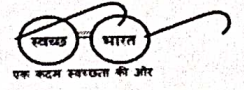




सेंट्रल कोलफील्ड्स लिमिटेड  
(भारत सरकार का एक उपक्रम)  
CENTRAL COALFIELDS LIMITED  
(Govt. of India Undertaking)  
*A Miniratna Cat-1 Company*



Office of the General Manager, Dhori Area.  
P.O.- Dhori, Distt – Bokaro.- 825102

Ref. No.- GM(D)/Env. /Six Monthly Report/2022-23/07

Dated: - 30.05.2023

To,  
The Director (S)  
Ministry of Environment & Forest  
Integrated Regional Office  
2<sup>nd</sup> Floor, HQ-Jharkhand State Housing Board  
Harmu Chowk, Ranchi, Jharkhand-834002  
Tel: 0651- 2410002, 2410007;  
Email: ro.ranchi-mef@gov.in

Sub: Dhori (K) UGP- Half yearly EC compliance reports on implementation of conditions stipulated in Environmental Clearances for the period from October - 2022 to March -2023.

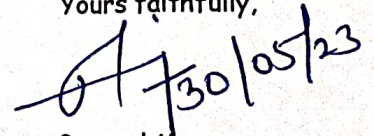
Dear Sir,

Sl No	Name of mine	Environment Clearance No & Date
1	Dhori (K) UGP	Combined EC for Dhori OC + Dhori Khas UG & NSD UG vide no :J-11015/508/2008 IA.II(M) Dated 03.05.2012 For a combined peak capacity of 1.282 MTPA

Enclosed please find herewith the Half yearly (Six monthly) compliance report on implementation of conditions of Environmental Clearance of Dhori (K) UGP Dhori Area of CCL for the period from October - 2022 to March -2023, duly signed by project proponent.

With regards,

Yours faithfully,

  
General Manager  
Dhori Area

Copy to :

1. Regional Directorates, CPCB, Zonal office, Southern Conclave, Kolkata.
2. Member Secretary , JSPCB, TA division Building, HEC, Dhurwa, Ranchi.
3. Regional Officer, JSPCB, HIG-1, Housing Colony, Dhanbad.
4. The HOD (Env & Forest) ,CCL, HQ, Ranchi.
5. The project Officer - Dhori(K) UGP.
6. The Area Nodal officer (Env), Dhori Area.

**CENTRAL COALFIELDS LIMITED**  
(A Mini Ratna Company)  
**SIX MONTHLY COMPLIANCE REPORT**  
**EMP CLEARANCE**  
**[ J-11015/508/2008-IA. II(M) ]**

**for the period October 2022 – March 2023**




**Dhori (Khas) UG**

**(DHORI GROUP OF 3 MINES - DHORI AREA)**

**Status of compliance of the terms and conditions given in the Environmental clearance letter No. J-11015/508/2008- IA. II(M) dt. 03.05.2011 issued by MOEF, Govt. of India New Delhi for Dhori Group of Mines (1.282 MTPA in 918.33 ha) for the period from – October 2022 to March -2023.**

<b>A. SPECIFIC CONDITIONS</b>																						
<b>Sl.No</b>	<b>Condition</b>	<b>Status</b>																				
(i)	There shall be no expansion in production beyond that for which environmental clearance has been granted.	EC for Dhori Group of 3 Mines is for 1.282 MTPA (Peak) has been granted by MOEF. The details are as follows: <table border="1" data-bbox="743 514 1458 835"> <thead> <tr> <th rowspan="2">Name of Mine</th> <th rowspan="2">ML Area (Ha)</th> <th colspan="2">Production Capacity (MTPA)</th> </tr> <tr> <th>Normal</th> <th>Peak</th> </tr> </thead> <tbody> <tr> <td>Dhori OCP</td> <td>251.72</td> <td>0.60</td> <td>1.00</td> </tr> <tr> <td>NSD UG</td> <td>456.75</td> <td>0.08</td> <td>0.092</td> </tr> <tr> <td><b>Dhori UG (K)</b></td> <td><b>209.86</b></td> <td><b>0.166</b></td> <td><b>0.19</b></td> </tr> </tbody> </table>			Name of Mine	ML Area (Ha)	Production Capacity (MTPA)		Normal	Peak	Dhori OCP	251.72	0.60	1.00	NSD UG	456.75	0.08	0.092	<b>Dhori UG (K)</b>	<b>209.86</b>	<b>0.166</b>	<b>0.19</b>
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(ii)	Mining shall be carried out as per statute from the streams /nallahs flowing along the lease boundary. A safety barrier of a minimum 60 m with shall be maintained along the nallahs below which no depillaring shall be carried out.	Mining is being carried out as per approved EMP and the Project Report. There is no diversion of any nallah along the lease boundary																				
(iii)	Topsoil, if, any, generated in the balance life of Dhori OCP shall be stacked properly with proper slope at the earmarked topsoil dump of 36.30 ha and shall not kept active and shall be used within a year of excavation for reclamation and development of green belt and for reclamation.	This is an operating Under Ground Mine. Hence Not Applicable.																				
(iv)	OB generated from Dhori OCP shall be stored in earmarked external ob dump site. The ultimate slope of the dumps shall not exceed 28 monitoring and management of reclaimed dumpsites shall continue until the vegetation becomes self- sustaining. Compliance status shall be submitted to the ministry of Environment & forest and its regional office located at Bhubaneswar on yearly basic.	This is an operating Under Ground Mine. Hence Not Applicable.																				
(v)	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil OB dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted and maintained properly garland drains (size, gradient and length) and sump capacity rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow	This is an operating Under Ground Mine. Hence Not Applicable.																				

	proper setting of silt material.	
(vi)	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.	This is an operating Under Ground Mine. Hence Not Applicable.
(vii)	Water sprinkling system (mist spray type) shall be provided to check fugitive emission from conveyor system haulage roads transfer points etc.	Arrangement for proper sprinkling has been made to check fugitive emission from conveyor system etc.
(viii)	Drills shall be wet operated.	Complied Wet Drilling is carried out in drilling operations.
(ix)	Controlled blasting shall practice only during day time with use of delay detonators. The mitigative measures for control of ground vibrations and boulders shall be implemented.	This is an operating Under Ground Mine. Hence Not Applicable.
(x)	Area brought under afforestation from the three mines shall not be less than 393.78 ha which includes reclaimed area (255.760 green belt (138.02) by plating native species in consultation with local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.	-In the year 2004, Total 23500 Nos of trees/ Afforestation is done by planting of native species in consultation with the DFO in an area of 9.5 Ha in NSD UG mine. -In FY 2021-22, Approx 26,475 Nos of plants in the area of 10.59 Ha.in Dhori Khas UG Mine has been done by Forest department. (Photographs Enclosed). -In FY 2022 Monsoon plantation, Dhori khas UG near Sharda colony & CISF Ground approximately length 1240 mt. & 825 plants Avenue plantation has been done (Photographs Enclosed).
		



**Plantation at Dhori Khas UG Mine**



**Avenue plantation Monsoon 2022 near Sarda Colony & CISF Ground Dhori K UG**

(xi)	No groundwater shall be used for the mining activities. Additional water required if, any, shall be met from mine water or by recycling/ reuse of the water from the exiting activities and from rainwater harvesting measures. The project authorities shall meet water requirement of nearby village (s) in case the village wells go dry due to dewatering of mine.	No groundwater (bore well) is being used for mining operations.
(xii)	Regular monitoring of groundwater level and quality shall be carried out establishing network of existing wells and construction of new piezometers. The monitoring for quality shall be done four time a year in pre-monsoon (May) monsoon (August) post-monsoon month of May. Data thus collected shall be submitted to the ministry of Environment & forests and to the Central pollution control Board /SPCB quarterly within one month of monitoring Rainwater harvesting measures shall be undertaken in case of monitoring water table indicate a declining trend.	Ground water monitoring of level and quality is being carried out by CMPDIL. The Monitoring of well water level (approx. 10 ft) is being done according to schedule.



**Piezometric Well near Dhori Khas (UG) Mine**

(xiii)	ETP shall also be provided for workshop and CHP Effluents shall be treated to confirm to prescribed standards as in case of discharge into any water course outside the lease. The quality of the water discharge shall be monitored at the outlet points and proper records maintained thereof and uploaded regularly on the company website.	This is an operating Under Ground Mine. Hence Not Applicable.
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(xiv)	<p>A detailed plan for CSR with specific budgetary allocation (capital and revenue) for various skill development and alternate livelihood programmes and scheme shall be implemented and the impacts of activities under CSR monitored based on the scientific methodology. An amount of Rs 5 per ton of coal produced shall be utilized for CSR activities for the with budgetary provision for the village –wise various activities and expenditure there on shall be uploaded on the company website every year.</p>	<p>CSR scheme has been implemented. The expenditure is being done as per the provisions.</p> <table border="1" data-bbox="857 191 1425 632"> <thead> <tr> <th>Year</th> <th>Amount Spent (In Rs Lakhs) on CSR</th> </tr> </thead> <tbody> <tr> <td>2014-15</td> <td>373.54</td> </tr> <tr> <td>2015-16</td> <td>131.34</td> </tr> <tr> <td>2016-17</td> <td>33.24</td> </tr> <tr> <td>2017-18</td> <td>37.80</td> </tr> <tr> <td>2018-19</td> <td>43.57</td> </tr> <tr> <td>2019-20</td> <td>61.42</td> </tr> <tr> <td>2020-21</td> <td>105.00</td> </tr> <tr> <td>2021-22</td> <td>38.49</td> </tr> <tr> <td>2022-23</td> <td>105.19</td> </tr> </tbody> </table>	Year	Amount Spent (In Rs Lakhs) on CSR	2014-15	373.54	2015-16	131.34	2016-17	33.24	2017-18	37.80	2018-19	43.57	2019-20	61.42	2020-21	105.00	2021-22	38.49	2022-23	105.19
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(xv)	<p>For monitoring land use pattern and for the post mining land use, a time series of land use maps based on the satellite imagery (on a scale of 1:5000) of the core zone and the buffer zone any one particular season which is consistent in the time series) and the report submitted to MOEF and it's the regional office at the Bhubaneswar.</p>	<p>This is an operating Under Ground Mine. Hence Not Applicable.</p>																				
(xvi)	<p>A final mine closure plan along with the plan for habitat Restoration and with details of corpus fund shall be submitted to the ministry of Environmental &amp; forest for approval 5 years in advance of final mine closure for approval. The specific selected for habitat Restoration for post-mining land shall include a specific plan for development of agro-forestry using a mix of native species found in the study area.</p>	<p>The final Mine closure plan has been already submitted to Ministry.</p>																				
(xvii)	<p>Corporate Environment Responsibility:</p> <p>a). The company shall have a well laid down Environment policy approved by the Board of Directors.</p> <p>b). The Environment policy shall prescribe for standard operating process / procedures to bring into the focus any infringements / deviation /violation of the Environmental or forest norms / condition.</p> <p>c). The hierarchical system or administrative order of the company to the deal with environmental issues and for using ensuring compliance with the environmental clearance condition shall be furnished.</p> <p>d). To have proper checks and balance the company shall have well laid down system of reporting of non- compliance /violations of environmental norms to the Board of Directors of the company and /or shareholders or stakeholders at large.</p>	<p>Being Complied.</p>																				



<b>B. GENERAL CONDITION</b>		
Sl.No.	Condition	Status
(i)	No change in technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.	No change is being done in mining technology and scope of working.
(ii)	No change in the calendar plan including quantum of mineral coal and waste being produced shall be made.	No change is being done in the calendar plan including excavation, quantum of mineral coal and waste.
(iii)	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring PM10, PM2.5, SOX AND NOX Location of the stations shall be decided based on the metrological data topographical features and environmentally and ecologically sensitive targets in consultation with the state pollution control Board. Monitoring of heavy metals such as hg AS Ni Cd Cr in particulates shall be carried out at least once in six months.	Air quality monitoring station has been established at PO office, Work shop, Chapri Guest house and Amlo Village for monitoring various parameters like SPM, RPM, SO2, NOx etc. The results of Air Quality report for the period from QE December -22 to March -23 are enclosed.
(iv)	Data on ambient air quality (PM10, PM2.5, SOX and heavy metals such as Hg, As, Ni, Cr etc) and other monitoring data shall be regularly submitted to the ministry including its Regional office at Bhubaneshwar and to the state pollution control Board in six months Random verification of samples through analysis from independent laboratories recognized under the EP Rules 1986,shall be furnished as part of the compliance report.	Quarterly monitoring reports are regularly submitted to MOEF Regional office and JSPCB, Ranchi. Ambient air quality (PM10, PM2.5, SOX and heavy metals such as As, Ni, Cr, Pb, Cu, Cd etc) monitoring being done regularly by CMPDIL (NABL Accredited laboratory) and latest report enclosed.
(v)	Adequate measures shall be taken for control of noise levels below 85 dba in the work environment workers engaged in the blasting and drilling operation operation of HEMM etc shall be provided with ear plugs/ muffs.	Adequate measures are being taken. Noise levels are regularly monitored and kept below 85 dBA in the work environment. Noise Quality report for QE December -22 to March-23 are enclosed.
(vi)	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected and treated so as to conform to the standards including for heavy metals before discharge prescribed under GSR 422(e) DATED 19 <sup>TH</sup> May 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time. oil and grease trap shall be installed before discharge of workshop effluents.	This is an operating Under Ground Mine. Hence Not Applicable.
(vii)	Vehicular emission shall be kept under control and regularly monitored vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.	This is an operating Under Ground Mine. Hence Not Applicable.


(viii)	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the state pollution control Board and data got analyzed through a laboratory recognized under EP Rules ,1986	Monitoring of Environmental quality is regularly done through CMPDI who are having recognized NABL Accredited laboratory.																							
(ix)	Personnel working in dusty area shall wear protective respiratory devices and they shall also be provided with adequate trailing and information on safety and health aspects. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contraction due to exposure to dust and to take corrective measure, if needed.	Persons working in dusty areas have been provided with <ul style="list-style-type: none"> <li>• Personal protective items like dust mask, ear plugs.</li> <li>• Initial and periodic medical examination of employees is also carried out on regular basis every year.</li> </ul>																							
(x)	A separate Environmental Management cell with suitable qualified personnel shall be set up under the control of senior Executive who will report directly to the head of the company.	An Environment Management Cell has been established in this project, headed by Project Officer, DHORI K (UG) who is assisted by a team of following personnel: 1.Colliery Manager, DHORI K (UG) 2.Project Engineer (Civil), DHORI K (UG) 3. Project Nodal officer (Env.), DHORI K (UG). and Area Nodal officer (Env.), Dhori Area who reports to the General Manager- Dhori Area, Head of the Area.																							
(xi)	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose year-wise expenditure shall be reported to this ministry and its Regional office at Bhubaneshwar .	The funds earmarked for environmental protection measures are not being diverted for other purpose. <table border="1" data-bbox="764 1146 1455 1703"> <thead> <tr> <th data-bbox="773 1146 1057 1241" rowspan="2">Activity</th> <th data-bbox="1065 1146 1203 1178">Dhori OCP</th> <th data-bbox="1211 1146 1446 1178"><b>Dhori Khas (UG)</b></th> </tr> <tr> <th data-bbox="1065 1188 1203 1241">EMP Cost (Lakhs)</th> <th data-bbox="1211 1188 1446 1241">EMP Cost (Lakhs)</th> </tr> </thead> <tbody> <tr> <td data-bbox="773 1251 1057 1335">Cost of restoration (Reclamation of mined out area)</td> <td data-bbox="1065 1251 1203 1283">200.40</td> <td data-bbox="1211 1251 1446 1283">22.60</td> </tr> <tr> <td data-bbox="773 1346 1057 1472">Cost of anti pollution measures in mine &amp; ind. Areas and green belt development</td> <td data-bbox="1065 1346 1203 1377">100.00</td> <td data-bbox="1211 1346 1446 1377">25.00</td> </tr> <tr> <td data-bbox="773 1482 1057 1566">Cost of anti pollution measures in town ship and aboriculture</td> <td data-bbox="1065 1482 1203 1514">30.00</td> <td data-bbox="1211 1482 1446 1514">27.00</td> </tr> <tr> <td data-bbox="773 1577 1057 1629">Other provision like RWH</td> <td data-bbox="1065 1577 1203 1608">10.00</td> <td data-bbox="1211 1577 1446 1608">5.00</td> </tr> <tr> <td data-bbox="773 1640 1057 1671">Mine closure plan</td> <td data-bbox="1065 1640 1203 1671">1510.32</td> <td data-bbox="1211 1640 1446 1671">209.33</td> </tr> <tr> <td data-bbox="773 1682 1057 1703">Total</td> <td data-bbox="1065 1682 1203 1703">1850.72</td> <td data-bbox="1211 1682 1446 1703">288.93</td> </tr> </tbody> </table>	Activity	Dhori OCP	<b>Dhori Khas (UG)</b>	EMP Cost (Lakhs)	EMP Cost (Lakhs)	Cost of restoration (Reclamation of mined out area)	200.40	22.60	Cost of anti pollution measures in mine & ind. Areas and green belt development	100.00	25.00	Cost of anti pollution measures in town ship and aboriculture	30.00	27.00	Other provision like RWH	10.00	5.00	Mine closure plan	1510.32	209.33	Total	1850.72	288.93
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(xii)	The project authorities shall advertise at least in two local newspaper widely circulated around the project one of which shall be in the vernacular language of the locality accorded environmental clearance and copy of the clearance letter is available with the state pollution control Board and may also be	Copy of Advt. published in Dainik Jagran News letter is enclosed.																							

seen at the website of the ministry of Environment & Forest at <http://envfor.nic.in>

**दानक जागरण | 7**

## दो दुकान में चोरी

बोकारो धर्मल : बोकारो धर्मल थाना क्षेत्र अंतर्गत सीसीएल गोविंदपुर कॉलोनी में सोमवार की रात दो दुकान का शटर तोड़कर चोरी की गयी। इस संबंध में त्रिलोकी राशन दुकान के मालिक त्रिलोकी प्रसाद ने बताया कि मंगलवार को सुबह जब वे दुकान पहुँचे तो देखा कि ताला टूटा पड़ा है। चोरों ने इस दुकान के बाद सड़क किनारे स्थित शिवा मेडिकल हॉल को निशाना बनाया। स्थानीय पुलिस ने दोनों दुकानों में जाकर घटना की जानकारी ली।



दुकान का शटर तोड़ा गया

**सेन्ट्रल कोलफील्ड्स लिमिटेड**

**सूचना**

चोरी प्रक्षेत्र के निम्न तीन परियोजनाओं को भारत सरकार के पर्यावरण एवं वन मंत्रालय (एमओइएफ) नई दिल्ली द्वारा पर्यावरणीय स्वीकृति प्रदान की गई है।

क्र. सं.	परियोजना का नाम	पत्रांक एवं दिनांक
1.	तारपी खुली खदान ( 1.00 MTPA in 258.70 ha )	J-11015/219/2007-IA.II(M) Dt.-20.04.2010
2.	अमली खुली खदान का विस्तारीकरण ( 1.50 to 2.50 MTPA with a peak production Capacity of 3.00 MTPA in an ML Area of 247.59 ha )	J-11015/35/2007-IA.II(M) Dt.-30.09.2010.
3.	चोरी समूह की तीन परियोजना, चोरी खुली खदान परियोजना, न्यू सलेक्टेड चोरी GP और चोरी खास UGP का संयुक्त उत्पादन क्षमता का 0.846 MTPA (Nominal) and a peak Capacity of 1.282 MTPA in a combined ML area of 918.33 ha.	J-11015/508/2008-IA.II(M) Dt.-03.05.2011.

पर्यावरणीय स्वीकृति को प्रति झारखण्ड राज्य प्रदूषण नियंत्रण बोर्ड में उपलब्ध है तथा पर्यावरणीय स्वीकृति को देख सकते हैं MOEF के वेबसाइट पर <http://envfor.nic.in> देखा जा सकता है।

(xiii) A copy of the environmental clearance letter shall be marked to concerned panchayat/zila parishad , municipal corporation or, urban local Body and local NGO, if ,any from whom any suggestion /representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company website.

Complied.

(xiv) A Copy of clearance letter shall be sent to Regional office of the MOEF, the respective Zonal offices of the CPCB and the SPCB. The concerned State pollution control Board shall display a copy of the clearance letter on their website. Copies shall also be displayed at District Industry centre and collector's office/Tehsildar's office for 30 days. A copy of the clearance letter may also be seen at the website of the Ministry of Environment & Forest at <http://envfor.nic.in>.

Complied

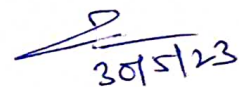
(xv) The Project authority shall advertise at least in two local newspapers widely circulated around the Project, one of which shall be in the vernacular language of the locally concerned within seven days of the clearance letter informing that the Project has been accorded environment clearance.

Copy of Advt. published in News letter attached above.

(xvi)	<p>A copy of the EC letter shall be uploaded on the company's website. The compliance status of environmental clearance conditions shall also be uploaded by the project authorities in their web site so as to bring the same in the Public domain and regularly updated at least once every six months. The monitoring data of environmental quality parameters such as air (SPM, RPM, NOx and Sox), water, noise and soil or critical sectoral parameters indicated for the project shall also be displayed at the entrance of the project premises and mine office and in corporate office and also regularly uploaded on the company's website.</p>	<p>EC copy available in company's website.  <a href="http://www.centralcoalfields.in/sutbs/envr_clrnce.php">http://www.centralcoalfields.in/sutbs/envr_clrnce.php</a></p>
(xvii)	<p>The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitoring data (both by hard copies and by e-mail) to the respective Regional office of the MoEF, the respective Zonal offices of CPCB and the SPCB.</p>	<p>The last report for the period up to September 2022 has already been submitted to MOEF.</p>
(xviii)	<p>The Regional office of this Ministry located at Bhubhneswar shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to office(s) of the Regional office by furnishing the requisite data /information /monitoring reports.</p>	<p>Agreed.</p>
	<p>(xix) The environmental statement for each financial year ending 31st March in Form-V is mandated to be submitted by the project proponent tot the concerned State pollution control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website.</p>	<p>Complied.  <a href="http://www.centralcoalfields.in/sutbs/envr_stmnt.php">http://www.centralcoalfields.in/sutbs/envr_stmnt.php</a></p>
3	<p>The ministry or any other competent authority may stipulate any further condition for Environmental protection.</p>	<p>Agreed.</p>
4	<p>Failure to comply any of the conditions above may result in withdrawal of the clearance and attract the provisions of the Environment (Protection) Act, 1986.</p>	<p>Agreed.</p>

The above conditions will be enforced inter-alia, under the provisions of the Water (prevention & control of pollution) Act, 1974, the Air (Prevention & control of pollution) Act, 1981, the Environment (Protection) Act, 1986 and the public Liability Insurance Act, 1991 along with their amendments and Rules. The proponent shall ensure to provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.

Noted.



30/5/23

Project officer  
(Dhori khas UG)

**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI****TEST REPORT**

12/22 Test Report no. 1600	Job No. 094322160	Year	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	December-22
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Sarda Colony

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in µg/m <sup>3</sup> )	CO (in mg/m <sup>3</sup> )	Ozone (in µg/m <sup>3</sup> )	
Oct '22 1st FN	09/10/22	09/10/22	09/10/22	<20	0.677	<19.62	E to W
Oct '22 2 <sup>nd</sup> FN	24/10/22	24/10/22	24/10/22	<20	0.611	<19.62	E to W
Nov '22 3 <sup>rd</sup> FN	09/11/22	09/11/22	09/11/22	<20	0.697	<19.62	E to W
Nov. '22 4 <sup>th</sup> FN	18/11/22	18/11/22	18/11/22	<20	0.691	<19.62	E to W
Dec. '22 5 <sup>th</sup> FN	09/12/22	09/12/22	09/12/22	<20	0.683	<19.62	E to W
Dec. '22 6 <sup>th</sup> FN	22/12/22	22/12/22	22/12/22	<20	0.704	<19.62	E to W

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI****TEST REPORT**

12/22 Test Report no. 1601	Job No. 094322160	Year	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	December-22
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Makuli Colony

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in µg/m <sup>3</sup> )	CO (in mg/m <sup>3</sup> )	Ozone (in µg/m <sup>3</sup> )	
Oct '22 1st FN	10/10/22	10/10/22	10/10/22	<20	0.717	<19.62	E to W
Oct '22 2 <sup>nd</sup> FN	25/10/22	25/10/22	25/10/22	<20	0.685	<19.62	E to W
Nov '22 3 <sup>rd</sup> FN	09/11/22	09/11/22	09/11/22	<20	0.676	<19.62	E to W
Nov. '22 4 <sup>th</sup> FN	18/11/22	18/11/22	18/11/22	<20	0.654	<19.62	E to W
Dec. '22 5 <sup>th</sup> FN	09/12/22	09/12/22	09/12/22	<20	0.641	<19.62	E to W
Dec. '22 6 <sup>th</sup> FN	23/12/22	23/12/22	23/12/22	<20	0.658	<19.62	W to E

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI****TEST REPORT**

12/22 Test Report no. 1602	Job No. 094322160	Year	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	December-22
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Pichari Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in µg/m <sup>3</sup> )	CO (in mg/m <sup>3</sup> )	Ozone (in µg/m <sup>3</sup> )	
Oct '22 1st FN	10/10/22	10/10/22	10/10/22	<20	0.719	<19.62	E to W
Oct '22 2 <sup>nd</sup> FN	25/10/22	25/10/22	25/10/22	<20	0.789	<19.62	E to W
Nov '22 3 <sup>rd</sup> FN	09/11/22	09/11/22	09/11/22	<20	0.771	<19.62	E to W
Nov. '22 4 <sup>th</sup> FN	18/11/22	18/11/22	18/11/22	<20	0.701	<19.62	E to W
Dec. '22 5 <sup>th</sup> FN	09/12/22	09/12/22	09/12/22	<20	0.723	<19.62	E to W
Dec. '22 6 <sup>th</sup> FN	23/12/22	23/12/22	23/12/22	<20	0.788	<19.62	W to E

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI****TEST REPORT**

12/22 Test Report no. 1603	Job No. 094322160	Year	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	December-22
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Central Colony (filter plant)

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in µg/m <sup>3</sup> )	CO (in mg/m <sup>3</sup> )	Ozone (in µg/m <sup>3</sup> )	
Oct '22 1st FN	10/10/22	10/10/22	10/10/22	<20	0.524	<19.62	E to W
Oct '22 2 <sup>nd</sup> FN	25/10/22	25/10/22	25/10/22	<20	0.502	<19.62	E to W
Nov '22 3 <sup>rd</sup> FN	10/11/22	10/11/22	10/11/22	<20	0.579	<19.62	E to W
Nov. '22 4 <sup>th</sup> FN	19/11/22	19/11/22	19/11/22	<20	0.544	<19.62	E to W
Dec. '22 5 <sup>th</sup> FN	10/12/22	10/12/22	10/12/22	<20	0.596	<19.62	W to E
Dec. '22 6 <sup>th</sup> FN	23/12/22	23/12/22	23/12/22	<20	0.571	<19.62	E to W

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

12/22 Test Report no. 1600	Job No. 094322160	Year	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	March-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori **Project:** Dhori Khas Colliery **Stations:** Sarda Colony

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in $\mu\text{g}/\text{m}^3$ )	CO (in $\text{mg}/\text{m}^3$ )	Ozone (in $\mu\text{g}/\text{m}^3$ )	
Jan.'23 1st FN	08/01/23	08/01/23	08/01/23	<20	0.507	<19.62	E to W
Jan.'23 2nd FN	25/01/23	25/01/23	25/01/23	<20	0.477	<19.62	E to W
Feb.'23 3rd FN	07/02/23	07/02/23	07/02/23	<20	0.498	<19.62	E to W
Feb.'23 4th FN	22/02/23	22/02/23	22/02/23	<20	0.417	<19.62	E to W
March '23 5th FN	09/03/23	09/03/23	09/03/23	<20	0.476	<19.62	E to W
March '23 6th FN	16/03/23	16/03/23	16/03/23	<20	0.425	<19.62	E to W

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

12/22 Test Report no. 1601	Job No. 094322160	Year	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	March-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Makuli Colony

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in $\mu\text{g}/\text{m}^3$ )	CO (in $\text{mg}/\text{m}^3$ )	Ozone (in $\mu\text{g}/\text{m}^3$ )	
Jan.'23 1st FN	9/01/23	9/01/23	9/01/23	<20	0.514	<19.62	E to W
Jan.'23 2nd FN	25/01/23	25/01/23	25/01/23	<20	0.442	<19.62	E to W
Feb.'23 3rd FN	08/02/23	08/02/23	08/02/23	<20	0.534	<19.62	E to W
Feb.'23 4th FN	23/02/23	23/02/23	23/02/23	<20	0.573	<19.62	E to W
March '23 5th FN	09/03/23	09/03/23	09/03/23	<20	0.486	<19.62	E to W
March '23 6th FN	16/03/23	16/03/23	16/03/23	<20	0.473	<19.62	W to E

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

12/22 Test Report no. 1602	Job No. 094322160	Year	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	March-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Pichari Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in $\mu\text{g}/\text{m}^3$ )	CO (in $\text{mg}/\text{m}^3$ )	Ozone (in $\mu\text{g}/\text{m}^3$ )	
Jan.'23 1st FN	9/01/23	9/01/23	9/01/23	<20	0.468	<19.62	E to W
Jan.'23 2nd FN	25/01/23	25/01/23	25/01/23	<20	0.507	<19.62	E to W
Feb.'23 3rd FN	08/02/23	08/02/23	08/02/23	<20	0.553	<19.62	E to W
Feb.'23 4th FN	23/02/23	23/02/23	23/02/23	<20	0.491	<19.62	E to W
March '23 5th FN	09/03/23	09/03/23	09/03/23	<20	0.470	<19.62	E to W
March '23 6th FN	16/03/23	16/03/23	16/03/23	<20	0.497	<19.62	W to E

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

12/22 Test Report no. 1603	Job No. 094322160	Year	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	March-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Central Colony (filter plant)

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in $\mu\text{g}/\text{m}^3$ )	CO (in $\text{mg}/\text{m}^3$ )	Ozone (in $\mu\text{g}/\text{m}^3$ )	
Jan.'23 1st FN	9/01/23	9/01/23	9/01/23	<20	0.476	<19.62	E to W
Jan.'23 2nd FN	26/01/23	26/01/23	26/01/23	<20	0.485	<19.62	E to W
Feb.'23 3rd FN	08/02/23	08/02/23	08/02/23	<20	0.479	<19.62	E to W
Feb.'23 4th FN	23/02/23	23/02/23	23/02/23	<20	0.486	<19.62	E to W
March '23 5th FN	10/03/23	10/03/23	10/03/23	<20	0.532	<19.62	W to E
March '23 6th FN	17/03/23	17/03/23	17/03/23	<20	0.514	<19.62	E to W


**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

 TC - 7470	Lab No. T-2187		
	12/22 Test Report No. Metal/01	Job No. 094322160	2022-23
Type of Sample	Ambient Air	Quarter Ending	Dec'22
Customer	CCL	Date of Receipt of Sample:	17/10/2022
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	05/11/22-23/12/22
Sampling Protocol:	USEPA IO-3.2: 1999, LQR 32		
Remarks & Observation:	All samples placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

<b>Area :</b>	<b>Dhori</b>	<b>Project:</b>	<b>Dhori Khas Colliery</b>
<b>Stations:</b>	1. Sarda Colony 2. Makuli Colony 3. Pichari Village 4. Central Colony (filter plant)	<b>Date of Sampling:</b>	09-10/10/2022 10-11/10/2022 10-11/10/2022 10-11/10/2022

S.No	Test Parameters	Units	Test Result				Method detection Limit	Limit (NAAQS-2011)	Test Method
			1	2	3	4			
Stations:			1	2	3	4			
1	Conc. of As in Air	ng/m <sup>3</sup>	0.68	0.98	0.33	1.22	0.1	6.00	USEPA IO-3.2:1999
2	Conc. of Ni in Air	ng/m <sup>3</sup>	4.41	5.23	4.36	6.17	0.1	20.00	USEPA IO-3.2:1999
3	Conc. of Pb in Air	µg/m <sup>3</sup>	0.021	0.020	0.026	0.028	0.005	1.0	USEPA IO-3.2: 1999
4	Conc. of Cu in Air	ng/m <sup>3</sup>	<0.10	0.16	0.19	0.21	0.1	-	USEPA IO-3.2: 1999
5	Conc. of Cd in Air	ng/m <sup>3</sup>	0.128	0.138	0.067	0.099	0.02	-	USEPA IO-3.2: 1999
6	Conc. of Cr in Air	ng/m <sup>3</sup>	3.25	3.67	1.02	1.67	0.1	-	USEPA IO-3.2: 1999

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## TEST REPORT

<b>03/23 Test Report No. Metal / 01</b>		<b>Job No. 094322160</b>	2022-23
Type of Sample	Ambient Air	Quarter Ending	March '2023
Customer	CCL	Date of Receipt of Sample:	16/01/23
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	20/02/23-24/02/23
Sampling Protocol:	USEPA IO-3.2: 1999, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

### TEST RESULT

The sample has been tested with the following results: -

<b>Area :</b>	<b>Dhori</b>	<b>Project:</b>	<b>Dhori Khas Colliery</b>
<b>Stations:</b>	1. Sarda Colony 2. Makuli Colony 3. Pichari Village 4. Central Colony (filter plant)	<b>Date of Sampling:</b>	08-09/01/2023 09-10/01/2023 09-10/01/2023 09-10/01/2023

S.No	Test Parameters	Units	Test Result				Method detection Limit	Limit (NAAQS-2011)	Test Method
			1	2	3	4			
Stations:			1	2	3	4			
1	Conc. of As in Air	ng/m <sup>3</sup>	0.74	0.87	0.58	1.47	0.1	6.00	USEPA IO-3.2:1999
2	Conc. of Ni in Air	ng/m <sup>3</sup>	4.22	5.47	4.18	5.78	0.1	20.00	USEPA IO-3.2:1999
3	Conc. of Pb in Air	µg/m <sup>3</sup>	0.014	0.017	0.016	0.016	0.005	1.0	USEPA IO-3.2: 1999
4	Conc. of Cu in Air	ng/m <sup>3</sup>	<0.10	<0.10	<0.10	0.18	0.1	-	USEPA IO-3.2: 1999
5	Conc. of Cd in Air	ng/m <sup>3</sup>	<0.02	<0.02	<0.02	0.07	0.02	-	USEPA IO-3.2: 1999
6	Conc. of Cr in Air	ng/m <sup>3</sup>	0.88	0.26	<0.10	0.74	0.1	-	USEPA IO-3.2: 1999
7	Conc. of Hg in Air	ng/m <sup>3</sup>	<0.005	0.005	<0.005	0.005	0.005	-	USEPA IO-3.2: 1999

**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI**

**TEST REPORT**

<b>12/22 Test Report no. 1600</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample	Ambient Air	Quarter Ending	Dec-22
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Sarda Colony

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters ( in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter (PM <sub>10</sub> + >PM <sub>10</sub> )TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM <sub>2.5</sub> )	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>x</sub> )	
<b>Oct-22 1st FN</b>	10/10/22-11/10/22	17-10-2022	17/10/22-20/10/22	212	132	53	< 25	< 6	East Sunny
<b>Oct-22 2nd FN</b>	25/10/22-26/10/22	01-11-2022	01/11/22-07/11/22	168	80	46	< 25	< 6	East Sunny
<b>Nov-22 3rd FN</b>	09/11/22-10/11/22	16-11-2022	16/11/22-18/11/22	184	87	42	< 25	< 6	East Sunny
<b>Nov-22 4th FN</b>	18/11/22-19/11/22	01-12-2022	01/12/22-07/12/22	167	71	50	< 25	< 6	East Sunny
<b>Dec-22 5th FN</b>	09/12/22-10/12/22	16-12-2022	16/12/22-20/12/22	222	89	42	< 25	< 6	East Sunny
<b>Dec-22 6th FN</b>	23/12/22-24/12/22	02-01-2023	02/01/23-05/01/23	150	71	31	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI**

**TEST REPORT**

<b>12/22 Test Report no. 1601</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample	Ambient Air	Quarter Ending	Dec-22
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Makuli Colony

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters ( in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter (PM <sub>10</sub> +>PM <sub>10</sub> )TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM <sub>2.5</sub> )	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>x</sub> )	
<b>Oct-22 1st FN</b>	10/10/22-11/10/22	17-10-2022	17/10/22-20/10/22	109	57	25	< 25	< 6	East Sunny
<b>Oct-22 2nd FN</b>	25/10/22-26/10/22	01-11-2022	01/11/22-07/11/22	116	67	31	< 25	< 6	East Sunny
<b>Nov-22 3rd FN</b>	09/11/22-10/11/22	16-11-2022	16/11/22-18/11/22	210	121	57	< 25	< 6	East Sunny
<b>Nov-22 4th FN</b>	18/11/22-19/11/22	01-12-2022	01/12/22-07/12/22	110	50	26	< 25	< 6	East Sunny
<b>Dec-22 5th FN</b>	09/12/22-10/12/22	16-12-2022	16/12/22-20/12/22	195	73	35	< 25	< 6	East Sunny
<b>Dec-22 6th FN</b>	23/12/22-24/12/22	02-01-2023	02/01/23-05/01/23	209	91	53	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI**

**TEST REPORT**

<b>12/22 Test Report no. 1602</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample	Ambient Air	Quarter Ending	Dec-22
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Pichari Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters (in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter ( $\text{PM}_{10} + >\text{PM}_{10}$ )TPM	Particulate Matter ( $\text{PM}_{10}$ )	Particulate Matter ( $\text{PM}_{2.5}$ )	Sulphur Dioxide ( $\text{SO}_2$ )	Nitrogen Oxides (as $\text{NO}_x$ )	
<b>Oct-22 1st FN</b>	10/10/22-11/10/22	17-10-2022	17/10/22-20/10/22	129	61	31	< 25	< 6	East Sunny
<b>Oct-22 2nd FN</b>	25/10/22-26/10/22	01-11-2022	01/11/22-07/11/22	168	84	43	< 25	< 6	East Sunny
<b>Nov-22 3rd FN</b>	10/11/22-11/11/22	16-11-2022	16/11/22-18/11/22	225	96	54	< 25	< 6	East Sunny
<b>Nov-22 4th FN</b>	19/11/22-20/11/22	01-12-2022	01/12/22-07/12/22	230	88	47	< 25	< 6	East Sunny
<b>Dec-22 5th FN</b>	10/12/22-11/12/22	16-12-2022	16/12/22-20/12/22	205	96	52	< 25	< 6	East Sunny
<b>Dec-22 6th FN</b>	23/12/22-24/12/22	02-01-2023	02/01/23-05/01/23	171	85	38	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI**

**TEST REPORT**

<b>12/22 Test Report no. 1603</b>	<b>Job No. 094322160</b>	<b>Year</b>	FY2022-23
Type of Sample	Ambient Air	Quarter Ending	Dec-22
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Central Colony (filter plant)

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters ( in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter ( $\text{PM}_{10} + >\text{PM}_{10}$ )/TPM	Particulate Matter ( $\text{PM}_{10}$ )	Particulate Matter ( $\text{PM}_{2.5}$ )	Sulphur Dioxide ( $\text{SO}_2$ )	Nitrogen Oxides (as $\text{NO}_x$ )	
<b>Oct-22 1st FN</b>	10/10/22-11/10/22	17-10-2022	17/10/22-20/10/22	184	86	57	< 25	< 6	East Sunny
<b>Oct-22 2nd FN</b>	26/10/22-27/10/22	01-11-2022	01/11/22-07/11/22	137	72	33	< 25	< 6	East Sunny
<b>Nov-22 3rd FN</b>	10/11/22-11/11/22	16-11-2022	16/11/22-18/11/22	110	54	22	< 25	< 6	East Sunny
<b>Nov-22 4th FN</b>	19/11/22-20/11/22	01-12-2022	01/12/22-07/12/22	211	93	57	< 25	< 6	East Sunny
<b>Dec-22 5th FN</b>	10/12/22-11/12/22	16-12-2022	16/12/22-20/12/22	153	80	40	< 25	< 6	East Sunny
<b>Dec-22 6th FN</b>	26/12/22-27/12/22	02-01-2023	02/01/23-05/01/23	225	98	55	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>12/22 Test Report no. 1604</b>	<b>Job No. 094322160</b>	<b>Year</b>	FY2022-23
Type of Sample:	Noise	Quarter Ending	Dec-22
Customer	CCL		
Testing/Sampling Protocol:	<i>'The noise pollution (Regulation and Control), Rules,2000, LQR34</i>		
Remarks:			

**TEST RESULT**

The sample has been tested with the following results: -

**Area :**                      **Dhori**                                      **Project:**                      **Dhori Khas Colliery**

Station Name	Noise Level dB(A) Leq					
	Oct-22 1st FN	Oct-22 2nd FN	Nov-22 3rd FN	Nov-22 4th FN	Dec-22 5th FN	Dec-22 6th FN
	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night
Date of recording	09-10-2022	24-10-2022	09-11-2022	18-11-2022	09-12-2022	22-12-2022
<b>1. Sarda Colony</b>	52.4/50.5	50.2/45.1	50.1/45.1	51.2/46.6	52.2/44.4	51.2/45.1
Date of recording	10-10-2022	25-10-2022	09-11-2022	18-11-2022	09-12-2022	23-12-2022
<b>2. Makuli Colony</b>	52.7/50.3	50.4/44.2	52.1/46.1	51.4/46.9	50.3/43.6	50.1/46.1
Date of recording	10-10-2022	25-10-2022	09-11-2022	18-11-2022	09-12-2022	23-12-2022
<b>3. Pichari Village</b>	52.9/50.6	52.1/47.1	50.1/45.1	49.9/44.7	50.4/42.7	51.1/45.1
Date of recording	10-10-2022	25-10-2022	10-11-2022	19-11-2022	10-12-2022	23-12-2022
<b>4. Central Colony (Filter Plant)</b>	51.9/49.7	50.1/45.1	51.1/46.1	52.1/48.2	52.3/45.2	52.1/47.5

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution (Regulation and Control), Rules,2000		
Time Frame	Limits in dB(A) Leq	
	Day Time 6.00 AM to 10.00 PM	Night Time 10.00 PM to 6.00 AM
Industrial Area	75	70
Commercial Area	65	55
Residential area	55	45
Silence Zone	50	40

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**ENVIRONMENT LABORATORY , CMPDI (HQ) , RANCHI**

**TEST REPORT**

<b>12/22 Test Report no. 1605</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample:	<b>Effluent Water</b>	Quarter Ending	<b>Dec-22</b>
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	<b>MOEF -SCH-VI STANDARDS, Class 'A'. LQR 33</b>		
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Lagoon Discharge

<b>Analysis Results of FN Effluent Water</b>							
Parameters →				<b>COD</b>	<b>O &amp; G</b>	<b>pH value</b>	<b>TSS</b>
<b>Detection Limit</b>				<b>4</b>	<b>2</b>	<b>0.2</b>	<b>10</b>
<b>MOEF -SCH-VI, STANDARDS, Class 'A'</b>				<b>250</b>	<b>10</b>	<b>5.5 to 9.0</b>	<b>100</b>
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	<b>Value in mg/l, except pH</b>			
<b>Oct-22 1st FN</b>	14/10/22	17/10/22	17/10/22-31/10/22	16	<2.00	7.73	26
<b>Oct-22 2nd FN</b>	31/10/22	01/11/22	01/11/22-15/11/22	12	<2.00	8.41	28
<b>Nov-22 3rd FN</b>	15/11/22	16/11/22	16/11/22-30/11/22	12	<2.00	8.1	29
<b>Dec-22 5th FN</b>	15/12/22	16/12/22	16/12/22-30/12/22	12	<2.00	8	29
<b>Dec-22 6th FN</b>	31/12/22	02/01/23	02/01/23-13/01/23	12	<2.00	8.5	29
<b>BIS Standard &amp; Method</b>				APHA, 23rd Edition, Closed Reflux, Titrimetric Method, 2017	IS 3025/39:1991, R : 2003, Partition Gravimetric	IS-3025/11:1983, R-1996, Electrometric	IS 3025/17:1984, R :1996, Gravimetric Method

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**TEST REPORT**

12/22 Test Report No. 1606	Job No. 094322160	Year	2022-23
Type of Sample:	Effluent Water	Quarter Ending	Dec.'22
Customer / W. O. no. & Date:	CCL	Date of Receipt of Sample:	01/12/22
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	01/12/22-06/01/23
Testing /Sampling Protocol	MOEF -SCH-VI STANDARDS, Class 'A', LQR 33		
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori **Project:** Dhori Khas Colliery  
**Stations:** 1. Lagoon Discharge (Nov 2<sup>nd</sup> FN) **Date of Sampling:** 24/11/2022  
 2.

Sl.No.	Parameter	Sampling Stations			Detection Limit	MOEF -SCH-VI STANDARDS Class 'A'	BIS Standard & Method
		1	2	3			
1	Ammonical Nitrogen, mg/l, Max	0.74			0.02	50.0	IS 3025/34:1988, R : 2009, Nessler's Method
2	Arsenic (as As), mg/l, Max	<0.002			0.002	0.2	IS 3025/37:1988 R : 2003, AAS-VGA
3	B.O.D (3 days 27°C), mg/l, Max	<2.00			2.00	30.0	IS 3025 /44:1993, R:2003 3 day incubation at 27°C
4	Cadmium(as Cd), mg/l, Max	<0.0004			0.0004	2.0	APHA, 23rd Edition 3120 B ICP Method, 2017
5	COD, mg/l, Max	24			4.00	250.0	APHA, 23rd Edition, Closed Reflux, Titrimetric Method: 2017
6	Copper (as Cu), mg/l, Max	<0.02			0.02	3.0	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
7	Dissolved Phosphate, mg/l, Max	<0.30			0.30	5.0	APHA, 23rd Edition Molybdovanadate Method, 2017
8	Fluoride (as F) mg/l, Max	1.29			0.02	2.0	APHA, 23rd Edition, SPADNS Method, 2017
9	Free Ammonia, mg/l, Max	<0.02			0.02	5.0	IS:3025/34:1988, Nessler's
10	Hexavalent Chromium, mg/l, Max	<0.01			0.01	0.1	APHA, 23rd Edition, Diphenylcarbohydrazide
11	Iron (as Fe), mg/l, Max	<0.04			0.04	3.0	IS 3025 /53: 2003, R : 2009 , AAS-(Air-Ac-Flame)
12	Lead (as Pb), mg/l, Max	<0.001			0.001	0.1	APHA, 23rd Edition 3120 B ICP Method, 2017
13	Manganese(as Mn), mg/l, Max	<0.01			0.01	2.0	IS-3025/59:2006, AAS (Air-Ac-Flame)
14	Nickel (as Ni), mg/l, Max	<0.003			0.003	3.0	APHA, 23rd Edition 3120 B ICP Method, 2017
15	Nitrate Nitrogen, mg/l, Max	2.46			0.50	10.0	APHA, 23rd Edition, UV-Spectrophotometric Method, 2017
16	Oil & Grease, mg/l, Max	<2.00			2.00	10.0	IS 3025/39:1991, R : 2003, Partition Gravimetric Method
17	pH value	8.1			1.0	5.5 to 9.0	IS-3025/11:1983, R-1996, Electrometric Method
18	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH),mg/l, Max	<0.001			0.001	1.0	APHA, 23rd Edition, 4- Amino Antipyrine Method, 2017
19	Selenium (as Se), mg/l, Max	<0.0005			0.0005	0.05	APHA, 23rd Edition 3120 B ICP Method, 2017
20	Sulphide (as S <sup>-2</sup> ), mg/l, Max	<0.005			0.005	2.0	APHA, 23rd Edition Methylene Blue Method, 2017
21	Temperature (° C )	20.0			Shall not exceed 5° C above the receiving temp.		IS-3025/09:1984, R;2002, Thermometric
22	Total Chromium (as Cr), mg/l, Max	<0.002			<0.002	2.0	APHA, 23rd Edition 3120 B ICP Method, 2017
23	Total Kjeldahl Nitrogen, mg/l, Max	5.1			1.00	100.0	APHA, 23rd Edition, Kjeldahl Method: 2017
24	Total Residual Chlorine, mg/l, Max	<0.02			0.02	1.0	APHA, 23rd Edition, DPD Method, 2017
25	Total Suspended Solids, mg/l, Max	62			10.00	100.0	IS 3025/17:1984, R :1996, Gravimetric Method
26	Zinc (as Zn), mg/l, Max	<0.005			0.005	5.0	IS 3025 /49: 1994, R: 2009, AAS (Air-Ac-Flame)

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**TEST REPORT**

<b>03/23 Test Report no. 1600</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample	Ambient Air	Quarter Ending	Mar-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Sarda Colony

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters (in µg/m <sup>3</sup> )					Wind Direction (from) & Weather
				Total Particulate Matter (PM <sub>10</sub> + >PM <sub>10</sub> )TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM <sub>2.5</sub> )	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>x</sub> )	
<b>Jan-23 1st FN</b>	09/01/23-10/01/23	16-01-2023	16/01/23-19/01/23	151	66	36	< 25	< 6	East Sunny
<b>Jan-23 2nd FN</b>	25/01/23-26/01/23	01-02-2023	01/02/23-06/02/23	220	76	37	< 25	< 6	East Sunny
<b>Feb-23 3rd FN</b>	08/02/23-09/02/23	16-02-2023	16/02/23-20/02/23	126	69	35	< 25	< 6	East Sunny
<b>Feb-23 4th FN</b>	23/02/23-24/02/23	01-03-2023	01/03/23-03/03/23	160	88	41	< 25	< 6	East Sunny
<b>Mar-23 5th FN</b>	09/03/23-10/03/23	16-03-2023	16/03/23-20/03/23	220	96	53	< 25	< 6	East Sunny
<b>Mar-23 6th FN</b>	16/03/23-17/03/23	01-04-2023	01/04/23-05/04/23	139	74	40	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>03/23 Test Report no. 1601</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample	Ambient Air	Quarter Ending	Mar-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Makuli Colony

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters (in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter ( $\text{PM}_{10} + >\text{PM}_{10}$ )TPM	Particulate Matter ( $\text{PM}_{10}$ )	Particulate Matter ( $\text{PM}_{2.5}$ )	Sulphur Dioxide ( $\text{SO}_2$ )	Nitrogen Oxides (as $\text{NO}_x$ )	
<b>Jan-23 1st FN</b>	09/01/23-10/01/23	16-01-2023	16/01/23-19/01/23	148	75	41	< 25	< 6	East Sunny
<b>Jan-23 2nd FN</b>	25/01/23-26/01/23	01-02-2023	01/02/23-06/02/23	197	91	56	< 25	< 6	East Sunny
<b>Feb-23 3rd FN</b>	08/02/23-09/02/23	16-02-2023	16/02/23-20/02/23	111	55	23	< 25	< 6	East Sunny
<b>Feb-23 4th FN</b>	23/02/23-24/02/23	01-03-2023	01/03/23-03/03/23	182	75	38	< 25	< 6	East Sunny
<b>Mar-23 5th FN</b>	09/03/23-10/03/23	16-03-2023	16/03/23-20/03/23	140	74	33	< 25	< 6	East Sunny
<b>Mar-23 6th FN</b>	16/03/23-17/03/23	01-04-2023	01/04/23-05/04/23	124	67	33	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>03/23 Test Report no. 1602</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample	Ambient Air	Quarter Ending	Mar-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Pichari Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters (in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter ( $\text{PM}_{10+>\text{PM}_{10}}$ )TPM	Particulate Matter ( $\text{PM}_{10}$ )	Particulate Matter ( $\text{PM}_{2.5}$ )	Sulphur Dioxide ( $\text{SO}_2$ )	Nitrogen Oxides (as $\text{NO}_x$ )	
<b>Jan-23 1st FN</b>	09/01/23-10/01/23	16-01-2023	16/01/23-19/01/23	163	82	53	< 25	< 6	East Sunny
<b>Jan-23 2nd FN</b>	26/01/23-27/01/23	01-02-2023	01/02/23-06/02/23	110	51	21	< 25	< 6	East Sunny
<b>Feb-23 3rd FN</b>	08/02/23-09/02/23	16-02-2023	16/02/23-20/02/23	172	87	45	< 25	< 6	East Sunny
<b>Feb-23 4th FN</b>	23/02/23-24/02/23	01-03-2023	01/03/23-03/03/23	141	77	33	< 25	< 6	East Sunny
<b>Mar-23 5th FN</b>	10/03/23-11/03/23	16-03-2023	16/03/23-20/03/23	203	83	40	< 25	< 6	East Sunny
<b>Mar-23 6th FN</b>	17/03/23-18/03/23	01-04-2023	01/04/23-05/04/23	190	80	45	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>03/23 Test Report no. 1603</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample	Ambient Air	Quarter Ending	Mar-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Central Colony (filter plant)

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters (in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter (PM <sub>10+</sub> >PM <sub>10</sub> )TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM <sub>2.5</sub> )	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>x</sub> )	
<b>Jan-23 1st FN</b>	10/01/23-11/01/23	16-01-2023	16/01/23-19/01/23	132	65	21	< 25	< 6	East Sunny
<b>Jan-23 2nd FN</b>	26/01/23-27/01/23	01-02-2023	01/02/23-06/02/23	122	65	36	< 25	< 6	East Sunny
<b>Feb-23 3rd FN</b>	09/02/23-10/02/23	16-02-2023	16/02/23-20/02/23	136	61	32	< 25	< 6	East Sunny
<b>Feb-23 4th FN</b>	24/02/23-25/02/23	01-03-2023	01/03/23-03/03/23	196	90	43	< 25	< 6	East Sunny
<b>Mar-23 5th FN</b>	10/03/23-11/03/23	16-03-2023	16/03/23-20/03/23	125	66	35	< 25	< 6	East Sunny
<b>Mar-23 6th FN</b>	17/03/23-18/03/23	01-04-2023	01/04/23-05/04/23	177	72	37	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

03/23 Test Report no. 1604	Job No. 094322160	Year	FY2022-23
Type of Sample:	Noise	Quarter Ending	Mar-23
Customer	CCL		
Testing/Sampling Protocol:	'The noise pollution (Regulation and Control), Rules,2000, LQR34		
Remarks:			

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori **Project:** Dhori Khas Colliery

Station Name	Noise Level dB(A) Leq					
	Jan-23 1st FN	Jan-23 2nd FN	Feb-23 3rd FN	Feb-23 4th FN	Mar-23 5th FN	Mar-23 6th FN
	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night
Date of recording	08-01-2023	25-01-2023	07-02-2023	22-02-2023	09-03-2023	16-03-2023
<b>1. Sarda Colony</b>	51.6/49.3	51.9/49.5	51.1/46.1	51.2/47.6	51.5/49.2	50.1/45.2
Date of recording	09-01-2023	25-01-2023	08-02-2023	23-02-2023	09-03-2023	16-03-2023
<b>2. Makuli Colony</b>	51.8/49.5	51.7/49.3	50.1/45.1	51.4/45.9	51.7/49.4	55.1/48.2
Date of recording	09-01-2023	25-01-2023	08-02-2023	23-02-2023	09-03-2023	16-03-2023
<b>3. Pichari Village</b>	51.6/49.7	51.5/48.2	52.1/46.1	49.6/45.4	51.9/49.6	51.1/46.2
Date of recording	09-01-2023	26-01-2023	08-02-2023	23-02-2023	10-03-2023	17-03-2023
<b>4. Central Colony (Filter Plant)</b>	51.9/49.5	51.9/49.7	51.1/45.2	52.3/49.2	51.8/49.3	50.3/48.2

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution (Regulation and Control), Rules,2000		
Time Frame	Limits in dB(A) Leq	
	Day Time 6.00 AM to 10.00 PM	Night Time 10.00 PM to 6.00 AM
Industrial Area	75	70
Commercial Area	65	55
Residential area	55	45
Silence Zone	50	40

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**TEST REPORT**

03/23 Test Report no. 1605	Job No. 094322160	Year	FY2022-23
Type of Sample:	Effluent Water	Quarter Ending	Mar-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/Sampling Protocol:	MOEF -SCH-VI STANDARDS, Class 'A'. LQR 33		
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori      **Project:** Dhori Khas Colliery      **Stations:** Lagoon Discharge

Analysis Results of FN Effluent Water							
Parameters →				COD	O & G	pH value	TSS
Detection Limit				4	2	0.2	10
MOEF -SCH-VI, STANDARDS, Class 'A'				250	10	5.5 to 9.0	100
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	Value in mg/l, except pH			
Jan-23 1st FN	13/01/23	16/01/23	16/01/23-31/01/23	20	<2.00	5.6	39
Jan-23 2nd FN	31/01/23	01/02/23	01/02/23-15/02/23	16	<2.00	8.1	30.2
Feb-23 3rd FN	15/02/23	16/02/23	16/02/23-28/02/23	24	<2.00	8.4	51.4
Feb-23 4th FN	28/02/23	01/03/23	01/03/23-15/03/23	24	<2.00	8.7	66
Mar-23 5th FN	15/03/23	16/03/23	16/03/23-31/03/23	20	<2.00	4	49
Mar-23 6th FN	20/03/23	03/04/23	03/04/23-13/04/23	16	<2.00	8.3	35
<b>BIS Standard &amp; Method</b>				APHA, 23rd Edition, Closed Reflux, Titrimetric Method, 2017	IS 3025/39:1991, R : 2003, Partition Gravimetric	IS-3025/11:1983, R-1996, Electrometric	IS 3025/17:1984, R :1996, Gravimetric Method

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**TEST REPORT**

<b>03/23 Test Report no. 1606</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample:	<b>Surface Water</b>	Quarter Ending	<b>Mar-23</b>
Customer	CCL	Date of Receipt:	<b>16-01-2023</b>
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	<b>16.01.23-28.02.23</b>
Testing/Sampling Protocol:	LQR 33		
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent		

**TEST RESULT**

The sample has been tested with the following results: -

**Area :** Dhori  
**Stations:****Project:** Dhori Khas Colliery  
**Date of Sampling:**

1. Jhoria Nala before Conf. with Damodar

13-01-2023

Sl.No	Parameter	Sampling Stations				Detection Limit	BIS Standard & Method
		1	2	3	4		
1	Arsenic (as As), mg/l, Max	<0.002				0.002	IS 3025/37:1988 R : 2003, AAS-VGA, Method
2	BOD (3 days 27°C), mg/l, Max	2.5				2.00	IS 3025 /44: 1993, R: 2003 3 day incubation at 27°C
3	Cadmium(as Cd), mg/l, Max	<0.0004				0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
4	Chlorides (as Cl), mg/l, Max	14				2.00	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02				0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	7.4				0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
7	Fluoride (as F) mg/l, Max	0.55				0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max	<0.01				0.01	APHA, 23rd Edition, 2017 Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l, Max	<0.04				0.04	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
10	Lead (as Pb), mg/l, Max	<0.001				0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO <sub>3</sub> ), mg/l, Max	5.80				0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
12	pH value	7.9				1.0	IS-3025/11:1983, R-1996, Electrometric Method
13	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l, Max	<0.001				0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
14	Selenium (as Se), mg/l, Max	<0.0005				0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO <sub>4</sub> ) mg/l, Max	84				2.00	APHA, 23rd Edition Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	285				25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
17	Total Suspended Solids, mg/l, Max	28				10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	0.012				0.005	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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## TEST REPORT

<b>03/23 Test Report no. 1607</b>	<b>Job No. 094322160</b>	<b>Year</b>	<b>FY2022-23</b>
Type of Sample:	<b>Drinking Water</b>	Quarter Ending	Mar-23
Customer	CCL	Date of Receipt:	16-01-2023
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	16.01.23-28.02.23
Testing/Sampling Protocol:	<b>IS:10500 Drinking Water Standards, LQR 33</b>		
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent		

### TEST RESULT

The sample has been tested with the following results: -

**Area :**  
**Stations:**

**Dhori**

**Project:**

**Dhori Khas Colliery**

**Date of Sampling:**

1. Central Colony Filter Plant, Near DAV Makoli

13-01-2023

Sl.No	Parameter	Sampling Stations			Detection Limit	IS:10500 Standards	Standard / Test Method
		1	2	3			
1	Boron (as B), mg/l, Max	<0.2			0.20	0.5	APHA, 23rd Edition Carmine Method; 2017
2	Cadmium (as Cd), mg/l, Max	<0.0004			0.0004	0.003	APHA, 23rd Edition AAS-GTA Method, 2017
3	Calcium (as Ca), mg/l, Max	32			1.60	75	IS-3025/40:1991, EDTA
4	Chloride (as Cl), mg/l, Max	12			2.00	250	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02			0.02	0.05	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Fluoride (as F) mg/l, Max	0.52			0.02	1.0	APHA, 23rd Edition, SPADNS Method, 2017
7	Free Residual Chlorine, mg/l, Min	0.04			0.02	0.2	APHA, 23rd Edition, DPD Method, 2017
8	Iron (as Fe), mg/l, Max	<0.04			0.04	1.0	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
9	Lead (as Pb), mg/l, Max	<0.001			0.001	0.01	APHA, 23rd Edition AAS-GTA Method, 2017
10	Manganese (as Mn), mg/l, Max	0.03			0.01	0.1	IS-3025/59:2006, AAS (Air-Ac-Flame) Method
11	Nickel (as Ni), mg/l, Max	<0.003			0.003	0.02	APHA, 23rd Edition, 3120 B, ICP Method: 2017
12	Nitrate (as NO <sub>3</sub> ), mg/l, Max	1.87			0.5	45	APHA, 23rd Edition, UV-Spectrophotometric, 2017
13	Odour	Agreeable			Qualitative	Agreeable	IS 3025 /05:1983, R-2012, Qualitative
14	pH value	7.6			1.0	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrometric Method
15	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l, Max	<0.001			0.001	0.001	APHA, 23rd Edition, 4-Amino Autipyrine, 2017
16	Selenium (as Se), mg/l, Max	<0.0005			0.0005	0.01	IS 3025/56:2003 AAS-VGA Method
17	Sulphate (as SO <sub>4</sub> ) mg/l, Max	55			2.00	200	APHA, 23rd Edition. Turbidity Method, 2017
18	Total Alkalinity (CaCO <sub>3</sub> ), mg/l, Max	60			4.00	200	IS-3025/23:1986, R: 2009, Titration Method
19	Total Arsenic (as As), mg/l, Max	<0.002			0.002	0.01	IS 3025/ 37:1988 R : 2003, AAS-VGA: 1998
20	Total Chromium (as Cr), mg/l, Max	<0.002			0.002	0.05	APHA, 23rd Edition, 3120 B, ICP Method: 2017
21	Total Dissolved Solids, mg/l, Max	166			25.00	500	IS 3025 /16:1984 R : 2006, Gravimetric Method
22	Total Hardness (CaCO <sub>3</sub> ), mg/l, Max	112			4.00	200	IS-3025/21:1983, R-2009, EDTA Method
23	Turbidity, NTU, Max	1			1.0	1	IS-3025/10:1984 R-1996, Nephelometric Method
24	Zinc (as Zn), mg/l, Max	0.121			0.005	5.0	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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