capacity of the mine is from 0.12 million tonnes per annum (MTPA) of coal production. Mineral transportation of upto 400 TPD of coal is by road. Ultimate working depth of the mine is 300m below ground level (bgl). Water table is in the range of 1- 13.4 m bgl in the core zone and 0.80-12.50m bgl in the buffer zone. Mining has intersected water table. Peak water requirement is 6056 m³/d, which is met from mine pit water. Public Hearing was held on 20.10.2005. Life of the mine at the rated capacity is 41 years. Project approval of M/s WCL was obtained on 07.01.2006.

2. The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned Chanda Rayatwari Underground Coal Mine Expansion Project of M/s WCL for production of coal at 0.12 MTPA rated capacity under the provisions of the Environmental Impact Assessment Notification, 2006 to subject to the compliance of the terms and conditions mentioned below:

A. **Specific Conditions**

- (i) All the conditions stipulated by SPCB in their Consent to Operate shall be effectively implemented.
- (ii) Mining shall not be carried in forestland for which forestry clearance has not been obtained under the provisions of FC Act, 1980.
- (iii) Mining shall be carried out as per statuette at a safe distance from river/nallah flowing within or adjacent to the lease boundary. At the time of depillaring, protective bunds and

garland drains shall be provided so that no water from the surface enters the subsidence area and the shaft.

- (iv) While extracting panels in the lower seam, all water bodies in the subsidence area shall be drained. Dewatering of the old goaves of the upper seam shall be continued as long as the lower seam is worked to prevent accumulation of large water bodies over working area.
- (v) Sufficient coal pillars shall be left unextracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.
- (vi) Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.
- (vii) No depillaring operation shall be carried out below the roads and village area found within the lease.
- (viii) Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings should be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures should be taken to avoid loss of life and material. Cracks should be effectively plugged with ballast and clayey soil/suitable material.
- (ix) Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity should be designed keeping 50% safety margin over an above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity should also provide for adequate retention period to allow proper settling of silt material.
- (x) Crushers at the CHP should be operated with high efficiency bag filters and water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.
- (xi) Drills should be wet operated only.
- (xii) Controlled blasting should be practiced with use of delay detonators.
- (xiii) A time-bound action plan for afforestation shall be prepared for implementation for area along ML boundary, along roads, vacant land and area in township by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (xiv) The company shall obtain approval of CGWA/CGWB Regional Office for use of groundwater if any, for mining operations.
- (xv) The company shall identify sites for construction of water harvesting structures for augmentation of groundwater resource in consultation with the panchayats of the nearby village(s) within an agreed time-frame.
- (xvi) Regular monitoring of groundwater level and quality should be carried out by establishing a network of existing 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.

- (xvii) The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xviii) ETP should be provided for workshop and CHP wastewater.
- (xix) 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.
- (xx) 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.
- (xxi) A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests of final mine closure for approval.
- (xxii) No mining operations shall be undertaken until Consent to Operate is revalidated from the SPCB.

B. General Conditions

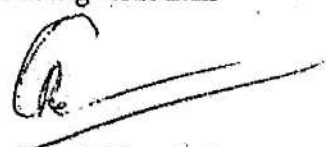
- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.
- (iii) Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO₂ and NO_x 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, SO₂ and NO_x) 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 19th May 1993 and 31st 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 contraindications 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 environmental clearance letter shall 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)
Additional Director

Copy to:

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Maharashtra, 15th Floor, New Admn. Building, Madam Cama Road, Mumbai - 400032.
3. Chief Conservator of Forests, Regional office (WZ), Ministry of Environment & Forests, E-2/240, Arera Colony, Bhopal - 462016.

4. Chairman, Maharashtra State Pollution Control Board, Kalapatru Point, 3rd & 4th Floor, Sion Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai - 40002.
5. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. District Collector, Chandrapur, Government of Maharashtra, New Delhi.
- ✓ 8. Shri M.K. Shukla, CGM, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxminagar, New Delhi.
9. Monitoring File 10. Guard File 11. Record File

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax:
24044532/4024068/4023516
Website: <http://mpcb.gov.in>
Email: jdair@mpcb.gov.in



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

RED/L.S.I (R35)

Date: 12/10/2023

No:- Format1.0/APAE Section/UAN No.MPCB-
CONSENT-0000156351/CR/2310000942

To,
M/s. Western Coal Fields Ltd.,
Chanda Rayatwari Colliery (Underground Mines
Railway siding and CHP)
WCL Chandrapur area,
Tq & Dist. Chandrapur



Your Service is Our Duty



Sub: Renewal of Consent to Operate under Red/LSI Category

- Ref:**
1. Earlier consent granted vide no. Format 1.0/APAE Section/UAN No. MPCB-CONSENT-0000127902/CR/2207001132, dated 22/07/2022, Valid upto 31/12/2022.
 2. Environmental Clearance vide J-11015/113/2006-1A-II(M), dtd. 17/10/2006

Your application No.MPCB-CONSENT-0000156351 Dated 16.12.2022

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

1. **The consent to renewal is granted for a period up to 31/12/2023**
2. **The capital investment of the project is Rs.19.4942 Crs. (As per C.A Certificate submitted by industry Existing-19.3981 Cr. + Increased-0.0961 Cr.)**
3. **Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	Coal Handling plant & Railway Siding (without coal mining)	0.06	MTPA

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

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	0	As per Schedule-I	Not Applicable
2.	Domestic effluent	130	As per Schedule-I	On land for gardening

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

<i>Sr No.</i>	<i>Stack No.</i>	<i>Description of stack / source</i>	<i>Number of Stack</i>	<i>Standards to be achieved</i>
NA				

6. **Non-Hazardous Wastes:**

<i>Sr No</i>	<i>Type of Waste</i>	<i>Quantity</i>	<i>UoM</i>	<i>Treatment</i>	<i>Disposal</i>
1	Over burden	0	--NA--	NA	Backfilling of mine

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

<i>Sr No</i>	<i>Category No./ Type</i>	<i>Quantity</i>	<i>UoM</i>	<i>Treatment</i>	<i>Disposal</i>
NA					

8. The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
9. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities
10. The applicant shall comply with the conditions of the Environmental Clearance granted by Ministry of Forest & Environment, Govt. of India vide No. J-11015/113/2006-IA.II(M), dtd. 17/10/2006.
11. PP shall operate existing water sprinkling arrangement properly to achieve ambient air quality.
12. PP shall provide tar road in all mine area and maintain and clean regularly to avoid fugitive emission.
13. PP shall carry out over burden dump management as per CPCB guidelines.
14. PP shall carry out plantation as per EC condition before ensuing monsoon.
15. PP shall comply guidelines issued by the Board for railway siding operations
16. The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the consent. (Operate/Renewal)
17. Consent is granted for Coal Handling Plant and Railway siding activity only. Industry shall not carry out Coal mining activity.

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	17300.00	MPCB-DR-16413	02/01/2023	NEFT

Balance consnet fees of Rs. 32,700/- from previous renewal of consent is adjusted to makeup total consnet fees of Rs.50,000/- for one term.

Copy to:

1. Regional Officer, MPCB, Chandrapur and Sub-Regional Officer, MPCB, Chandrapur
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB,Sion, Mumbai



SCHEDULE-I

Terms & conditions for compliance of Water Pollution Control:

1. A] Generation - As per your application the treated effluent generation is Nil.
B] Treatment - NA
C] Disposal - NA
2. A] As per your application, you have provided Septic Tank followed by Soak pit for the treatment of 130 CMD of sewage.
B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

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

- C] The treated sewage shall be recycled for secondary purposes to the maximum extent and remaining shall be discharged on land for gardening within premise after confirming above standards. In no case, sewage shall find its way for gardening / outside factory premises.
3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification there of & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
 4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
 5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

<i>Sr. No.</i>	<i>Purpose for water consumed</i>	<i>Water consumption quantity (CMD)</i>
1.	Industrial Cooling, spraying in mine pits or boiler feed	170.00
2.	Domestic purpose	185.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	0.00

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.
7. Industry should submit design details of STP within 15 days and accordingly provide STP of adequate capacity for the treatment of sewage within 3 months and treated sewage shall be recycled at maximum extent. For compliance of the same Bank Guarantee of Rs. 5 Lakh shall be submitted as per schedule-III of the consent.



SCHEDULE-II

Terms & conditions for compliance of Air Pollution Control:

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

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

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

6. Standards for Ambient Air Pollutants:

The Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM), Sulphur dioxide (SO₂) and Oxides of Nitrogen (NO_x) concentration in downwind direction considering predominant wind direction, at a distance of 500 metres from the following dust generating sources shall not exceed the standards specified in the table given below:

Dust Generating Sources:

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

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

- i. In case of any residential or commercial or industrial place falls within 500 metres of any dust generating sources, the National Ambient Air Quality Standards notified vide MOEFCC GOI notification dtd 16.11.2009 as ammended shall be made applicable.
- ii. The applicant shall provide minimum three ambient air quality monitoring stations within mining area which should be monitored for SPM, RSPM, SO₂, NO_x, HC, CO etc. The Annual Arithmetic Mean of minimum 104 measurements in a year taken twice a week 24 hourly at uniform interval shall conform to the National Ambient Air Quality Standards prescribed under Air (Prevention and Control of Pollution) Act, 1981 and Environment (Protection) Act, 1986. The records of results of monitoring done shall be made available for inspection to the officers of the Board.

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

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

8. Other conditions:

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

SCHEDULE-III

Details of Bank Guarantees:

Sr. No	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to R	Rs.5.0 Lakh	15 days	Operation and Maintenance of pollution control system so as to maintain consented standards prescribed as per Air(Prevention & Control of pollution) Act, 1974 Water (Prevention & Control of Pollution) Act, 1981 & HW (MH & TM) Rules 2008 and also adhering to compliance of specific / general condition of Environment Clearance.	Regular Activity	30/04/2024
2	C to R	Rs.5.0 Lakh	15 days	Providing STP	3 months	30/04/2024

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

BG Forfeiture History

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

BG Return details

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

SCHEDULE-IV
General Conditions:

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

14. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.



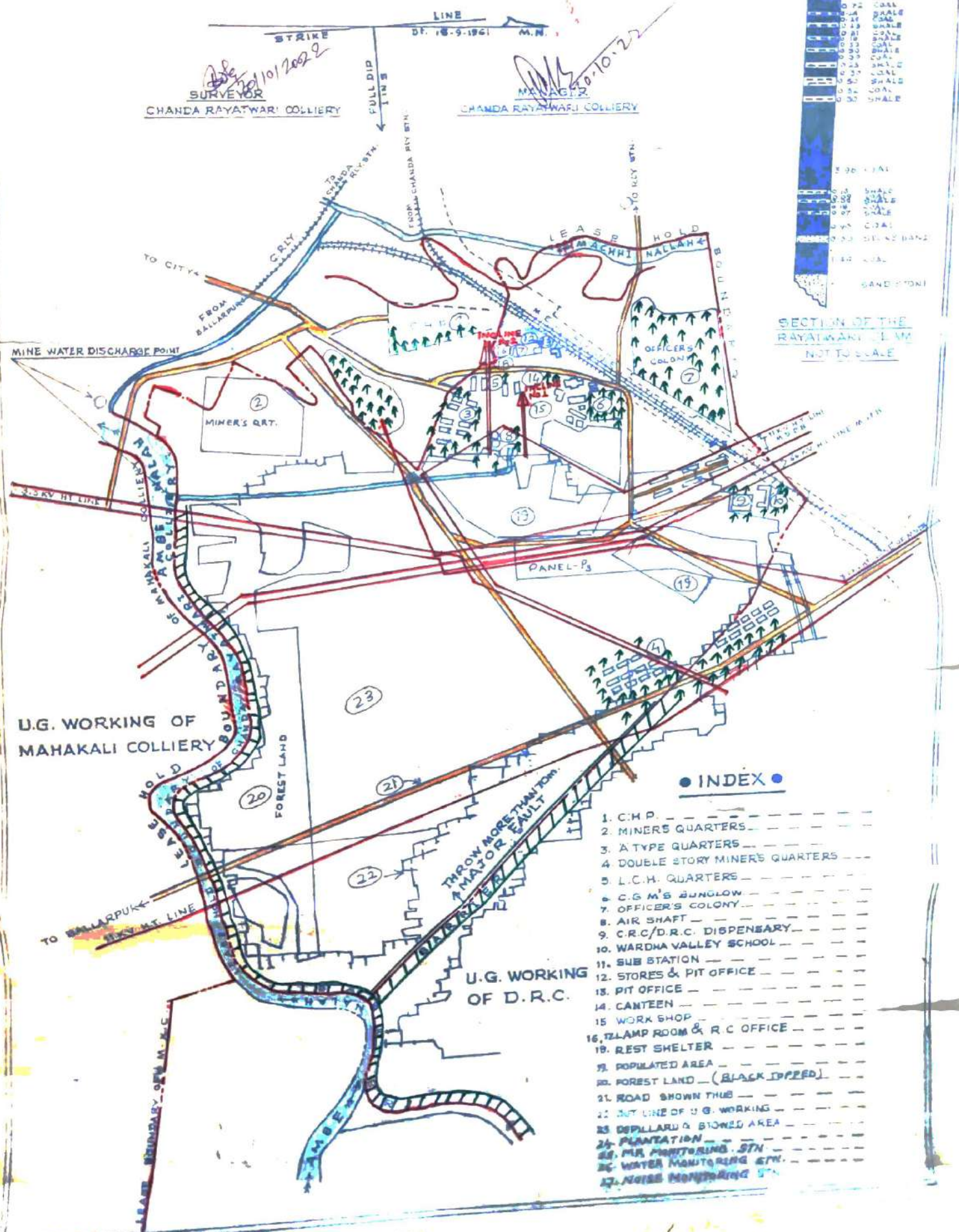
15. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
16. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
17. Conditions for D.G. Set
 - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
 - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
 - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
 - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
 - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
 - f) D.G. Set shall be operated only in case of power failure.
 - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
 - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
18. The industry should not cause any nuisance in surrounding area.
19. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
20. The applicant shall maintain good housekeeping.
21. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end
22. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
23. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipment provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.

24. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises
25. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
26. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dtd. 16.11.2009 as amended.

This certificate is digitally & electronically signed.



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INDEX

1. C.M.P. ————
2. MINERS QUARTERS ————
3. A TYPE QUARTERS ————
4. DOUBLE STORY MINERS QUARTERS ————
5. L.C.H. QUARTERS ————
6. C.G.M.B. BUNGLOW ————
7. OFFICER'S COLONY ————
8. AIR SHAFT ————
9. C.R.C./D.R.C. DISPENSARY ————
10. WARDHA VALLEY SCHOOL ————
11. SUB STATION ————
12. STORES & PIT OFFICE ————
13. PIT OFFICE ————
14. CANTEEN ————
15. WORK SHOP ————
16. LAMP ROOM & R.C. OFFICE ————
17. REST SHELTER ————
18. POPULATED AREA ————
19. FOREST LAND (BLACK DOTTED) ————
20. ROAD SHOWN THUS ————
21. SET LINE OF U.G. WORKING ————
22. DEPIILLARD & STONED AREA ————
23. PLANTATION ————
24. AIR MONITORING STN. ————
25. WATER MONITORING STN. ————
26. NOISE MONITORING STN. ————



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ENVIRONMENTAL MONITORING REPORT

CRC UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423068



APRIL 2023

Environment Laboratory
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Environment Laboratory CMPDI RI-IV, NAGPUR	Test Report	 TC-7102
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TEST REPORT NO.	RIN/TR/APRIL-23/32	DATE OF ISSUE	30-05-23
NAME OF CUSTOMER	GM(ENV.), WCL(HQ), NAGPUR		
TEST REQUIRED	SPM: IS 5182 Part-4:1999(RA 2019), PM-10: IS-5182 Part 23:2006(RA 2017), PM2.5: USEPA Quality Assurance guidance document volume-II (part-II)-2.12:2016, NO2: IS 5182 Part-06:2006(2017), SO2:IS 5182 Part-2:2001(RA 2017)		
SAMPLE DESCRIPTION	AIR SAMPLE	SAMPLING PLAN :	LQR 47
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:	13-04-23 TO 15-05-23	

MANAGER OFFICE MAHAKALI UG CMKUA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
13-04-23	14-04-23	256	137	54	20	16	Clear / Light Breeze
28-04-23	29-04-23	267	162	57	17	12	Clear / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

CRC SUBSTATION/ FILTER PLANT CCRUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
13-04-23	14-04-23	236	123	50	20	13	Clear / Light Breeze
28-04-23	29-04-23	267	146	53	17	12	Cloudy / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

JATWARA MILK SCHEME CCRUA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
14-04-23	15-04-23	243	140	57	21	14	Clear / Light Breeze
28-04-23	29-04-23	255	160	50	25	16	Cloudy / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

COLONY (MAHAKALI UG) CMKUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
13-04-23	14-04-23	133	60	23	13	BDL	Clear / Light Breeze
27-04-23	28-04-23	139	62	27	10	BDL	Cloudy / Light Breeze
NAAQS, 2009		-	100	60	80	80	



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FUGITIVE DUST MONITORING

TEST REQUIRED	SPM: IS 5182 Part-4:1999(RA 2019), PM-10: IS-5182 Part 23:2006(RA 2017) & PM2.5: USEPA Quality Assurance guidance		
SAMPLE DESCRIPTION	Air sample(Fugitive)		
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:	13-04-23 TO 15-05-23	

DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)		ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	
FROM	TO			
27-04-23	28-04-23	416	282	Cloudy / Light Breeze



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NOISE LEVEL MONITORING DATA

SAMPLE DESCRIPTION	NOISE SAMPLE
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT, JUNE-2015
SAMPLING METHOD	LSOP 6

CHP: CCRUN1		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'23	13-04-23	68.7	67.6
APRIL'23	26-04-23	65.7	63.5
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

COLONY: CCRUN2		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
APRIL'23	13-04-23	43.7	42.6
APRIL'23	26-04-23	42.6	41.8
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45



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ENVIRONMENTAL MONITORING REPORT

CRC UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.


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Environment Laboratory CMPDI RI-IV, NAGPUR	Test Report	 TC-7102
---	--------------------	--

TEST REPORT NO.	RIN/TR/MAY-23/32	DATE OF ISSUE	30-06-2023
NAME OF CUSTOMER	GM(ENV.), WCL(HQ), NAGPUR		
TEST REQUIRED	SPM: IS 5182 Part-4:1999(RA 2019), PM-10: IS-5182 Part 23:2006(RA 2017), PM2.5: USEPA Quality Assurance guidance document volume-II (part-II)-2.12:2016, NO ₂ : IS 5182 Part-06:2006(2017), SO ₂ :IS 5182 Part-2:2001(RA 2017)		
SAMPLE DESCRIPTION	AIR SAMPLE	SAMPLING PLAN :	LQR 47
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		15-05-23 TO 16-06-23

MANAGER OFFICE MAHAKALI UG CMKUA1							
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 ₁₀	PM _{2.5}	NO ₂	SO ₂	
14-05-2023	15-05-2023	268	160	55	18	14	Cloudy / Light Breeze
27-05-2023	28-05-2023	257	143	58	20	16	Cloudy / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	


CRC SUBSTATION/ FILTER PLANT CCRUA2							
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 ₁₀	PM _{2.5}	NO ₂	SO ₂	
14-05-2023	15-05-2023	242	127	52	20	16	Cloudy / Light Breeze
27-05-2023	28-05-2023	260	140	53	19	14	Cloudy / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

JATWARA MILK SCHEME CCRUA3							
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 ₁₀	PM _{2.5}	NO ₂	SO ₂	
15-05-2023	16-05-2023	253	160	52	23	16	Cloudy / Light Breeze
27-05-2023	28-05-2023	244	146	58	22	14	Cloudy / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

COLONY (MAHAKALI UG) CMKUA2							
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 ₁₀	PM _{2.5}	NO ₂	SO ₂	
14-05-2023	15-05-2023	140	57	29	14	BDL	Cloudy / Light Breeze
27-05-2023	28-05-2023	132	60	30	10	BDL	Cloudy / Light Breeze
NAAQS, 2009		-	100	60	80	80	



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NOISE LEVEL MONITORING DATA

SAMPLE DESCRIPTION	NOISE SAMPLE
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT, JUNE-2015
SAMPLING METHOD	LSOP 6

CHP: CCRUN1			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
MAY'23	13-05-2023	63.8	62.7
MAY'23	27-05-2023	63.6	62.5
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

COLONY: CCRUN2			
MONTH	DATE OF SAMPLE COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
MAY'23	13-05-2023	43.9	42.8
MAY'23	27-05-2023	43.4	42.3
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45



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ENVIRONMENTAL MONITORING REPORT

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TEST REPORT NO.	RIN/TR/JUNE-23/32	DATE OF ISSUE	31-07-23
NAME OF CUSTOMER	GM(ENV.), WCL(HQ), NAGPUR		
TEST REQUIRED	SPM: IS 5182 Part-4:1999(RA 2019), PM-10: IS-5182 Part 23:2006(RA 2017), PM2.5: USEPA Quality Assurance guidance document volume-II (part-II)-2.12:2016, NO2: IS 5182 Part-06:2006(2017), SO2:IS 5182 Part-2:2001(RA 2017)		
SAMPLE DESCRIPTION	AIR SAMPLE	SAMPLING PLAN :	LQR 47
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:	17-06-23 TO 15-07-23	

MANAGER OFFICE MAHAKALI UG CMKUA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
04-06-23	05-06-23	265	158	53	17	14	Cloudy / Light Breeze
19-06-23	20-06-23	260	141	50	18	15	Cloudy / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	


CRC SUBSTATION/ FILTER PLANT CCRUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
04-06-23	05-06-23	240	131	51	20	15	Cloudy / Light Breeze
19-06-23	20-06-23	256	146	53	18	14	Cloudy / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

JATWARA MILK SCHEME CCRUA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
04-06-23	05-06-23	251	150	56	22	16	Cloudy / Light Breeze
19-06-23	20-06-23	244	138	50	21	13	Cloudy / Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

COLONY (MAHAKALI UG) CMKUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
04-06-23	05-06-23	134	62	32	12	10	Cloudy / Light Breeze
19-06-23	20-06-23	143	53	33	10	BDL	Cloudy / Light Breeze
NAAQS, 2009		-	100	60	80	80	



Analysed by

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

SAMPLE DESCRIPTION	NOISE SAMPLE
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT, JUNE-2015
SAMPLING METHOD	LSOP 6

CHP: CCRUN1		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JUNE'23	13-06-23	62.8	61.6
JUNE'23	19-06-23	63.5	62.7
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

COLONY: CCRUN2		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JUNE'23	13-06-23	43.9	42.7
JUNE'23	19-06-23	43.6	42.8
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45



Ashwin B Wasnik
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ENVIRONMENTAL MONITORING REPORT

CRC UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.


JOB NO. 4094423068



JULY 2023

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

AN ISO 9001:2015 COMPANY

Environment Laboratory CMPDI RI-IV, NAGPUR	Test Report	 TC-7102
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TEST REPORT NO.	RIN/TR/JULY-23/32	DATE OF ISSUE	31-08-2023
NAME OF CUSTOMER	GM(ENV.), WCL(HQ), NAGPUR		
TEST REQUIRED	SPM: IS 5182 Part-4:1999(RA 2019), PM-10: IS-5182 Part 23:2006(RA 2017), PM2.5: USEPA Quality Assurance guidance document volume-II (part-II)-2.12:2016, NO2: IS 5182 Part-06:2006(2017), SO2:IS 5182 Part-2:2001(RA 2017)		
SAMPLE DESCRIPTION	AIR SAMPLE	SAMPLING PLAN :	LQR 47
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:		16-07-23 TO 14-08-23

MANAGER OFFICE MAHAKALI UG CMKUA1							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
06.07.2023	07.07.2023	259	154	51	20	16	Cloudy Sky/Light Breeze
20.07.2023	21.07.2023	230	132	47	18	12	Rainy sky/Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

CRC SUBSTATION/ FILTER PLANT CCRUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
06.07.2023	07.07.2023	242	136	53	22	17	Cloudy Sky/Light Breeze
20.07.2023	21.07.2023	231	130	48	17	12	Rainy sky/Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

JATWARA MILK SCHEME CCRUA3							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)					ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	PM _{2.5}	NO ₂	SO ₂	
FROM	TO	5	5	2	6	10	
05.07.2023	06.07.2023	247	144	54	20	16	Cloudy Sky/Light Breeze
19.07.2023	20.07.2023	228	127	47	18	11	Rainy sky/Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

COLONY (MAHAKALI UG) CMKUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)				ENVIRONMENT CONDITIONS (Sky/Wind)	
		PM ₁₀	PM _{2.5}	NO ₂	SO ₂		
FROM	TO	5	2	6	10		
05.07.2023	06.07.2023	65	29	13	BDL	Cloudy Sky/Light Breeze	
19.07.2023	20.07.2023	54	22	8	BDL	Rainy sky/Light Breeze	
NAAQS, 2009		100	60	80	80		



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Environment Laboratory CMPDI RI-IV, NAGPUR	Test Report	
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FUGITIVE DUST MONITORING

TEST REQUIRED	SPM: IS 5182 Part-4:1999(RA 2019), PM-10: IS-5182 Part 23:2006(RA 2017) & PM2.5: USEPA Quality Assurance		
SAMPLE DESCRIPTION	Air sample(Fugitive)		
SAMPLING METHOD : LSOP 4		PERIOD OF PERFORMANCE OF LAB ACTIVITIES:	16-07-23 TO 14-08-23

CHP CCUF1				
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in µg/m ³)		ENVIRONMENT CONDITIONS (Sky/Wind)
		SPM	PM ₁₀	
FROM	TO	5	5	
09-07-2023	10-07-2023	449	271	Cloudy / Light Breeze



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Environment Laboratory CMPDI RI-IV, NAGPUR	Test Report	 TC-7102
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NOISE LEVEL MONITORING DATA

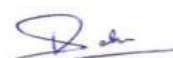
SAMPLE DESCRIPTION	NOISE SAMPLE
Test Required	CPCB PROCTOCOL FOR AMBIENT NOISE MEASUREMENT, JUNE-2015
SAMPLING METHOD	LSOP 6

CHP: CCRUN1		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JULY'23	07-07-2023	59.7	58.6
JULY'23	22-07-2023	57.8	56.7
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

COLONY: CCRUN2		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
JULY'23	07-07-2023	43.8	42.7
JULY'23	22-07-2023	43.8	42.6
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45



Amol Kamble
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ENVIRONMENTAL MONITORING REPORT

CRC UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 4094423068



AUGUST 2023

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

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Environment Laboratory CMPDI RI-IV, NAGPUR	Test Report	
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TEST REPORT NO.	RIN/TR/AUGUST-23/32	DATE OF ISSUE	30-09-2023
NAME OF CUSTOMER	GM(ENV.), WCL(HQ), NAGPUR		
TEST REQUIRED	SPM: IS 5182 Part-4:1999(RA 2019), PM-10: IS-5182 Part 23:2006(RA 2017), PM2.5: USEPA Quality Assurance guidance document volume-II (part-II)-2.12:2016, NO2: IS 5182 Part-06:2006(2017), SO2:IS 5182 Part-2:2001(RA 2017)		
SAMPLE DESCRIPTION	AIR SAMPLE	SAMPLING PLAN :	LQR 47
SAMPLING METHOD : LSOP 4	PERIOD OF PERFORMANCE OF LAB ACTIVITIES:	15-08-23 TO 15-09-23	

MANAGER OFFICE MAHAKALI UG CMKUA1							
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 ₁₀	PM _{2.5}	NO ₂	SO ₂	
07.08.2023	08.08.2023	250	144	50	20	15	Clear Sky/Light Breeze
22.08.2023	23.08.2023	265	159	55	23	19	Cloudy Sky/Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	


CRC SUBSTATION/ FILTER PLANT CCRUA2							
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 ₁₀	PM _{2.5}	NO ₂	SO ₂	
11.08.2023	12.08.2023	260	158	54	21	19	Cloudy Sky/Light Breeze
26.08.2023	27.08.2023	245	140	50	18	15	Clear Sky/Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

JATWARA MILK SCHEME CCRUA3							
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 ₁₀	PM _{2.5}	NO ₂	SO ₂	
11.08.2023	12.08.2023	252	149	52	20	15	Cloudy Sky/Light Breeze
26.08.2023	27.08.2023	234	130	49	17	12	Clear Sky/Light Breeze
STANDARDS FOR COAL MINE, GSR 742(E), dt. 25 TH September 2000		600	300	-	120	120	

COLONY (MAHAKALI UG) CMKUA2							
DATE(dd:mm:yy) OF SAMPLING		PARAMETERS (24 hourly values in $\mu\text{g}/\text{m}^3$)				ENVIRONMENT CONDITIONS (Sky/Wind)	
FROM	TO	PM ₁₀	PM _{2.5}	NO ₂	SO ₂		
07.08.2023	08.08.2023	66	24	12	BDL	Clear Sky/Light Breeze	
22.08.2023	23.08.2023	70	28	16	10	Cloudy Sky/Light Breeze	
NAAQS, 2009		100	60	80	80		



Analysed by

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

SAMPLE DESCRIPTION	NOISE SAMPLE
Test Required	CPCB PROTOCOL FOR AMBIENT NOISE MEASUREMENT, JUNE-2015
SAMPLING METHOD	LSOP 6

CHP: CCRUN1		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
AUG'23	08-08-2023	57.8	56.9
AUG'23	26-08-2023	56.7	55.9
NOISE POLLUTION (REGULATION AND CONTROL) RULES		75	70

COLONY: CCRUN2		NOISE LEVEL IN dB(A)	
MONTH	DATE OF SAMPLE COLLECTION	DAY TIME	NIGHT TIME
	DETECTION LIMIT	20	20
AUG'23	08-08-2023	42.9	41.5
AUG'23	26-08-2023	41.8	40.5
NOISE POLLUTION (REGULATION AND CONTROL) RULES		55	45



Ashwin B Wasnik
Reviewed by



Deepanshu Sahu
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Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

FORM V

(See Rule 14)

Environmental Audit Report for the financial Year ending the 31st March 2023

Unique Application Number

MPCB-ENVIRONMENT_STATEMENT-0000061843

Submitted Date

30-09-2023

PART A

Company Information

Company Name

M/s Western coalfield Limited. Chanda Rayatwari Colliery

Application UAN number

MPCB-CONSENT-0000127902

Address

Post- Babupeth

Plot no

Document attached

Taluka

Chandrapur

Village

Rayatwari Area

Capital Investment (In lakhs)

1939.82

Scale

L.S.I

City

Chandrapur

Pincode

442401

Person Name

Bharath Nagrale

Designation

Colliery Manager

Telephone Number

8275967962

Fax Number

07172255287

Email

crcchandrapur@gmail.com

Region

SRO-Chandrapur

Industry Category

Red

Industry Type

R35 Mining and ore beneficiation

Last Environmental statement submitted online

yes

Consent Number

MPCB-CONSENT-0000127902

Consent Issue Date

2022-07-22

Consent Valid Upto

2022-12-31

Establishment Year

1954

Date of last environment statement submitted

Sep 19 2022 12:00:00:000AM

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

Product Information

Product Name

Coal

Consent Quantity

0.06

Actual Quantity

0.00

UOM

MT/A

By-product Information

By Product Name

NA

Consent Quantity

0

Actual Quantity

0

UOM

MT/A

Part-B (Water & Raw Material Consumption)

1) Water Consumption in m3/day

Water Consumption for

Consent Quantity in m3/day

Actual Quantity in m3/day

Process	170.00	100.00
Cooling	0.00	0.00
Domestic	185.00	170.00
All others	0.00	0.00
Total	355.00	270.00

2) Effluent Generation in CMD / MLD

Particulars	Consent Quantity	Actual Quantity	UOM
Daily Trade Effluent	0.00	0.00	CMD

2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)

Name of Products (Production)	During the Previous financial Year	During the current Financial year	UOM
Coal	0.00	0.00	CMD

3) Raw Material Consumption (Consumption of raw material per unit of product)

Name of Raw Materials	During the Previous financial Year	During the current Financial year	UOM
Explosive	0.00	0.00	Kg/Annum

4) Fuel Consumption

Fuel Name	Consent quantity	Actual Quantity	UOM
Diesel	0.0	0.00	KL/A

Part-C

Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)

[A] Water

Pollutants Detail	Quantity of Pollutants discharged (kL/day) Quantity	Concentration of Pollutants discharged(Mg/Lit) Except PH,Temp,Colour Concentration	Percentage of variation from prescribed standards with reasons %variation	Standard	Reason
Water Report Attached in-I	0	0	NA	NA	NA

[B] Air (Stack)

Pollutants Detail	Quantity of Pollutants discharged (kL/day) Quantity	Concentration of Pollutants discharged(Mg/NM3) Concentration	Percentage of variation from prescribed standards with reasons %variation	Standard	Reason
No Stack Monitoring	0	0	NA	NA	NA

Part-D

HAZARDOUS WASTES

1) From Process

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	0	0	Ton/Y

2) From Pollution Control Facilities

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
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Part-E

SOLID WASTES

1) From Process

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
NA	0	0	M3/Anum

2) From Pollution Control Facilities

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
NA	0	0	Ton/Y

3) Quantity Recycled or Re-utilized within the unit

Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	0	0	Ton/Y

Part-F

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

1) Hazardous Waste

Type of Hazardous Waste Generated	Qty of Hazardous Waste	UOM	Concentration of Hazardous Waste
NA	0	Ton/Y	NA

2) Solid Waste

Type of Solid Waste Generated	Qty of Solid Waste	UOM	Concentration of Solid Waste
NA	0	Ton/Y	NA

Part-G

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

Description	Reduction in Water Consumption (M3/day)	Reduction in Fuel & Solvent Consumption (KL/day)	Reduction in Raw Material (Kg)	Reduction in Power Consumption (KWH)	Capital Investment(in Lacs)	Reduction in Maintenance(in Lacs)
Impact of Pollution Control Measures	0.00	0.00	0	0	0.00	0.00

Part-H

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

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Development of Eco Park at Neem Vatika	Eco Park	88.09

[B] Investment Proposed for next Year

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
---	-----------------------------------	----------------------------

Part-I

Any other particulars for improving the quality of the environment.

Particulars

Attachments as required.

Name & Designation

Shri. Bharath Nagrale, Colliery Manager

UAN No:

MPCB-ENVIRONMENT_STATEMENT-0000061843

Submitted On:

30-09-2023

REPORT ON
MONITORING OF GROUND WATER LEVEL
OF
CHANDA RAYATWARI UG MINE,
CHANDRAPUR AREA
(M.S)
WESTERN COALFIELDS LTD.



**PERIOD- DEC 2022 (POST-MONSOON), JAN-FEB -2023 (WINTER) & MAY-2023
(PRE-MONSOON)**



M/s Anacon Laboratories Pvt. Ltd., Nagpur

MoEF&CC (GOI) and NABL 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

Website: www.anaconlaboratories.com

Report No. ANqr /PD/20A/2023/199

2022-23 & 2023-24

Certificate

The Ground water Level monitoring has been carried out with due diligence and the Monitoring of Ground Water Level of all observation wells Report have been prepared as per the scope of work order no. वेकोलि/मुख्यालय/पर्यावरण/14-L/77 on date: 08.12.2022.

The report encompasses the Monitoring of Ground water level reports of observation wells pertaining to the CHANDA RAYATWARI UG MINE, of the Chandrapur District, Maharashtra.

Anacon Laboratories Pvt. Ltd. gratefully acknowledges the full cooperation rendered by concerned WCL Officials for timely completion of the project.



Ajinkya Nakod
(Geologist)



Gyanchand Bohra
NABET Accredited EIA Expert
for Hydrogeology & Geology

Nagpur.
August-2023



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

CONTENTS			
TABLE/FIGURE	NAME OF SUB MINE PROJECT	GROUND WATER MONITORING DETAILS OF WELL	Page No.
I-FIGURE	CHANDA RAYATWARI UG MINE,	GROUND WATER MONITORING STATION (OBSERVATION WELLS IN AND AROUND OF CHANDA RAYATWARI UG MINE,	7
I-TABLE	CHANDA RAYATWARI UG MINE,	GROUND WATER MONITORING OF WELL DATA FROM DEC 2022(POST-MONSOON) , JAN-FEB 2023 (WINTER) & MAY-2023 (PRE-MONSOON)	8
III	CHANDA RAYATWARI UG MINE,	ANALYSIS REPORT	11

INTRODUCTION

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

M/s Anacon Laboratories Pvt. Ltd. has been awarded the Work of "Groundwater level Monitoring (i.e. bore well / piezometer Water levels) and Water quality analysis (as per IS10500) for 76 projects / mines of WCL (situated in the state of Madhya Pradesh – Chhindwara & Betul districts and Maharashtra – Nagpur, Chandrapur & Yeotmal districts) for one year as per condition stipulated in Environmental Clearance letters issued by MoEF & CC & NOC issued by CGWA" vide work order वेकोलि/मुख्यालय/पर्यावरण/14-L/77 on date: 08.12.2022.

This Ground Water Level Monitoring report is prepared for CHANDA RAYATWARI UG MINE, Incline mines of Chandrapur area of WCL for 3 seasons i.e. DEC 2022 (POST-MONSOON), JAN-FEB 2023 (WINTER) & MAY-2023 (PRE-MONSOON). These mines are located in Chandrapur District of Maharashtra.

GENERAL HYDROGEOLOGICAL CONDITION

The major water bearing formations in the district are Alluvium, Lower Gondwana Sandstones, Deccan Trap Basalt, Vindhyan Limestone and Archean metamorphic. Amongst these, the lower Gondwana Sandstones, particularly Kamthi Sandstone forms the most potential aquifer.

A. HARD ROCK FORMATIONS

ARCHEAN METAMORPHICS

Archeans, which comprise granite and granitic gneiss, occur in most of the eastern part of the district extending north-south from Nagbhid to Gondpipri. 6 These rocks are generally devoid of primary porosity, but weathering, jointing, fracturing, shearing etc., create secondary porosity, within which the ground water generally occurs in phreatic conditions. The depth of weathering ranges from 4 to 12 m bgl and dugwells are generally tapping this zone with yields of up to 30 m³ /day. Contrary to the general perception, the possibility of deep seated fracture zone exists in the area because of tectonic disturbances manifested in the form of dykes observed in the area. Therefore borewells in the depth range of 40-70 m bgl are also successful in this formation at suitable places with yield of 1000 to 35000 lph. High yielding dugwells are generally located in fractured granites.

VINDHYAN LIMESTONE

In Vindhyan, Limestones are water bearing formation while Sandstone due to their hard and compact nature, has poor ground water potential. The Vindhyan sedimentaries mainly occur in north central part of the district around Tadoba and Nagbhid in parts of Chimur, Sindewahi, Bhadravati and Nagbhid talukas and in south eastern part of the district in parts of Chandur and Rajura talukas. Limestones as such are massive but wherever they are cavernous and fractured they are capable of holding water and the ground water generally occurs under phreatic condition in these formations and the discharge in general is poor (up to 15 m³ /day). The borewells drilled by State Govt. agencies in the depth range of 30 to 40 m bgl are successful only at few places where discharge of 10000 lph or above has been observed.

DECCAN TRAP BASALT

Deccan Trap Basalt is observed in small area in the north eastern and south eastern peripheral parts of the district and does not form a promising aquifer in the district. Weathered, jointed and fractured Massive and Vesicular Basalt forms the aquifer in the area. Ground water occurs in phreatic conditions within the depth of 10-15 m, however, borewells drilled have shown presence of fracture zones and thus forming deeper confined and semi-confined aquifers at places. The dugwells yield varies from 15-30 m³ /day when favourably located, whereas borewells yield 1 to 3 lps.

B. SOFT ROCK FORMATIONS

GONDWANA SANDSTONE

Gondwana formation comprising of Kamthi and Barakar Sandstone and Maleri and Talchir Shale occupy north-south extending elongated stretch in central and southern parts of the district in parts of Warora, Bhadravati, Chandrapur, Ballarpur, Rajura and Gondpipri talukas. Sandstone is usually friable and possesses primary porosity due to its granular nature. They are most productive water bearing formations in the district. The ground water occurs under phreatic as well as confined conditions in Kamthi Sandstone up to the depth of 80 to 120 m bgl with thickness varying from 34 to 102 m. Barakar Sandstone occurs below Kamthi formation and three granular zones are observed with cumulative thickness of about 72 m within a 300 m thick sandstone-shale sequence. Comparatively Kamthi Sandstone has more ground water potential with yields of up to 20 lps. The other Gondwana formations i.e., Maleri Series (upper Gondwana) and Talchirs (lower Gondwana) have very poor ground water potential and ground water occurs in phreatic condition.

ALLUVIUM

Alluvium of fluvial origin occurs in narrow patches along the banks of Wardha and Wainganga Rivers and consists of clay, silt with lenticular bodies of sand and gravel. Ground water generally occurs under phreatic conditions down to the depth of 10-15 m. The area in the north eastern part of the district near Brahmapuri along the western bank of Wainganga River and having a spread of about 100 sq. km. forms the most potential alluvial area. The Alluvium in this part is occurs down to 30-35 m and the basement is reported to be formed by Granitic Gneisses. The dugwells yield up to 50 m³ /day when favourably located, whereas shallow tubewells yield varies from 5 to 15 lps.

**CHANDA RAYATWARI UG MINE,
CHANDRAPUR AREA
WESTERN COALFIELDS LTD.**

PERIOD- DEC 2022(POST-MONSOON), JAN-FEB 2023 (WINTER) & MAY-2023 (PRE-MONSOON)

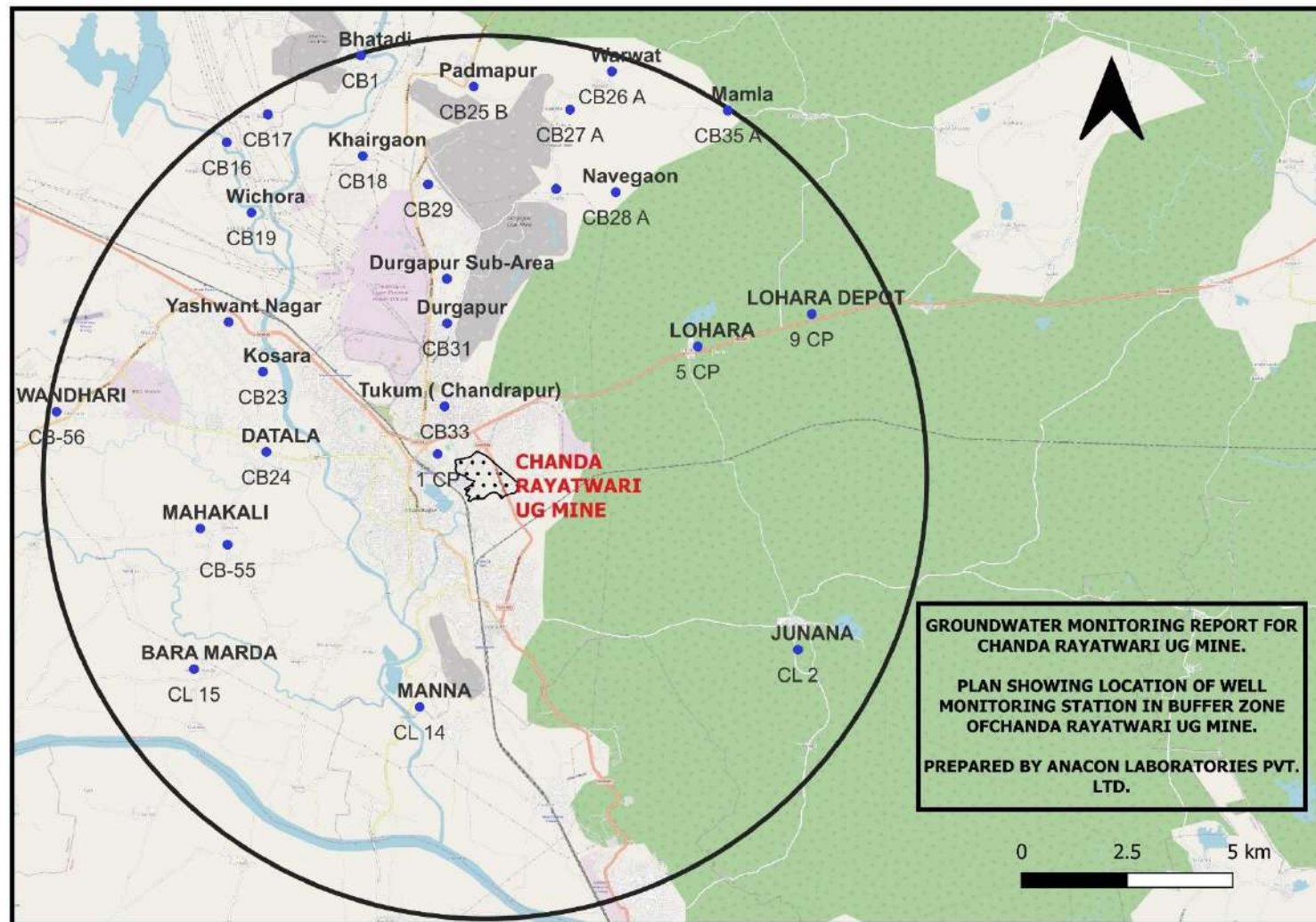


FIGURE-II: GROUND WATER MONITORING STATION (OBSERVATION WELLS IN AND AROUND OF CHANDA RAYATWARI UG MINE)

TABLE: II Ground Water Level Monitoring Data from Dugwells/Piezometer in Buffer Zone of Chanda Rayatwari UG Mine, Chandrapur Area, WCL

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
1	CB1	Bhatadi	Centre of village , near OHT	20°3'13.7"	79°17'5.86"	212	8.84	3.81	0.61	3.5	4.95	6.19	agriculture	basalt
2	CB16	Nagpur	About 200m NE of village , adjacent to Tirwanja road	20°2'2.86"	79°15'16.59"	239	9.87	3.13	0.51	6.45	8	8.13	domestic	limestone
3	CB17	Chak Tirwanja	W of village , near Zila Parishad school	20°2'25.76"	79°15'50.06"	199	12.31	2.76	0.73	7.15	10.25	11.42	domestic	basalt

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
4	CB18	Khairgaon	North of village , near Primary school	20°1'51.9"	79°17'7.44"	205	11.42	2.41	0.55	6.85	7.65	8.91	agriculture	laterite
5	CB19	Wichora	West of village , near Budha Samaj	20°1'5.57"	79°15'36.64"	215	11.02	2.14	0	7	9.45	10.10	agriculture	laterite
6	CB22	Yashwant Nagar	Centre of village , near Zila Parishad school & Hanuman Mandir	19°59'36.44"	79°15'18.15"	217	7.87	3.97	0.82	3.65	4.25	6.35	agriculture	limestone
7	CB23	Kosara	West of village ,	19°58'55.9"	79°15'46.1"	238	12.25	3.91	0.94	4.45	5.35	11.42	agriculture	basalt

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
			adjacent to road											
8	CB25 B	Padmapur	About 50 m E of Tadoba road in the field, About 400 m N of new village	20°2'48.37"	79°18'37.75"	248	15.87	3.14	1.31	5.35	6.25	11.19	domestic	limestone
9	CB26 A	Warwat	Centre of village, near temple	20°3'0.76"	79°20'30.41"	233	8.81	2.42	0.81	3.15	4.15	7.93	agriculture	basalt
10	CB27 A	Masala Tukum	South of village , adjacent to Warwat road	20°2'29.65"	79°19'56.29"	240	8.41	2.87	0.62	6.15	7.75	7.95	agriculture	limestone

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
11	CB24	DATALA	SE of village , in Shanti Kunj Nagar	19°57'50.51"	79°15'48.89"	187	14.28	4.3	0.62	5.85	7.45	12.14	agriculture	laterite
12	CB28 A	Navegaon	Near OH Tank, South of village , East of Warwat road	20°1'22.36"	79°20'33.62"	215	8.42	3.88	0.61	4.75	6.4	6.91	agriculture	laterite
13	CB29	Padmapur Sub -Area Office	Outside SAM office, adjacent to Tadoba road (E)	20°1'28.65"	79°18'0.69"	222	10.13	2.61	0.63	4.25	5.75	8.85	agriculture	basalt
14	CB31	Durgapur	East of Tadoba road ,	19°59'35.39"	79°18'16.18"	198	11.47	3.27	0.45	3.85	4.85	10.15	agriculture	basalt

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
			inside St. Mary's Convent compound											
15	CB32	Durgapur Sub-Area	Trade Union office compound (INTUC), MQ type quarters	20°0'11.63"	79°18'15.98"	243	8.93	2.34	0.72	7.35	7.9	7.28	agriculture	limestone
16	CB30B	SINHALA	100 m East from Road between Sinhala nad Navegaon	20°1'25"	79°19'45"	240	12.48	3.29	0.91	8.25	9.35	11.49	agriculture	basalt

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
17	CB33	Tukum (Chandrapur)	Adjacent (East) to Tadoba road in garden, near Petrol pump.	19°58'27.68"	79°18'14.23"	212	9.85	3.3	0.77	7.25	8.25	9.10	agriculture	basalt
18	CB35 A	Mamla	C of village	20°2'29"	79°22'5"	189	9.82	3.24	72	4.15	6.2	8.60	agriculture	basalt
19	CB-55	DEWADA	EAST 100M FROM NIMKAR DAILY NEEDS ADJACENT TO THE ROAD.	19°56'34.87"	79°15'17.28"	215	11.5	4.8	0.2	3.5	4.6	9.49	domestic	basalt

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
20	CB-56	WANDHARI	NORTH OF VILLAGE, IN THE FORMIING FIELD.	19°58'23.36"	79°12'57.95"	210	8.9	4.2	0.4	3.5	4.9	7.84	agriculture	limestone
21	1 CP	Chandrapur	Infront of Telephone exchange LIC office	19°57'48.74"	79°18'8.45"	223	8.41	2.73	0.61	3.65	6.95	7.25	agriculture	laterite
22	5 CP	LOHARA	Adjacent to Lohara Mul road Near Naka Bungalow	19°59'16.4"	79°21'40.41"	215	8.2	2.29	0.61	5.45	7.7	7.95	agriculture	basalt

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
23	9 CP	LOHARA DEPOT	Adjacent to Lohara Mul road Infront of Lohara Bamboo dept.	19°59'42.93"	79°23'13.3"	171	16.25	1.19	0.61	9.75	10.25	13.41	agriculture	basalt
24	CL 14	MANNA	Inside village by side of house Bapuji Motghare	19°54'22.62"	79°17'53.69"	230	11.17	3.51	0.45	1.85	7.35	10.15	agriculture	laterite
25	CL 15	BARA MARDA	At the junction of Marda Pipri road	19°54'53.58"	79°14'49.98"	231	9.7	3.67	0.32	3.65	6.35	8.19	agriculture	laterite
26	CL 2	JUNANA	Forest colony	19°55'9.4"	79°23'1.99"	185	14.4	1.26	0.7	8.15	9.25	11.42	agriculture	limestone

Sr. NO	Well No.	Name of village	Well location	LAT	LONG	R.L. in m	Well dia (m)	Well depth (m bmp)	Height of measuring point (m agl)	Depth to water level (m bgl)			Utility / Owner	Formation Tapped
										Dec- 22	JAN- FEB- 23	May-23		
27	PZ - 1	MAHAKALI	Filter plant	19°56'48"	79°14'55"	198	8.45	2.91	0.71	4.15	6.95	PIEZOMETER IS NOT SITUATED WELL MONITORING ARE DONE	agriculture	laterite

ANALYSIS REPORT



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TC 5458

Test Report

ULR No.- TC545823000001925F
Test Report No.: ALPL/18072023/08- 46

Dated 18.07.2023

Page 1 of 1

Test Report No.: ALPL/18072023/08-46		Dated 18.07.2023		Page No. 1				
Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S.), 440001		Sample Inward No.		ALPL/24062023/W-1/54-46				
		Inward Date		24.06.2023				
		Reference		-				
		Analysis Start		24.06.2023				
				Analysis End		14.07.2023		
				Sample Category		Water		
Sample Name		Sample Particulars/Details			Purpose of analysis		Quantity Received	
Ground Water		Ground Water (Sample ID: 1 CP): (Chandrapur Area)			Drinking		1 Ltr	
Sample Collected By		Sampling Date		19.05.2023		Sampling Location		
Mr. Akash Kirnake		Sampling Time		Not Mentioned		Chandrapur		
Tests Required: Chemical Testing.								
TEST RESULTS								

TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Chemical Testing 1. Water					
1	Alkalinity	mg/l	IS 3025 (Part 23) : 1986	200	600	83.21
2	Colour	Hazen	IS 3025 (Part 4) : 2021	5	15	1
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	250	1000	35.73
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	25.92
5	Residual Chlorine	mg/l	IS 3025 (Part 26) : 2021	0.2	1	BDL (DL- 0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.12
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	8.76
8	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition: 2017	45	No relaxation	BDL (DL- 2)
9	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	8.09
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	3.86
12	Total dissolved solids	mg/l	IS 3025 (Part 16) : 2023	500	2000	244
13	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.3
14	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	100.5
II	Chemical Testing 2. Residues In Water					
15	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
16	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL (DL - 0.01)
17	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
18	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
20	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.01
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
22	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
23	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
24	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
25	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
26	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only. The submitted Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

per
Mangesh Fande
Technical Manager

Snehal Raut
Deputy Technical Manager

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

Authorized Signatory

Chiranjay Garway
Deputy Quality Manager

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TC 5458

Test Report

ULR No.- TC545823000001925F

Test Report No.: ALPL/18072023/08- 1

Dated 18.07.2023

Page 1 of 1

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		Sample Inward No. ALPL/24062023/W-1/54-1		Analysis Start 24.06.2023	
		Inward Date 24.06.2023		Analysis End 14.07.2023	
		Reference -			
Sample Name Ground Water	Sample Particulars/Details Ground Water (Sample ID: CB1); (Chandrapur Area)			Sample Category Water	
Sample Collected By Mr. Akash Kirmake		Sampling Date 15.05.2023		Purpose of analysis Drinking	Quantity Received 1 Ltr
		Sampling Time Not Mentioned		Sampling Location Bhatadi	
Tests Required: Chemical Testing.					

TEST RESULTS

TEST RESULTS

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Chemical Testing 1. Water					
1	Alkalinity	mg/l	IS 3025 (Part 23) : 1986	200	600	83.21
2	Colour	Hazen	IS 3025 (Part 4) : 2021	5	15	1
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	250	1000	42.11
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	26.88
5	Residual Chlorine	mg/l	IS 3025 (Part 26) : 2021	0.2	1	BDL(DL- 0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.13
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	6.42
8	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition: 2017	45	No relaxation	BDL(DL- 2)
9	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	8.13
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	6.34
12	Total dissolved solids	mg/l	IS 3025 (Part 16) : 2023	500	2000	226
13	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.2
14	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	93.6
II	Chemical Testing 2. Residues In Water					
15	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
16	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL(DL- 0.01)
17	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
18	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
20	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	BDL(DL- 0.01)
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
22	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
23	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
24	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
25	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
26	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)

NOTE: ● Please see watermark “Original Test Report” to confirm the authenticity of this report. ● Results shall be confirmed by the client.

● Test report shall be valid only for the purpose mentioned above.

NOTE: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● BDL- Below detection limit. ● DL- DL Indicates detection limit of instrument /method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only. The submitted Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

For
Mangesh Fande
Technical Manager

Snehal Raut
Deputy Technical Manager

Authorized Signatory

Chiranjay Garway
Deputy Quality Manager

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

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Test Report

ULR No.- TC545823000001925F

Test Report No.: ALPL/18072023/08- 12

Dated 18.07.2023

Page 1 of 1

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S.), 440001		Sample Inward No. ALPL/24062023/W-1/54-12 Inward Date 24.06.2023 Reference -	Analysis Start 24.06.2023 Analysis End 14.07.2023
Sample Name Ground Water	Sample Particulars/Details Ground Water (Sample ID:CB16); (Chandrapur Area)		Sample Category Water
Sample Collected By Mr. Akash Kirmake	Sampling Date 16.05.2023 Sampling Time Not Mentioned	Purpose of analysis Drinking	Quantity Received 1 Ltr
Tests Required: Chemical Testing.		Sampling Location Nagpur	

			TEST RESULTS		Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
S.N.	Test Parameter	Measurement Unit	Test Method	Acceptable Limit	Permissible Limit #		
I	Chemical Testing 1. Water						
1	Alkalinity	mg/l	IS 3025 (Part 23) : 1986				
2	Colour	Hazen	IS 3025 (Part 4) : 2021	200	600	84.78	
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	5	15	1	
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	250	1000	39.56	
5	Residual Chlorine	mg/l	IS 3025 (Part 26) : 2021	75	200	27.84	
6	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	0.2	1	BDL(DL- 0.1)	
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	1.0	1.5	0.15	
8	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition: 2017	30	100	13.44	
9	Odour	-	IS 3025 (Part 5) : 2018	45	No relaxation	BDL(DL- 2)	
10	pH	-	IS 3025 (Part 11) : 2022	Agreeable	Agreeable	Agreeable	
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	6.5 to 8.5	No relaxation	7.75	
12	Total dissolved solids	mg/l	IS 3025 (Part 16) : 2023	200	400	7.23	
13	Turbidity	NTU	IS 3025 (Part 10) : 1984	500	2000	256	
14	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	1	5	0.2	
II	Chemical Testing 2. Residues In Water						
15	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	200	600	124.8	
16	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.01)	
17	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL(DL - 0.01)	
18	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)	
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)	
20	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)	
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	BDL(DL - 0.01)	
22	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)	
23	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)	
24	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.02	No relaxation	BDL (DL - 0.01)	
25	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)	
26	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)	

NOTE: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to alternate source for drinking water. ● Liability of Anacon Labs.

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NOTE: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● BDL- Below detection limit. ● DL- DL Indicates detection limit of instrument /method and shall be considered as 'absent'.

REMARKS: As requested by the client, sample was tested for above parameters only. The submitted Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

 Mangesh Fande
 Technical Manager

Snehal Raut
 Deputy Technical Manager

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

Authorized Signatory

 Chiranjay Garway
 Deputy Quality Manager

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TC 5458

Test Report

ULR No.- TC545823000001925F

Test Report No.: ALPL/18072023/08- 13

Dated 18.07.2023

Page 1 of 1

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		Sample Inward No. ALPL/24062023/W-1/54-13 Inward Date 24.06.2023 Reference -	Analysis Start 24.06.2023 Analysis End 14.07.2023
Sample Name Ground Water	Sample Particulars/Details Ground Water (Sample ID: CB17); (Chandrapur Area)		Sample Category Water
Sample Collected By Mr. Akash Kirmake	Sampling Date 16.05.2023 Sampling Time Not Mentioned	Purpose of analysis Drinking	Quantity Received 1 Ltr
Tests Required: Chemical Testing.		Sampling Location Chak Tirwanja	

TEST RESULTS

Chak Tirwanja						
S.N.	Test Parameter	Measurement Unit	TEST RESULTS			
			Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Chemical Testing 1. Water					
1	Alkalinity	mg/l	IS 3025 (Part 23) : 1986			
2	Colour	Hazen	IS 3025 (Part 4) : 2021	200	600	80.07
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	5	15	1
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	250	1000	28.07
5	Residual Chlorine	mg/l	IS 3025 (Part 26) : 2021	75	200	25.98
6	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	0.2	1	BDL(DL- 0.1)
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	1.0	1.5	0.14
8	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition: 2017	30	100	12.42
9	Odour	-	IS 3025 (Part 5) : 2018	45	No relaxation	BDL(DL- 2)
10	pH	-	IS 3025 (Part 11) : 2022	Agreeable	Agreeable	Agreeable
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	6.5 to 8.5	No relaxation	8.21
12	Total dissolved solids	mg/l	IS 3025 (Part 16) : 2023	200	400	6.39
13	Turbidity	NTU	IS 3025 (Part 10) : 1984	500	2000	323
14	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	1	5	0.1
II	Chemical Testing 2. Residues In Water					
				200	600	116
15	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022			
16	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.01)
17	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL(DL- 0.01)
18	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
20	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.01
22	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
23	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
24	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.02	No relaxation	BDL (DL - 0.01)
25	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
26	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
				5	15	BDL (DL - 0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only. The submitted Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

Authorized Signatory

Mangesh Fande
Technical Manager

Snehal Raut
Deputy Technical Manager

Chiranjay Garway
Deputy Quality Manager

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

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TC 5458

Test Report

ULR No.- TC545823000001925F

Test Report No.: ALPL/18072023/08- 14

Dated 18.07.2023

Page 1 of 1

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		Sample Inward No. ALPL/24062023/W-1/54-14 Inward Date 24.06.2023 Reference -	Analysis Start 24.06.2023 Analysis End 14.07.2023
Sample Name Ground Water	Sample Particulars/Details Ground Water (Sample ID: CB18); (Chandrapur Area)		Sample Category Water
Sample Collected By Mr. Akash Kirmake	Sampling Date 16.05.2023 Sampling Time Not Mentioned	Purpose of analysis Drinking	Quantity Received 1 Ltr
Tests Required: Chemical Testing.		Sampling Location Khairgaon	

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Chemical Testing I. Water					
1	Alkalinity	mg/l	IS 3025 (Part 23) : 1986	200	600	81.64
2	Colour	Hazen	IS 3025 (Part 4) : 2021	5	15	1
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	250	1000	30.62
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	20.16
5	Residual Chlorine	mg/l	IS 3025 (Part 26) : 2021	0.2	1	BDL(DL- 0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.12
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	9.35
8	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition: 2017	45	No relaxation	BDL(DL- 2)
9	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	8.09
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	5.87
12	Total dissolved solids	mg/l	IS 3025 (Part 16) : 2023	500	2000	206
13	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.2
14	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	88.8
II	Chemical Testing 2. Residues In Water					
15	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
16	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL(DL- 0.01)
17	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
18	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
20	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.01
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
22	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
23	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
24	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
25	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
26	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)

NOTE: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to alternate source for drinking water.

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perishable sample(s) shall be disposed off after 30 days and 15 days respectively.

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REMARKS: As requested by the client, sample was tested for above parameters only. The submitted Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

Mangesh Fande
Mangesh Fande
Technical Manager

Snehal Raut
Snehal Raut
Deputy Technical Manager

Authorized Signatory

Chirmay Garway
Chirmay Garway
Deputy Quality Manager

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

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Anacon Laboratories Pvt. Ltd. Nagpur Lab

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TC 5458

Test Report

ULR No.- TC54582300001925F

Test Report No.: ALPL/18072023/08- 15

Dated 18.07.2023

Page 1 of 1

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001		Sample Inward No. ALPL/24062023/W-1/54-15 Inward Date 24.06.2023 Reference -	Analysis Start 24.06.2023 Analysis End 14.07.2023
Sample Name Ground Water	Sample Particulars/Details Ground Water (Sample ID: CB19); (Chandrapur Area)		Sample Category Water
Sample Collected By Mr. Akash Kirnake	Sampling Date 16.05.2023 Sampling Time Not Mentioned	Purpose of analysis Drinking	Quantity Received 1 Ltr
Tests Required: Chemical Testing.		Sampling Location Wichora	

Wichora

TEST RESULTS						
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I Chemical Testing 1. Water						
1	Alkalinity	mg/l	IS 3025 (Part 23) : 1986	200	600	75.36
2	Colour	Hazen	IS 3025 (Part 4) : 2021	5	15	1
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	250	1000	25.52
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	24.96
5	Residual Chlorine	mg/l	IS 3025 (Part 26) : 2021	0.2	1	BDL(DL- 0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.18
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	8.76
8	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition: 2017	45	No relaxation	BDL(DL- 2)
9	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	8.31
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	6.06
12	Total dissolved solids	mg/l	IS 3025 (Part 16) : 2023	500	2000	203
13	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.1
14	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	98.4
II Chemical Testing 2. Residues In Water						
15	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
16	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL(DL- 0.01)
17	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
18	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
20	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.21
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
22	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
23	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
24	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
25	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
26	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)

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REMARKS: As requested by the client, sample was tested for above parameters only. The submitted Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

Mangesh Fande
Mangesh Fande
Technical Manager

Snehal Raut
Snehal Raut
Deputy Technical Manager

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

Authorized Signatory

Chinmay Garway
Chinmay Garway
Deputy Quality Manager

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TC 5458

Test Report

ULR No.- TC545823000001925F

Test Report No.: ALPL/18072023/08- 17

Dated 18.07.2023

Page 1 of 1

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S.), 440001		Sample Inward No. ALPL/24062023/W-1/54-17	Analysis Start 24.06.2023
		Inward Date 24.06.2023	Analysis End 14.07.2023
		Reference -	
Sample Name Ground Water	Sample Particulars/Details Ground Water (Sample ID: CB22); (Chandrapur Area)		Sample Category Water
Sample Collected By Mr. Akash Kirnake	Sampling Date 15.05.2023	Purpose of analysis Drinking	Quantity Received 1 Ltr
Tests Required: Chemical Testing.		Sampling Time Not Mentioned	Sampling Location Yashwant Nagar

Yashwant Nagar						
S.N.	Test Parameter	Measurement Unit	TEST RESULTS			
			Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Chemical Testing 1. Water					
1	Alkalinity					
2	Colour	mg/l	IS 3025 (Part 23) : 1986			
3	Chloride (as Cl)	Hazen	IS 3025 (Part 4) : 2021	200	600	81.64
4	Calcium (as Ca)	mg/l	IS 3025 (Part 32) : 1988	5	15	1
5	Residual Chlorine	mg/l	IS 3025 (Part 40) : 1991	250	1000	43.39
6	Fluoride (as F)	mg/l	IS 3025 (Part 26) : 2021	75	200	30.72
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 60) : 2008	0.2	1	BDL(DL- 0.1)
8	Nitrate (as NO ₃)	mg/l	IS 3025 (Part 46) : 1994	1.0	1.5	0.15
9	Odour	mg/l	APHA method 23rd edition: 2017	30	100	2.33
10	pH	-	IS 3025 (Part 5) : 2018	45	No relaxation	BDL(DL- 2)
11	Sulphate (as SO ₄)	-	IS 3025 (Part 11) : 2022	Agreeable	Agreeable	Agreeable
12	Total dissolved solids	mg/l	IS 3025 (Part 24) : 2022	6.5 to 8.5	No relaxation	7.92
13	Turbidity	mg/l	IS 3025 (Part 16) : 2023	200	400	7.32
14	Total hardness (as CaCO ₃)	NTU	IS 3025 (Part 10) : 1984	500	2000	220
		mg/l	IS 3025 (Part 21) : 2009	1	5	0.2
II	Chemical Testing 2. Residues In Water					
				200	600	86.4
15	Arsenic (as As)					
16	Aluminium (as Al)	mg/l	IS 3025 (Part 37) : 2022			
17	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.01)
18	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL(DL- 0.01)
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
20	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
22	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	BDL(DL- 0.01)
23	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
24	Selenium (as Se)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
25	Total Chromium (as Cr)	mg/l	IS 3025 (Part 56) : 2003	0.02	No relaxation	BDL (DL - 0.01)
26	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
		mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
				5	15	BDL (DL - 0.1)
NOTE: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable standards. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Perishable sample(s) shall be disposed off after 30 days.						

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REMARKS: As requested by the client, sample was tested for above parameters only. The submitted Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.

Verified By

per
Mangesh Fande
Technical Manager

Snehal Raut
Deputy Technical Manager

Authorized Signatory

Chinmay Garway
Deputy Quality Manager

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

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TC 5458

Test Report

ULR No.- TC545823000001925F
Test Report No.: ALPL/18072023/08- 54

Dated 18.07.2023

Page 1 of 1

Issued To : M/s Western Coalfields Limited (WCL) Futala Road, Coal Estate, Civil Lines, Nagpur, WCL HQ (M.S), 440001	Sample Inward No.	ALPL/24062023/W-1/54-54	Analysis Start	24.06.2023
	Inward Date	24.06.2023	Analysis End	14.07.2023
	Reference	-	Sample Category	Water
Sample Name	Sample Particulars/Details		Purpose of analysis	Quantity Received
Ground Water	Ground Water (Sample ID: PZ- 1); (Chandrapur Area)		Drinking	1 Ltr
Sample Collected By	Sampling Date	Sampling Time	Sampling Location	
Mr. Akash Kirnake	20.05.2023	Not Mentioned	Mahakali	

Tests Required: Chemical Testing.

TEST RESULTS

Tests Required: Chemical Testing			TEST RESULTS			
S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
I	Chemical Testing 1. Water					78.5
1	Alkalinity	mg/l	IS 3025 (Part 23) : 1986	200	600	
2	Colour	Hazen	IS 3025 (Part 4) : 2021	5	15	1
3	Chloride (as Cl)	mg/l	IS 3025 (Part 32) :1988	250	1000	28.07
4	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	21.2
5	Residual Chlorine	mg/l	IS 3025 (Part 26) : 2021	0.2	1	BDL(DL- 0.1)
6	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.17
7	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	8.76
8	Nitrate (as NO ₃)	mg/l	APHA method 23rd edition: 2017	45	No relaxation	BDL(DL- 2)
9	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
10	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	8.12
11	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	5.32
12	Total dissolved solids	mg/l	IS 3025 (Part 16) : 2023	500	2000	202
13	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.3
14	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	88.8
II	Chemical Testing 2. Residues In Water					
15	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
16	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL(DL- 0.01)
17	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
18	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
19	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
20	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	BDL(DL- 0.01)
21	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
22	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
23	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
24	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
25	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
26	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)

Validity of this report: Results shall be referred to tested sample(s) and applicable to tested parameters only.

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Authorized Signatory

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Mangesh Fande
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