



HIL/ENV/GP- IV/4/EC/2023-24/1/250

24<sup>th</sup> November 2023

To,  
**The Integrated Regional Office,  
Ministry of Environment Forests & Climate Change (MoEF & CC) Aranya Bhawan,  
North Block, Sector – 19, Naya Raipur,  
Atal Nagar, Chhattisgarh, 492002**

**Subject: Half Yearly EC Compliance Report for 1 MTPA Gare Palma IV/4 Coal Mines of Hindalco Industries Limited, Village – Banjikhoh, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.**

**Respected Sir,**

This has reference to the Environment Clearance Letter no. – J-11015/183/2010- IA–II. (M) production capacity 1 MTPA (Opencast:0.4 MTPA & Underground: 0.6 MTPA) dated 16.04.2015 (Transferred in favour of HIL), Amendment in EC for production capacity 1 MTPA (Opencast:0.56 MTPA & Underground: 0.44 MTPA) dated 24.05.2019 and Amendment in EC for production capacity 1 MTPA (Opencast: 0.84 MTPA & Underground: 0.16 MTPA) dated 03.04.2023.

We are submitting herewith the Half Yearly EC Compliance Report along with Environmental Monitoring Report for the period from **April 2023 to September 2023** for your kind perusal please.

The receipt of the report may kindly be acknowledged.

Yours faithfully,  
For **Hindalco Industries Limited,**

  
**Rajiv Kumar**  
**(Mine Agent – Gare Palma Coal Mines)**

Encl.: As Above.

- CC.: 1. Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhawan, Raipur Chhattisgarh.  
2. Regional Officer, Chhattisgarh Environment Conservation Board, TV tower Road, Raigarh (CG).  
3. Member Secretary, CPCB Parivesh Bhawan, East Arjun Nagar Delhi - 110032  
4. The Regional Director, Regional Directorate (Central), Bhopal, Central Pollution Control Board (MoEF & CC, GOI), "Parivesh Bhawan" Paryavaran Parishar, E – 5, Arera Colony, Bhopal (MP), 462016  
5. The Director (Monitoring Cell), Ministry of Environment, Forest & Climate Change, IPB, Aliganj, Jorbagh Road, New Delhi – 110003

**Hindalco Industries Limited**

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**COMPLIANCE REPORT**

**ON STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE (EC) ACCORDED TO GARE PALMA IV/4 COAL MINES FOR CAPACITY 1 MTPA (OPENCAST: 0.56 TO 0.84 MTPA (INCREASED BY 0.28 MTPA) AND UNDERGROUND: 0.44 MTPA TO 0.16 MTPA (DECREASE BY 0.28 MTPA) VIDE LETTER No.– J-11015/183/2010-IA–II. (M) DATED 03.04.2023.**

Sr. No	Additional Condition	Compliance
1	As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP to comply with all the recommendation of Carrying Capacity Study being conducted by reputed institute by CPCB & SPCB.	<p style="text-align: center;"><b>Shall be Complied.</b></p> <p>CECB engaged IIT Bhilai to carry out the Carrying Capacity Study of Tamnar &amp; Gharghora region. So far, no study report or recommendation letter shared to HIL by CECB/CPCB/MoEF &amp; CC.</p> <p>After receiving of letter from CECB/CPCB/MoEF &amp; CC shall be Complied/implemented.</p>
2	As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, Coal transportation is permitted for only one year through road from date of commissioning and subsequently, transport must be done by rail or closed conveyor belt only	<b>Noted.</b>
3	As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, proper and free health care facilities with multispecialty treatment system shall be provided in coal mine buffer area.	<p style="text-align: center;">Being Complied.</p> <p>HIL has provided a Community Outreach Health Clinic with qualified MBBS doctor &amp; medical team at Milupara village under CSR initiative and villagers are getting health benefits from nearby villages.</p> <p>HIL also maintains a daily record of the number of patients visiting for treatment at COHC &amp; distributed medicines.</p> <p>A total of 1331 nos. of villagers have benefited at COHC from the period from April 2023 to September 2023.</p> <p>A copy of maintained records &amp; photographs of patient treatment is attached as <b><u>Annexure-01.</u></b></p>
4	As per NGT order dated 15.02.2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP shall have to comply that	HIL has awarded a Work Order to CIMFR on 02.09.2023 to conduct a scientific study on backfilling of fly ash for the fulfillment of the said

	when coal is sold to TPP, there is the agreement to sell that at least 25% Fly Ash of the coal sold, should be accepted by the coal company (seller) from TPP(Purchaser) failing which coal company shall be liable for civil action and other legal measures	condition. The study report will be generated in 6 months. The HIL will comply with the conditions as per the recommendations of the study report. The Work Order is attached as <b><u>Annexure-02.</u></b>
5	PP shall use the Overburden dump for backfilling purpose to bring the mine at the ground level.	Overburdens are being backfilled in the mines as per approved mine plan.
6	PP shall deploy minimum 10% of total Mine vehicle operating on biofuels and Electric.	Being Complied. Since July 2023, out of 45 nos. of HEMM (Shovel, Dumper, Dozer, Grader & Payloader) 14 nos. are operating in Biofuel (blending of 10% of biofuel in HSD)  The average monthly consumption of HSD has been reduced by 238 lit/day.  The Biofuel blending record is attached as <b><u>Annexure-03.</u></b>
7	The PP shall increase the truck fleet size i.e., up to 50 tonnes.	Noted.
8	The PP shall install one CAAQMS in the core zone of mine lease area and the data to display on the website as well as on the main entry gate of the organization	Shall be Complied.  Purchase order has been issued to the vendor on dated 10.05.2023 for 01 nos. of CAAQMS for Gare Palma IV/4 Coal Mine. A copy of purchase order is attached as <b><u>Annexure – 04.</u></b>
9	The PP shall develop Sal nursery with the minimum plant capacity of 25,000 within 5 ha of project area. Further, Sal tree shall be planted as much as possible while reclaiming during mine closure activity.	Shall be Complied. HIL will develop the Sal Nursery with the minimum plant capacity of 25,000 within 5 ha of project area.  Note for Approval of Rs. 35,84,860/- has already been initiated dated 20.09.2023. A copy of NFA - Detailing Sal nursery dimensions & other attributes attached as <b><u>Annexure-05.</u></b>  However, we have developed 650 no of Sal sapling in house and maintaining the same. The Photograph is attached as <b><u>Annexure-06.</u></b>
10	The PP shall submit the renewal of CGWA NOC to smooth continuation of Mines to Ministry's IRO within six months.	1. CGWA – NOC Renewal application was submitted to CGWA through NOCAP dated 29.07.2022 (Validity of NOC: 21/08/2019 to 20/08/2022). 2. Internal EAC presentation was done on 24.07.2023 and the NOC was

		recommended for renewal of NOC – CGWA dated 26.07.2023 and forwarded to the Chairman, CGWA for further approval. A copy is attached as <b>Annexure – 07.</b> We will share it with your office as soon as it is received.
11	All the other terms and condition of earlier EC dated 12.03.2013 and EC amendment dated 24.05.2019 shall remain same.	Noted & being Complied.

ON STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE (EC) ACCORDED TO GARE PALMA IV/4 COAL MINES FOR CAPACITY 1 MTPA (OPENCAST: 0.4 TO 0.56 MTPA (INCREASED BY 0.16 MTPA) AND UNDERGROUND: 0.6 MTPA TO 0.44 MTPA (DECREASE BY 0.16 MTPA) VIDE LETTER No.– J-11015/183/2010-IA-II. (M) DATED 24.05.2019. EC -TRANSFERRED IN FAVOUR OF HIL DATED 16.04.2015 & EC CONDITIONS DATED 12.03.2013.

Sr. No.	Stipulated Conditions	Compliance
1	Any change in scope of work will attract the provisions of Environment Protection Act (EPA), 1986 and Environment Impact Assessment Notification, 2006 in conjunction with the subsequent amendments/circulars.	Noted
2	All conditions stipulated in the EC letter No.J-11015/183/2010-IA.II (M) dated 12 <sup>th</sup> March, 2013 shall remain unchanged.	Noted
3	The successful bidder shall be liable, if any, for any act of violation of the EPA 1986/EIA Notification 2006/subsequent amendments and circulars which it has inherited during the transfer.	Noted
4	Successful bidder shall be liable for compliance of all court directions, if any.	Noted

ON STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE (EC) ACCORDED TO GARE PALMA IV/4 COAL MINE VIDE LETTER No. – J-11015/183/2010-IA-II.(M) DATED 12.03.2013

Sr. No.	Stipulated Conditions	Compliance Statement As on 30.09.2023
<b>A. SPECIFIC CONDITIONS</b>		
i	The Maximum production from the mines shall not exceed beyond that for which environmental clearance has been granted for i.e. 0.48 MTPA to	<b>Being Complied.</b> Amendment has been made to this stipulated condition by MoEF & CC dated 03.04.2023 (Letter

	1.0 MTPA of which 0.4 MTPA OC and 0.6 MTPA UG in ML area of 701.512 ha)	<p>No. J-11015/183/2010-IA-II. (M) for the production capacity i.e., Open cast - 0.84 MTPA and Under Ground – 0.16 MTPA, Total production capacity – 1 MTPA.</p> <p>Amendment Copy of EC is attached as <b><u>Annexure – 08.</u></b></p> <p>The coal production from the mine from <b>April 2023 to September 2023</b> is within the limit of 1 MTPA as prescribed in the EC.</p> <p>Production from (April 2023 to September 2023)  <b>Open Cast: 0.2925 MT (Million Tons)</b>  <b>Under Ground: 0.00 MT (Million Tons)</b></p> <p>Total Coal Production from OC &amp; UG (2023 -2024 till September 2023): 0.32817 MT (Million Tons)</p> <p><b>Open Cast: 0.2925 MT (Million Tons)</b>  <b>Under Ground: 0.00 MT (Million Tons)</b></p> <p>A copy of Statistical return for the month of September 2023 submitted to The Coal Controller Ministry of Coal, GOI New Delhi dated <b>03.10.2023</b> is attached as <b><u>Annexure – 09.</u></b></p>
ii	The calendar plan should be uploaded on MOEF website.	<p>As per Approved mining plan (5<sup>th</sup> revision in 2023) the coal production from HIL GP IV/4 is 0.84 MTPA from OC &amp; 0.16 MTPA from the UG.</p> <p>The production will be within the limit of above schedule. Proposed calendar year quantities based on the current scenario.</p> <p>Mining calendar plan for FY 23-24:</p> <p><b>Open Cast: 0.84 MT (Million Tons)</b>  <b>Under Ground: No proposal as of now</b></p> <p>Amendment Copy of EC is attached above.</p> <p>In future if there is any change in calendar plan the same will be intimated to MoEF &amp; CC.</p>
iii	The coal transportation by road is up to 270 km at Raipur by road presently with tarpaulin covered trucks and partially by rail up to	<p style="text-align: center;"><b>Not Applicable.</b></p> <p>This particular condition is not applicable to us, as per Vesting order issued by Ministry of Coal, GOI,</p>

	Bhupdevpur. After new siding comes up which is approximately 3 km away for changing over to rail transport. The coal transportation by road should be by mechanically covered trucks. The mode of transportation shall be shifted to by rail by 2017.	(vide vesting order No. 104/16/2015/NA dated 23rd March 2015) Coal is being used in the captive power plant of HIL located at Hirakud (Distance - 160 km) and Lapanga (Distance - 130 km) District Sambalpur, Odisha and mode of transportation is by road. We are transporting the coal by road through tarpaulin covered trucks. A copy of Vesting order is already submitted.
iv	Karanj should be deleted from the list of native species for plantation program.	<b>Complied.</b> Karanj will not be planted in mining area.
v	Rs. 5/T of coal/annum till the end of life of project with the escalation factor of coal production.	<b>Being Complied.</b> As per condition Rs. 5 /T of coal /annum is being utilized under CSR activities & Sustainability. Expenditure details from <b>April 2023 to September 2023</b> is enclosed as <b>Annexure – 10.</b>
vi	No external OB dump will be left after mine operation and shall be backfilled in the mine void.	<b>Being Complied.</b> The OB dumping is being done as per the approved Mining Plan only.
vii	The proponent shall take necessary action on the issues raised during public hearing.	<b>Being Complied.</b> The PH was held on 02.05.2012. The issues raised during the PH, include, planning for development of road, water facility, electricity in the project area for Project Affected Persons, development for tribes; persons, education, management of air, water and noise pollution, prevention of blast activities etc. The HIL has taken the appropriate action and the same has already been communicated to IRO – MoEF & CC, Raipur, MS – IA Division (Coal Mining) & The Addl. Director (Monitoring Cell), New Delhi dated 08.08.2022 along with the ATR.
viii	The coal will be used in the existing steel plant of proponent.	<b>Not Applicable.</b> This particular condition is not applicable to us, as per Vesting order by Ministry of Coal, GOI, Coal is being used in the captive power plant of HIL located at Hirakud and Lapanga, District Sambalpur, Odisha.
ix	The Mine Planning is done in such a manner that underground mining is proposed below forest land and opencast mining under Government waste land /agriculture land. Hence, tree cutting from forest land is not proposed during expansion proposal. However, if required plantation will be done 10 times of tree felling in the project affected area.	<b>Being Complied.</b> Mining is being done in such a manner that underground mining is being done below forest land and opencast mining is being done under Government waste land /agriculture land. Planation in the mine lease area is being carried out @2500 plant/ha. <b>Total 132821 nos.</b> Local/Native plants species have been planted till date in mine lease area

		including OB dump area. Plantation details are enclosed as <b>Annexure- 11.</b>
x	Kelo river and Bendra Nallah shall not be disturbed.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Kelo river and Bendra Nallah shall not be disturbed. This condition is being complied with by HIL as no activities is being done nearby to Kelo river &amp; Bendra Nala.</p> <p>Following steps has been taken to prevent the erosion of internal dump to Bendra nala:</p> <ol style="list-style-type: none"> <li>1. Bendra Nala is situated at the distance of 600 mtr. on the southern side of Patch B.</li> <li>2. Entire OB is being dumped internally in the de-coaled area on the north eastern side of the pit.</li> <li>3. Garland drains have been provided at the toe of the benches which are regularly cleaned before the onset of monsoon every year.</li> <li>4. Till September 2023 in Patch B (South pit), HIL has constructed Approx.4150 mtr. of Garland drain &amp; 3350 mtr. of Toe drain &amp; in Patch C (North Pit) Approx.1940 mtr. of Garland drain &amp; 3085 mtr. of Toe drain (Photograph attached as <b>Annexure - 12</b>).</li> <li>4. Retaining wall wherever necessary is erected for stability of the dumps and prevent erosion. Till September 2023, HIL has constructed a total of 690 mtr. long gabion/retaining wall at the toe of permanent dump slope near Patch "C" in Banjikhhol, GP IV/4 Coal Mines.</li> </ol> <p>Total 86 mtr Gabion /retaining walls had been constructed consisting of GI wire net cages filled with stone boulders and anchored with angle iron as per specification and total 179 mtr Gabion /retaining walls has been constructed of RCC wall and total 425 mtr Gabion /retaining walls has been constructed by stone (Photographs attached as <b>Annexure - 13</b>).</p> <p>We have constructed a total of 690 mtr gabion/retaining wall against the target length of 425 mtr. in the Patch C.</p> <ol style="list-style-type: none"> <li>a) HIL has constructed Settling Pond/sumps of size 30m X 10m X 1.5m (01Nos) at Banjikhhol (Photograph is attached as <b>Annexure – 14</b>).</li> <li>b) HIL has constructed 03 nos of Settling ponds of size 50m X 30m X 3m (each) with chemical dosing</li> </ol>

		<p>arrangement and sump with adequate capacity (for sedimentation) at Banjikhhol for the mine seepage water collection, settling &amp; treatment before discharge for the agriculture purpose (Photograph is attached as <u>Annexure – 15</u>).</p> <p>2. Aprox. 50,000 Nos of Vetiver grass plantation has been done till year 2022 on OB Dump area near Patch “C” to provide the stability and prevent topsoil erosion / Reduce the surface Run- off from OB dumps and same has been proposed to do in OB dump located at Bankheta (Photographs attached as <u>Annexure - 16</u>).</p> <p>3. Till September 2023 approx. 132821 nos of saplings have been planted covering an area of 47.8 hac. which also helps in preventing erosion of internal dumps. (Plantation report &amp; Photograph enclosed above).</p> <p>HIL has submitted the progress report on construction of drains, gabion wall/retaining wall and plantation details to IRO – MoEF &amp; CC, Raipur dated 09/11/2023.</p>																				
xi	External OB dump of 0.67 million cubic meters will be created as reported in closure plan of first year. This external dump will be re handled and backfilled in subsequent years. There will be no external dump left after the mine operation.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>The OB dumping is maintained as per the provisions of approved Mining Plan only. Entire OB is being dumped internally in de – coaled area. The dumped quantity of Overburden (OB) is as below:</p> <table border="1"> <thead> <tr> <th>Financial Year</th> <th>Dumped quantity of OB in CuM.</th> </tr> </thead> <tbody> <tr> <td>2015-16</td> <td>294327</td> </tr> <tr> <td>2016-17</td> <td>2163077</td> </tr> <tr> <td>2017-18</td> <td>1190380</td> </tr> <tr> <td>2018-19</td> <td>2041702</td> </tr> <tr> <td>2019-20</td> <td>2418897</td> </tr> <tr> <td>2020-21</td> <td>2599915</td> </tr> <tr> <td>2021-22</td> <td>1925276</td> </tr> <tr> <td>2022-23</td> <td>6206180</td> </tr> <tr> <td>2023-24 (Till Sep’2023)</td> <td>2164753</td> </tr> </tbody> </table>	Financial Year	Dumped quantity of OB in CuM.	2015-16	294327	2016-17	2163077	2017-18	1190380	2018-19	2041702	2019-20	2418897	2020-21	2599915	2021-22	1925276	2022-23	6206180	2023-24 (Till Sep’2023)	2164753
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xii	Biological reclamation of all the internal dumps will be done progressively after leveling these dumps. This will provide stability and prevent soil erosion from dumps. The total top soil generated	<p style="text-align: center;"><b>Being Complied.</b></p> <p>The Top soil conservation and use are successive and periodic activities during mining operation.</p>																				



	<p>(1.14 m.cum B) during the development of mine will be stacked separately in a soil stack pile in between the pit and the surface dump over an area of 7.12 Ha.</p>	<p>In the FY 23 – 24 (Apr’23 – Sep’23) approx. <b>626427 cubic meter</b> of the top soil has been generated, of which approx. <b>501142</b> cubic meter has been spread/used on OB Dumps (Banjikhhol &amp; Bankheta) for reclamation, slope stabilization, green belt development &amp; <b>approx. 125285</b> cubic meters has been stored for further uses in the mine area.</p> <p>Planation in the mine area is being carried out @2500 plant/ha. Total 132821 nos. Local plants species have been planted up to September 2023 covering an area of 47.8 hac. in the mine area including OB dump species planted includes medicinal, Native &amp; Fruit bearing Plants i.e. Saja,Siris, Shisham, Yellow flametree, Kassod , Satvan, Acacia Mangium, Ganga Emlia, Arjuna, Chirol, Gliricidia, Amla, Mango, guava, Kathal, Neem, Pipal, Ficus sp., Peltafarm, Nilgiri, Casia Samia, Gulmohar, Acacia Coliformis, Jamun, Kachnar, Baheda, Kachnar, Mahua &amp; Saal etc. has been already done to stabilize internal dump at Banjikhhol &amp; Bankheta in consultation with DFO.</p> <p>A report on Monitoring &amp; Evaluation of Plantation carried out at Gare Palma IV/4 Coal Mines has been prepared by the NAV AASTHA JAN VIKAS SEVA SAMITI” 8/5, “JASMATI BHAWAN”, NEAR OLD KATTHA FACTORY, GODHANPUR, AMBIKAPUR – 497001 (Authorized/Approved Agency by PCCF, CG &amp; CECB, Raipur Approval letter is already submitted and the same report was submitted to IRO – MoEF &amp; CC, Raipur dated 22nd December 2021.</p>
xiii	<p>The report Titled “Flora and Fauna and conservation plan for endangered species of Gare-IV/8 coal block approved by The PCCF (Wildlife) of Chhatisgarh, dated 22.11.2011 states that there is no national park, tiger reserve, eco-sensitive zones within 15 km radius. It was informed that this area is neither affected by elephant corridor exists. However, there are occasional presence of elephants and other wild lives.</p>	<p style="text-align: center;"><b>Complied.</b></p> <p>This particular condition is for Gare Palma IV/8 block which is now allotted to M/s Ambuja Cement Ltd.</p>
xiv	<p>A Wildlife Conservation Plan for the conservation and protection of wildlife in the study area has been approved at a cost of Rs. 1.0 crore and shall be implemented by the proponent in consultation with Department of Forest and Wildlife, Govt. of Chhattisgarh. The WLCP shall</p>	<p style="text-align: center;"><b>Complied.</b></p> <p>Rs. 1.0 crore has been deposited to state forest department by the prior allottee against Wildlife conservation plan. Company will comply with mitigative measure as suggested by competent authority if any in this regard in future also.</p>

	comprise of components of habitat improvement and conservation of biodiversity, provision of water holes, and augmenting water bodies, nursery and plantation of species of natural food and fodder found in the natural habitat salt licks, measures for the protection against forest fires and poaching, awareness campaign of villagers in the study area and compensation in case of man animal conflicts. The status of implementation of WL Conservation Plan including budgetary provision of various activities and status of expenditure shall be regularly, uploaded on the website of the forest and wildlife Department of Government of Chhattisgarh and of the project proponent and the status shall be regularly reported to this Ministry and the MoEF Regional Office, as part of the compliance report.	A copy of WLCP prepared by prior allottee is already submitted. Amount Rs 1 Crores towards WLCP has already been deposited by prior allottee to forest Dept.
xv	As per the approved plan of the Flora and Fauna and Conservation plan for endangered species of Gare IV/4 coal block'' and recommended by the PCCF (Wildlife), Rs. One crore be deposited, at one time. With the department of forest and wildlife, Govt. of Chhattisgarh for the implementation of the plan.	Complied. Rs. 1.0 crore has been deposited to state forest department by the prior allottee against Wildlife conservation plan. Company will comply with mitigative measure as suggested by competent authority if any in this regard in future also.
xvi	The project authorities shall also participate in a Regional action plan of the State Government for the conservation of flora and fauna found within the study area, in addition to the above funds shall also contribute financially for implementation of RWLCP. Habitat development such as grassland/conservation measures along with the migratory route/habitats of elephants found/ visiting the area shall form a part of the regional action plan.	Complied. HIL is participating in the Regional Action Plan of the State Government for conservation of flora & fauna. Till date Rs. 90 Lakhs has been paid by HIL to the state Government towards this. (Copy has already been submitted)
xvii	It will be used for growing plants along the fringes of the side roads and reclamation of external dump and backfilled area. The topsoil stockpile will be low height not exceeding 6 m and will be made use for concurrent filling without keeping the top soil for a long period.	<b>Being Complied.</b> Topsoil is being used for green belt development along the road and the reclamation of OB Dump area. The topsoil stockpile is low in height not exceeding 6 m and this is being used and will be used for concurrent filling without keeping the top soil for a long period.
xviii	The OB dump for the South Quarry dump will be spread over 13.75 Ha. area on the south and eastern part of south quarry while the mining operation will start from north and advance towards south and west. Part of OB excavated from the mine from 1st year and part of 2nd year (3.91 Mm3) will be accommodated in it including	<b>Being Complied.</b> The over burden dump is maintained as per approved mining plan.

	topsoil for afforestation. The height of dump achieved during 1st and 2nd year will be 6 m and 20 m respectively.	
xix	The O.B. left in external dump will be re handled and backfilled in the void after the extraction of coal is completed, this will make the operation of UG mining safe as no water will be logged in the quarry. The OB will be temporarily stored which primarily consist of sandstone and shale which does not contain any heavy metal. As per the reclamation plan, the entire OB will be re-handled and biologically reclaimed with local grass to minimize fugitive emission as well to control surface runoff.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>The over burden management is being done as per approved mining plan. As per the reclamation plan, the dumps will be biologically reclaimed with local species and grass to minimize fugitive emission as well as to control surface runoff. Backfilling has already started.</p> <p>Since the takeover by HIL, no external dumping is being done OB generated annually is being backfilled in de-coaled area.</p> <p>Approx. 50,000 Nos of Vetiver grass plantation has been done in the year 2020 on OB Dump area near Patch "C" to provide the stability and prevent top soil erosion / Reduce the surface Run- off from OB dumps. <b>(Photograph enclosed above).</b></p>
xx	Topsoil generated in the balance life of mine should be stacked properly with proper slope at earmarked site (s) and should not be kept active and shall be used for reclamation and development of green belt.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Presently topsoil is being stacked properly and topsoil to be generated in the balance life of mine will be stacked properly with proper slope at earmarked site (s) and will not be kept active. The stocked topsoil is being &amp; will be used for reclamation and development of green belt.</p>
xxi	OB generated in the balance life of mine should be stacked at earmarked one external OB dumpsite within ML area. The ultimate slope of dump shall not exceed 28° Monitoring and management of reclaimed dumpsite should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional office located at Bhubaneswar on yearly basis. The area of OB dump should be reduced. The grass turfing should be done on OB dumps.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Since the takeover by HIL no external dumping is being done. OB generated annually is being backfilled in de-coaled area.</p> <p>Slope stability study has been carried out by CSIR, Central Institute of Mining &amp; Fuel Research, Dhanbad on November 2020 – A copy of report is already submitted.</p> <p>The ultimate slope of the dump is maintained within 28° and dumps are stabilized. Monitoring and management of reclaimed dump site is continuing and will continue until the vegetation becomes self – sustaining.</p> <p>Now Integrated Regional Office, Raipur is looking after EC monitoring &amp; compliances. Full co – operation has been extended to Regional Officer by furnishing requisite data information / monitoring reports.</p>
xxii	Adequate numbers of sprinklers should be provided on both the sides of road to minimize pollution.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Regular Water sprinkling on haul road is practiced through truck mounted water sprinklers to prevent the fugitive dust emission. Also installed the fixed</p>

		<p>type of water sprinklers to control the fugitive dust emission in the mine area.</p> <p>Photographs of truck mounted water sprinklers &amp; fixed type of water sprinklers at GP IV/4 Coal Mines attached as <b><u>Annexure – 17.</u></b></p> <p>The latest fugitive dust emission monitoring report for the month of September 2023 is attached as <b><u>Annexure – 17A.</u></b></p>
xxiii	<p>Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted and maintained properly. Garland drains (size, gradient, length,) and sump capacity should be designed keeping 50 % safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.</p>	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Catch drains are constructed to collect and drain water to sumps and ponds. Catch drains are provided with check dams to arrest slit and maintained properly.</p> <p>The store water is used for spraying / sprinkling on haul roads and for greenbelt development.</p> <p>Garland drains are constructed to arrest discharge and runoff with slit and sedimentation surging into areas adjoining the periphery of OB dump. (Already submitting the details along with ATR Report)</p> <p>HIL Constructed/Provided settling ponds:</p> <p>02 nos of additional settling pond of size (50m X 40m X 5.0 m) for proper settling of mine seepage water generated from mining activities from Patch “B” before discharge for the agriculture purpose (Photograph is attached as <b><u>Annexure – 18)</u></b></p> <p><b>Also installed the Continuous Online Effluent Quality monitoring system at outlet point of the settling pond for real time monitoring of Environmental Quality parameters i.e. pH, TSS, COD, BOD &amp; Temperature (Photograph is attached as <u>Annexure – 18A)</u></b></p>
xxiv	<p>Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run –off and siltation should be based on rain fall data.</p>	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Till September 2023 we have constructed a total of 690 mtr. long gabion/retaining wall at the toe of permanent dump slope near Patch “C” in Banjikhoh, GP IV/4 Coal Mines.</p> <p>Total 86 mtr Gabion /retaining walls had been constructed consisting of GI wire net cages filled with stone boulders and anchored with angle iron as per specification and total 179 mtr Gabion /retaining walls had been made of RCC construction and total</p>

		<p>425 mtr Gabion /retaining walls has been constructed by stone.</p> <p>The progress report in this regard has been submitted to IRO – MoEF &amp; CC Raipur dated 09/11/2023.</p>
xxv	Water sprinkling system (mist spray type) shall be provided to check fugitive emission from conveyor system, haulage roads and transfer points.	<p><b>Being Complied.</b></p> <p>Water sprinkling arrangement has been maintained at all haul roads, loading and unloading points to minimize the fugitive dust emission. The latest fugitive dust emission monitoring report for the month of September 2023 is enclosed above. One no of mist canon has already been provided at Patch B for efficient suppression of fugitive dust emission. The Photograph is attached as <b><u>Annexure-18B.</u></b></p>
xxvi	Fixed sprinkler shall be installed at pit top truck loading hoppers in all the three mines, Ramgarh siding for dust control during coal loading. Adequate numbers of sprinklers should be provided on both the sides of road to minimize dust pollution.	<p><b>Being Complied.</b></p> <p>As per requirement, fixed type water sprinklers as well as truck mounted water sprinklers has been provided in the mines and other places.</p>
xxvi i	Drills should be wet operated only.	<p><b>Being Complied.</b></p> <p>In coal mining wet drilling is under practice.</p>
xxvi ii	An action plan for mine closure with details of area, depth, voids and the details of abandoned mine should be submitted to the Ministry.	<p><b>Complied.</b></p>
xxix	Controlled blasting should be practiced with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders should be implemented.	<p><b>Being Complied.</b></p> <p>Controlled blasting is practiced with use of delay detonators. Ground vibration generated due to the blasting is measured by vibrometer regularly. The permissible limit for the ground vibration with respect to the structures is strictly followed. Measures are taken to minimized ground vibrations. Blasting is done as per Coal Mine Regulation,2017 as well as DGMS Approval.</p>
xxx	Transportation shall be by covered trucks of higher capacity (25 –tons) and loading shall be by Pay Loader. Mechanized loading should be introduced in due course of time at the railway siding. Mechanically covered trucks should be provided for transportation of coal.	<p><b>Being Complied.</b></p> <p>Gare Palma IV/4 Coal Mine:  a) Underground part of the Coal Mine: The production of coal has been discontinued from the Underground portion of Gare Palma IV/4 coal mine since June 2019.  b) Opencast part of the Coal Mine: Right now coal is being produced only from the Opencast mine and</p>

		<p>we would like to inform you that since the transport of coal started from the Gare Palma IV/4, HIL has taken effective steps to ensure zero dust emission/spillage by adopting following means:</p> <p>i. Water Sprinkling: To prevent fugitive dust generation in the coal mine area Regular Water sprinkling on haul road is practiced through mobile water sprinklers for the purpose.</p> <p>ii. Fixed type of water sprinklers are also installed in this regard. (Photographs of truck mounted water sprinklers &amp; fixed type of water sprinklers at GP IV/4 Coal Mines attached as enclosed above.</p> <p>iii. Tarpaulin Covering of Trucks: Each and every coal transport truck is being properly/completely covered by Tarpaulin before dispatch.</p> <p>iv. Sealing / Lock: Each and every coal transport trucks is being properly covered &amp; sealed with the use of plastic / wire seals to avoid uncovering of tarpaulin in the route. (Photographs attached as <b><u>Annexure - 19</u></b>)</p> <p>v. CCTV cameras have been installed in the truck parking yard and the details are being captured and records are being maintained for every previous 30 days. HIL has submitted the reply with respect to this particular condition to the CECB dated 06.01.2022.</p>
xxxi	Area brought under afforestation from the three mines shall be by planting native species in consultation with local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Planation in the mine area is being carried out @2500 plant/ha. <b>Total 132821 nos.</b> Local plants species have been planted till date including OB dump area. Plant Species i.e. Saja, Siris, Shisham, Yellow flametree, Kassod, Satvan, Acacia Mangium, Ganga Emli, Arjuna, Chirol, Gliricidia, Amla, Mango, guava, Kathal, Neem, Pipal, Ficus sp., Peltafarm, Nilgiri, Casia Samia, Gulmohar, Acacia Coliformis, Jamun, Kachnar, Baheda, Kachnar, Mahua &amp; Saal etc. in consultation with DFO.</p>
xxxi i	Extensive plantation should be done near agriculture area to avoid coal dust pollution which may affect the productivity of crop.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Extensive plantation near agriculture land along road side is being done and will be done in future to avoid coal dust pollution which may affect the productivity of crop.</p>
xxxi ii	Mine discharge water shall be treated to meet the prescribed standards before discharge into natural water course/agriculture. The quality of water discharge shall be monitored at the outer point and proper records maintained thereof and uploaded regularly on the company website.	<p style="text-align: center;"><b>Being Complied.</b></p> <p><b>a) At Banjikhhol Mine (GP IV/4):</b> 03 nos of Settling ponds with chemical dosing arrangement and sump with adequate capacity (for sedimentation) has been provided for the mine seepage water treatment before discharge for the</p>

		<p>agriculture purpose. The treated water quality analysis report from <b>April 2023 to September 2023</b> is enclosed as <b><u>Annexure No.- 20.</u></b></p> <p>Photographs of Treatment Facility enclosed above.</p> <p>Also HIL constructed an additional settling pond of size 30m X 10m X 1.5m (01Nos) to collect whole mine seepage water generated during the mining activities from Patch “C” specially in the rainy season for proper settling of mine seepage water before discharge <b>(Photograph enclosed above)</b></p> <p><b>At Bankheta Mine (GP IV/4):</b> At Bankheta, HIL constructed 02 nos of additional settling pond of size (50m X 40m X 5.0 m) for proper settling of mine seepage water generated from mining activities from Batch “B” before discharge for the agriculture purpose <b>(Photograph enclosed above)</b></p> <p>The treated water quality analysis reports are being periodically furnished to CECB &amp; uploaded regularly on the company website.</p> <p>Also installed 01 nos of COEQMS (Continuous Online Effluent Quality Monitoring System) at Bankheta, (At outlet of Siltation Pond No. 2) for real time monitoring of environmental quality parameters i.e. COD, BOD, TSS, PH &amp; Temperature before discharge for the agriculture purpose <b>(Photograph enclosed above).</b></p>
xxx v	No ground water shall be used for mining activities; additional water required, if any, shall be met from mine water or by recycling /reuse of water from the existing activities and from rainwater harvesting measures. The project authorities shall meet water requirement of nearby village (s) in case the village wells go dry to dewatering of mine.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>For the mining activity only mine seepage water is being used after chemical dosing in settling ponds. To meet the water requirement of nearby villages company is providing treated water through pipeline/ drains and other mode for domestic (Non Drinking) and irrigation purpose.</p>
xxx v	Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quality shall be done four times a year in pre-monsoon (May), Monsoon (August) Post-monsoon (November), and winter (January)	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Regular monitoring of groundwater level and quality of the area is being carried out by establishing a network of existing wells/Piezometers. The Ground water level <b>(from April 2023 to September 2023)</b> and quality Monitoring report of <b>Pre-Monsoon (May</b></p>

	<p>seasons and for quality including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment &amp; Forests and to the Central Pollution Control Board /SPCB quarterly within one month of monitoring. Rain water harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.</p>	<p><b>2023) and Monsoon (August 2023)</b> is attached as <b><u>Annexure – 21.</u></b></p> <p>Non-working mine pit has been developed as rain water harvesting structure in the mines.</p> <p>Quarterly monitoring report of Ground Water Level (from <b>April 2023 to June 2023</b>) and (from <b>July 2023 to September 2023</b>) &amp; GW Quality Monitoring for the month of <b>Pre-Monsoon (May 2023)</b> and <b>Monsoon (August 2023)</b> has been submitted to MoEF &amp; CC, CPCB and CECB on quarterly within one month of monitoring basis. Attached as <b><u>Annexure – 21A.</u></b></p>
xxx vi	<p>Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.</p>	<p style="text-align: center;"><b>Being Complied.</b></p> <p>In Gare Palma IV/4 coal mine: the method of underground coal mining is Bord &amp; Pillar. Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural pattern, water bodies, vegetation, structure, roads and surroundings is being done by internal expert team. During the observation no any subsidence movement has been observed. In future, if any subsidence movement, occurred then appropriate effective corrective measures will be taken to avoid loss of life and material. Cracks will be effectively plugged with ballast and clayey soil/suitable material.</p> <p>The subsidence study was already carried out for working panel by CSIR – Central Institute of Mining &amp; Fuel Research Dhanbad in March 2019 for GP IV/4 Coal mines.(Copy is already submitted)</p>
xxx vii	<p>Sufficient coal pillars shall be left un-extracted around the airshaft (within the subsidence influence area) to protect from any damage from subsidence, if any.</p>	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Sufficient coal pillars have been/will be left un-extracted around the airshaft (within the subsidence influence area) to protect from any damage from subsidence.</p>
xxx viii	<p>High root density tree species shall be selected and planted over areas likely to be affected by subsidence.</p>	<p style="text-align: center;"><b>Being Complied.</b></p> <p>High root density tree species will be selected and planted over areas likely to be affected by subsidence as required.</p>
xxxix	<p>Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.</p>	<p style="text-align: center;"><b>Being Complied.</b></p> <p>As of now depression due to subsidence is not observed. In future if such depression gets observed resulting in water accumulating , the same will be filled up or drained out by cutting drains, if any</p>



xi	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	<b>Being Complied.</b> Solid barriers is left below the roads falling within the blocks to avoid any damage to the roads as per statute.
xli	No depillaring operation shall be carried out below the township/colony.	<b>Being Complied.</b> No depillaring operation will be carried out below the township/colony found within the mining lease area.
xlii	The proponent shall ensure to undertake and provide the costs incurred for taking up remedial measures in case of soil.	<b>Being Complied.</b> Cost incurred for taking remedial measures in case of soil will be borne by the company.
xliii	Extensive plantation should be done near agriculture area to avoid coal dust pollution which may affect the productivity of crop.	<b>Being Complied.</b> Extensive planation along road side has been done near the agriculture area to avoid coal dust pollution which may affect the productivity of crop.  The same will be continued in other areas also.
xliv	ETP shall be provided for workshop, CHP, if any. Effluent shall be treated to confirm to prescribe standards in case discharge into any water course outside the lease. The quality of water discharged shall be monitored at the outer point and proper records maintained thereof and uploaded regularly on the company website.	<b>Being Complied.</b> Water treatment facility has been provided in mines for the seepage water treatment. The quality of treated water is being monitored. The water quality analysis report is already enclosed.  Also HIL constructed/provided the Effluent Treatment Plant of capacity 50 m3/Day. at Bankheta GP IV/4 to treat the waste water generated from Dumper/HEMM washing bay and treated water is being reused again in dumper/HEMM washing, Dust suppression & Greenbelt development.  The treated water quality analysis reports are being periodically furnished to CECB & uploaded regularly on the company website.
xlv	A detailed plan for CSR with specific budgetary allocation (capital and revenue) for various skill development and alternate livelihood programmes and schemes shall be implemented and the impacts activities under CSR monitored based on in a scientific methodology. An amount of Rs. 5 per tonne of coal produced with escalation factor shall be utilized for the CSR activities for the adjoining villages for the balance life of project apart from one-time capital expenditure. The details of CSR undertaken along with budgetary provisions for the village wise various activities and expenditure thereon shall	<b>Being Complied.</b> Rs. 5/- per ton of coal produce is being utilized for CSR activities under the guidance of District Collector, Raigarh. CSR Expenditure detail is attached as enclosed above.

	be uploaded on the company website every year. CSR Audit should be carried conducted annually.																																													
xlvi	A special corpus fund either at company level or in CIL/MOC be provided for the reclamation of abandoned and degraded areas.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Escrow account has been opened for the reclamation of abandoned and degraded areas in the mine lease till date (March 2023) Rs <b>1421.06</b> lakhs has been deposited.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="4" style="text-align: center;">Escrow- GP IV/4</th> </tr> <tr> <th style="text-align: center;">Financial Year</th> <th style="text-align: center;">Year</th> <th style="text-align: center;">Amount (Rs Lakh)</th> <th style="text-align: center;">Reamrks</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2015-16</td> <td style="text-align: center;">1</td> <td style="text-align: center;">151.50</td> <td style="text-align: center;">Deposited</td> </tr> <tr> <td style="text-align: center;">2016-17</td> <td style="text-align: center;">2</td> <td style="text-align: center;">159.08</td> <td style="text-align: center;">Deposited</td> </tr> <tr> <td style="text-align: center;">2017-18</td> <td style="text-align: center;">3</td> <td style="text-align: center;">167.05</td> <td style="text-align: center;">Deposited</td> </tr> <tr> <td style="text-align: center;">2018-19</td> <td style="text-align: center;">4</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Deposited</td> </tr> <tr> <td style="text-align: center;">2019-20</td> <td style="text-align: center;">5</td> <td style="text-align: center;">19.19</td> <td style="text-align: center;">Deposited</td> </tr> <tr> <td style="text-align: center;">2020-21</td> <td style="text-align: center;">6</td> <td style="text-align: center;">267.19</td> <td style="text-align: center;">Deposited</td> </tr> <tr> <td style="text-align: center;">2021-22</td> <td style="text-align: center;">7</td> <td style="text-align: center;">280.55</td> <td style="text-align: center;">Deposited</td> </tr> <tr> <td style="text-align: center;">2022-23</td> <td style="text-align: center;">8</td> <td style="text-align: center;">376.50</td> <td style="text-align: center;">Deposited</td> </tr> <tr> <td style="text-align: center;"><b>Total</b></td> <td></td> <td style="text-align: center;"><b>1421.06</b></td> <td></td> </tr> </tbody> </table> <p>Attached a deposited copy as <b>Annexure – 22.</b></p>	Escrow- GP IV/4				Financial Year	Year	Amount (Rs Lakh)	Reamrks	2015-16	1	151.50	Deposited	2016-17	2	159.08	Deposited	2017-18	3	167.05	Deposited	2018-19	4	0	Deposited	2019-20	5	19.19	Deposited	2020-21	6	267.19	Deposited	2021-22	7	280.55	Deposited	2022-23	8	376.50	Deposited	<b>Total</b>		<b>1421.06</b>	
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xlvii	For monitoring land use pattern and for post mining land use, a time series of land use, maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in the three years (for any one particular season which is consistent in the time series). And the report submitted to MOEF and its regional office at Bhopal. The post mining land use shall be that out of the total 701.512 ha area, 57.73 ha area will be under plantation. 319.65 Ha area for public use, 324.132 ha area shall be undisturbed.	<p style="text-align: center;"><b>Complied.</b></p> <p>Report on Assessment of Land Use / Land Cover using High Resolution Satellite Imagery for the GP Mine IV/4 Coal Mine was carried out by IndiGEO Consultants, Bangalore in the month of December 2022 and the report was submitted to IRO Raipur, dated 11<sup>th</sup> Jan,2023.</p>																																												
xlviii	A Final Mine closure plan along with a plan for habitat restoration and with details of corpus Fund shall be submitted to the Ministry of Environment & forest for approval five year in advance of final mine closure for approval. The species selected for habitat restoration for post mining shall include a specific plan for development of agro forestry using a mix native species found in the study area.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>A Final Mine closure plan along with a plan for habitat restoration and with details of corpus Fund will be submitted to the Ministry of Environment &amp; forest five years before mine closure for approval. The mix species will be selected for habitat restoration as per the conditions set out herewith.</p>																																												

xlix	A special corpus fund either at company level or in CIL/MOC be provided for reclamation of abandoned and degraded area.	<b>Being Complied.</b> Escrow account has been opened for the reclamation of abandoned and degraded areas in the mine lease. Complied as same condition no -xlvi
i.	The possibility of sand stone, wherever is present in the OB as per lithology report, be explored and be provided to locals free of cost.	<b>Being Complied.</b> As per availability the sand stone is being provided to the locals free of cost.
ii	After extraction of coal is completed, the OB left will be completely rehandled and backfilled the voids. This will be achieved by rehandling of OB Dumps in the area. Contamination, contamination of ground water and surface water and occupational and other diseases due to the mining operation.	<b>Being Complied.</b> Once extraction of coal will be completed, the OB dump created by Hindalco if any will be re-handled and backfilled into the voids as per mine closure plan to the extent possible.
iii	Corporate Environment Responsibility: a) The company shall have a well laid down Environment Policy approved by the Board of Directors. b) The Environment Policy shall prescribe for standard operating process/ procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. c) The hierarchical system or administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the company and /or shareholder or stakeholders at large.	<b>Being Complied.</b> The company has an Environmental policy duly signed by the Managing Director on Board. The environmental policy governs the SOPs for compliance of the stipulations within the frame work of regulatory requirements of environment / Forest Norms. There is compliance monitoring system is in place to take care of alert / reporting of compliances / non compliances of the regulatory requirements to the Mines Head & Head office (Compliance Committee). A copy of Environment policy is attached as <b>Annexure – 23</b> (already submitted to IRO – MoEF & CC, Raipur, dated 08/08/2022 )
<b>General Conditions</b>		
i	No change in mining technology and scope of working shall be made without prior approval of the ministry of Environment & Forest.	<b>Noted</b>
ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	<b>Noted</b>
iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM10, PM2.5, SO2, and NOx monitoring. Location of the stations shall be decided based on meteorological data topographical features and environmentally and	<b>Being Complied.</b> Four ambient air quality monitoring stations (Core Zone) & Four ambient air quality monitoring stations (Buffer Zone) have been established and regular monitoring is being carried out.

	ecologically sensitive targets in consultation with the state pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.	<p>Reports are being periodically furnished to CECB/CPCB/MoEF &amp; CC.</p> <p>Copy of AAQ Monitoring Report from the period <b>April 2023 to September 2023</b> is enclosed as <b><u>Annexure – 24.</u></b></p> <p>Also installed 02 nos of <b>CAAQMS</b> (Continuous Ambient Air Quality Monitoring System), at Mine lease boundary towards the village for real time monitoring of environmental quality parameters i.e. PM 2.5, PM 10, NO, NO2, NOX, SO2, CO photograph enclosed as <b><u>Annexure – 24A.</u></b></p>
iv	Data on Ambient air quality (PM10, PM 2.5, SO2, NOX) and heavy metals such as Hg, As, Ni, Cd, Cr & other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhubaneswar & to the state pollution control board & the Central Pollution Control Board once in six months, random verifications of samples through analysis from independent laboratories recognized under the EPA Rules, 1986 shall be furnished as part of compliance report.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>All AAQM stations are decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the state Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr etc. are carried out once in six months. Reports are being periodically furnished to CECB/CPCB/MoEF &amp; CC.</p> <p>Heavy metals Monitoring report for the month of September 2023 is attached as <b><u>Annexure – 25.</u></b></p>
v	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operation of HEMM, etc shall be provided with ear plugs/muffs.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>Ear muffs/plugs has been provided to the all workers engaged in drilling and blasting operations. The Noise monitoring report of period <b>April 2023 to September 2023</b> is enclosed as <b><u>Annexure-26.</u></b></p>
vi	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	<p style="text-align: center;"><b>Being Complied.</b></p> <p>HIL has constructed/provided the Effluent Treatment Plant of capacity 50 m3/Day at GP IV/4 to treat the waste water generated from Dumper/HEMM washing bay and treated water is being reused again in dumper/HEMM washing, Dust suppression &amp; Greenbelt development.</p> <p>Photograph of Effluent Treatment Plat is attached as <b><u>Annexure – 27.</u></b></p> <p>The treated water quality analysis reports are being periodically furnished to CECB/CPCB/MoEF &amp; CC.</p> <p>Copy of Analysis Report (Inlet &amp; Outlet) for the month from <b>April 2023 to September 2023</b> is enclosed as <b><u>Annexure – 27A.</u></b></p>

vii	Vehicular emission shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	<b>Being Complied.</b> Regular monitoring of vehicular emission is being done and it is under control. The PUC certificate has been ensured for all the vehicles engaged in transportation of minerals. Records are being maintained (Latest PUC Certificates (From <b>April 2023 to September 2023</b> ) is attached as <b>Annexure - 28</b> )
viii	Monitoring of Environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the state pollution control board and data got analyzed through a laboratory recognized under EPA Rules,1986.	<b>Being Complied.</b> Environmental monitoring is being carried out through CECB & MoEF & CC approved & NABL accredited Laboratory i.e. Ultimate Envirollytical Solutions Raipur. Approval letter of Monitoring Agency from CECB Raipur, MoEF & CC & NABL accredited Laboratory certificate is attached as <b>Annexure – 29.</b>
ix	Personnel working in dusty area shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspect.	<b>Being Complied.</b> Personnel working in dusty areas are provided with protective respiratory devices and they have also been provided with adequate training and information on safety and health aspect.
x	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof.	<b>Being Complied.</b> Occupational health surveillance is undertaken as per DGMS guidelines.  Occupational health surveillance report is attached as <b>Annexure – 30.</b>
xi	A separate environment management cell with suitable qualified personnel shall be set up under the control of a senior Executive, who will report directly to the head of the company.	<b>Being Complied.</b> A separate Environmental Management Department is functioning at Coal Mine under the direct control of a senior executive. EMD organization Chart is attached as <b>Annexure – 31.</b>
xii	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this ministry and its Regional Office at Bhubaneswar.	<b>Being Complied.</b> The funds earmarked for environmental protection measures have been budgeted separately and not been diverted for other purposes. Environmental Expenditure details from <b>April 2023 to September 2023</b> are Enclosed as <b>Annexure – 32.</b> Now IRO, MoEF & CC Raipur is looking after EC monitoring & compliances, full co – operation has been extended to Regional Officer by furnishing requisite data/information/ monitoring reports.
xiii	The project authority shall advertise at least in two local newspapers widely circulated around	<b>Complied.</b>

	the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State pollution control Board and may also be seen at the website of the ministry of environment & forest at <a href="https://envfor.nic.in">https://envfor.nic.in</a> .	
xiv	A copy of environmental clearance letter shall be marked to concern panchayat / Zila Parishad, Municipal Corporation or Urban local body and local NGO,if any., from whom any suggestion /representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	<b>Complied.</b> A copy of environmental clearance letter has been marked to concern panchayat / Zila Parishad, Municipal Corporation or Urban local body and local NGO & The EC documents are uploaded on the company's website.  The status of the environmental parameters is displayed at the main gate.
xv	A copy of environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the regional office, District Industry Sector and Collector's office/Tehsildar's office for 30 days.	<b>Complied.</b> A copy of Environmental Clearance has been circulated to Panchayat and SPCB, Regional office, District Industry Office and Collector Office/Tehsildar Office.
xvi	The Clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and uploaded at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (Air, Water, noise and soil) and critical pollutant such as PM10, PM2.5, SO2, and NOx (Ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	<b>Complied.</b> Upload the EC Clearance letter & Half yearly compliance report on the company's website i.e. <a href="http://www.hindalco.com/sustainability/regulatory-compliances">http://www .hindalco.com/sustainability/regulatory -compliances</a> and also displayed the monitoring data of environmental quality parameter (Air, Water, noise and soil) and critical pollutant such as PM10, PM2.5, SO2, and NOx at the entrance of the mine gate.
xvii	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (Both in hard copy and in e- mail) to the respective Regional Office of the Ministry, Respective Zonal officer's of CPCB and the SPCB. Compliance of the EC conditions be monitored by the MoEF and other concerned agencies.	<b>Complied.</b> The last Half Yearly Compliance report for the period from <b>October 2022 to March 2023</b> was submitted to IRO - MoEF & CC office, Raipur & Delhi, CECB Raigarh & Raipur, CPCB Bhopal & Delhi dated 29/05/2023.

xviii	The Regional Office of this ministry located at Bhubaneswar 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.	<b>Complied.</b>  Now, Integrated Regional Office, MoEF &CC, Raipur is looking after EC monitoring & compliances. Full co – operation has been extended to Regional Officers by furnishing requisite data information / monitoring reports
xix	The Environmental Statement for each financial year ending 31 March in Form –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently shall be uploaded on the company’s web site along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF & CC by E- mail	<b>Complied.</b>  Submitted the Environmental Statement Report (In Form - V) for the <b>FY 2022 -23</b> to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, dated 08/09/2023 and uploaded in the company’s website & E-mailed the EC Compliance report to IRO -MoEF & CC Raipur.
5	The Ministry or any other competent authority may stipulate any further condition for environmental Protection.	<b>Noted.</b>
6	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environmental (Protection) Act, 1986	<b>Noted.</b>
7	The above condition 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 Environmental Protection Act 1986, and the Public Liability Insurance Act, 1991 along with their amendments and Rules, The proponent shall insure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of ground water and surface water, and occupational and other diseases due to the mining operations.	<b>Noted.</b>
8	The Environmental Clearance is subject to the outcome of the case filed by Chhattisgarh Environmental Conservation Board, in the court of Chief Judicial Magistrate, Raigarh, which is pending.	<b>Noted.</b>

# Annexure-1



## Community Outreach Health Clinic at Milupara village under CSR initiative

### MONTHLY PATIENTS REPORT

SN	Month	Patient
1	Apr-23	315
2	May-23	229
3	Jun-23	134
4	Jul-23	258
5	Aug-23	64
6	Sep-23	331
7	<b>Total No of Patient</b>	<b>1331</b>



## **Hindalco Industries Limited - GARE PALMA**

**Social Report – Corporate Social Responsibility**

**April – September 2023-24**

### **CSR Vision**



“To actively contribute to the social and economic development of the underserved communities, lifting the burden of poverty and helping bring in inclusive growth in sink with the UN Sustainable Development Goals. In so doing, build a better, sustainable way of life for the weaker sections of society and raise the country’s Human Development Index”.

**Mrs. Rajashree Birla**

## Background

**Introduction:** Gare palma Coal Mines 4/4 was established in 2003 and it has been vested to Hindalco Industries Ltd in 23/03/2015 and started its operations on 03/12/2015. It is situated in Tamnaar Block of Raigarh district at Chhattisgarh. It is about 40 kms from Raigarh city, nearest railway station is Raigarh 55 km away and nearest airport is Jharsuguda Odisha 110 km away and nearest highway is NH 216 Raigarh-Gharghoda-Ambikapur 55 km away. It has a total Lignite block area 885.525 hectares, Project area is 683.272 hectares and total lease area is 683.272 hectares. It is a captive coal mines whose coal is sent to Aditya Lapanga and Hirakud by road.

Physio-graphically, the block IV/4 can be divided into the hilly terrain covered by Forest in the north-central and eastern part and relatively plain country in the north and south of it. The area is traversed by the southwest-northeast trending Dumar nala in the north and Bendra nala in the south. Kelo River is the main drainage in the area and flows in west of the adjacent Gare Palma IV/5 coal block. The elevation of the area north of the hilly terrain varies between 268 m and 330 m whereas the hill rises upto 432m above mean sea level. Southern part of area is depicted by rolling topography. The area immediate to the south of terrain is more or less plain with gentle slope towards southeast and the elevation ranges between 264m and 290m. The area south of Bendra nala is represented by a rolling topography with ground elevation ranging between 267m and 301 m and this part is mostly covered by forest. Isolated hillocks of lesser magnitude are also evident in the west central part. The drainage of the sub block is controlled by Kelo River that flows in west of the adjacent Gare Palma IV/5 coal block. Dumar and Bendra nalas collect water from slopes of the terrain and discharge into Kelo River. Water from Kelo River is finally discharged into Mahanadi River. The HFL of Kelo River near Milupara village is 264 metres. There is no back water problem due to steep gradient of river and its side slopes.

Gare Palma IV/4 is represented by mostly paddy fields in the southwest and hillock covered by Forest in the north central and east. The area south of Bendra nala is mostly covered with forest. Reserve, protected revenue forests cover 40 of certified block area. The four villages located in the area are Banjikhhol in the north, Jaripatra part of Kondkel Beljor in the central and Dongamahua in the south-eastern part. Power Plant of JSPL in the south of the block (Dongamahua) and coal mining activity, which is in progress to immediate southeast. There are operating coal blocks allotted to different project proponent in the nearby areas, as follows Southwest GP IV/2 3 Southeast GP IV/1 West GP IV/5 North East No coal block.

### **CSR Initiatives:**

The Community development initiatives have been implemented in nearby villages by the company from the April 2015, such as safe drinking water facilities to nearby villages, support to education, and support to health etc.

Through CSR initiatives total 11 villages belong to 5 Gramapanchayath's are covered. Total 5645 population covered.

### **Demography Of the Project Villages :-**

S. No	Village Name	No of HHs	Total Population
1	Kondkel	261	996
2	Banjikhhol	69	247
3	Lamdarha	114	378
4	Baljor	83	325

5	Lalpur	125	462
6	Milupara	396	1365
7	Sakta	85	321
8	Madwadumar	67	327
9	Dongamouha	90	358
10	Gare	169	577
11	Khamaria	98	380
-	TOTAL	1557	5645

Sex Ratio	998/1000
BPL/APL Status	8.7%/88.1%
Literacy rate	76.38%

#### Caste wise categorization of HHs

S. No	Village Name	SC	ST	OBC	GEN	Grand Total
1	Kondkel	36	152	73		261
2	Banjikhoh	9	56	4		69
3	Lamdarha	2	106	6		114
4	Baljor	4	73	6		83
5	Lalpur	7	79	39		124
6	Milupara	49	225	111	11	396
7	Sakta	7	68	10		85
8	Madwadumar	13	7	47		67
9	Dongamouha	6	30	52		90
10	Gare	20	109	40		169
11	Khamaria	16	34	48	2	98
-	<b>Grand Total</b>	169	939	436	13	1557
-	<b>In%</b>	10.9%	60.3%	28.0%	0.8%	100.0%

60.3% of the households belongs to ST, 28% belongs to OBC, 10.9% belongs to SC and 0.8% belongs to general category.

**Team Size** -: There are 2 Team Members in Gare Palma CSR Team

SH-CSR	Ranjna Nag
Assistant Officer	Alok Behra

#### CSR Activities 2023-2024

**Allotted CSR Budget – 500.17 lakh**

**Total Spending - 163.33 lakh**

## Educational Initiatives

- **Support to educational Infrastructures development** - Construction of Primary School Building at Kondkel Village COMPLETED BUSINESS Head Mr. R K Gupta Inaugrated the School building ON 10<sup>TH</sup> August .1 big hall 2 class rooms and 1 staff room constructed with electric supply and electric equipments.Total 80 Children benefitted from CLASS 1 TO CLASS 5 .
- **Provide free transportation facilities to Children of nearby Villages.** - Two school buses, one 42-seater and one 52-seater, are run by the company for free as part of the education assistance programme for 253 kids of 12 villages, 92 of whom are boys and 161 of whom are girls. On both buses, every safety precaution is strictly observed properly.
- Support to celebrate National festivals in Schools.



## Health Initiatives: -

- Health awareness programmes – MHM awareness programme, dengue and women nutrition and hygiene awareness program conducted.
- Community Outreach Health clinic at Milupara village covering 11 village. 1331 villagers benefitted from April to September 2023
- Providing safe drinking water to five villages benefiting 2500 people every day. (68000 Liters Per Day in 2 Villages)
- Organized differently abled camp at milupara village with social welfare department Raigarh. 73 patients were benefitted from the camp.

CSR Health Centre Milupara



Drinking water supply to Kondkel Village.



Conduct various nutrition, health & hygiene related Awareness Program in our project villages-



**Differently Abled Health Camp at Milupara**

## **Livelihood Initiatives:**

Provide irrigation facilities through Canal for agricultural activities.

- Total Length of Canal - 2.6 KM
- Water discharge in canal per day - 5440 KL per day
- Total Land cultivated by Canal in rainy season- 280 acre (Six year before Farmers 100% could not production of Crops due to shortage of Water and dependency of rain)
- Total Land cultivated by Canal in summer season- 160 Acre.
- No. of farmers benefited by Canal – 325
- Income enhances due to canal- 150 %
- Other Income by Canal – Fishery Pond – 02 Nos., Beneficiaries – 02, Extra Income Approx. -1.5 Lakhs
- Other Income by Canal – Vegetables for Own Use.
- Organized Pickle Making Training at Banjikhhol village. In this training one women SHG of banjikhhol village benefitted.
- 27 swing machine to 27 women of Banjikhhol village’.



Water supply for irrigation through this canal



## **PROJECT RIPA – Rural Industrial Park (A COLLAB BETWEEN GOVT. AND HINDALCO)**

### **Objective -:**

**To generate livelihood for local communities of nearby villages.**

**To Promote Kosa Silk Art.**

**To support local Kosa silk Artisans.**

### **Activites Plan for the Project.**

- I. Set up a centre for value addition & reeling activity in Milupara**
- II. Set up a centre for dyeing and warping in Supa**

#### **➤ Sub- activities:**

- a. Mobilisation of SHG/ Individual**
- b. Conduct training program**
- c. Conduct production**



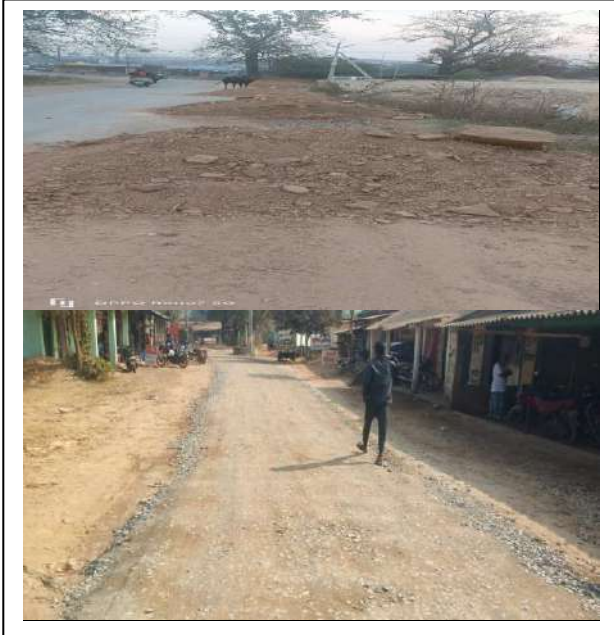
### Progress of Project till September -:

- ❑ On June 3<sup>rd</sup> Agreement sign off in presence of honorable CM, Mr. Bhupesh Baghel with CG Govt. for RIPA project. The sheds (one in Milupara and the other one in Supa) being handed over under the project will be used for providing training and livelihood to local villagers.
- ❑ Mobilization and identification of actual beneficiaries started in nearby villages.
- ❑ Reeling and re-reeling machines shifted in RIPA Centre
- ❑ NFA moved and Vendor finalization done.



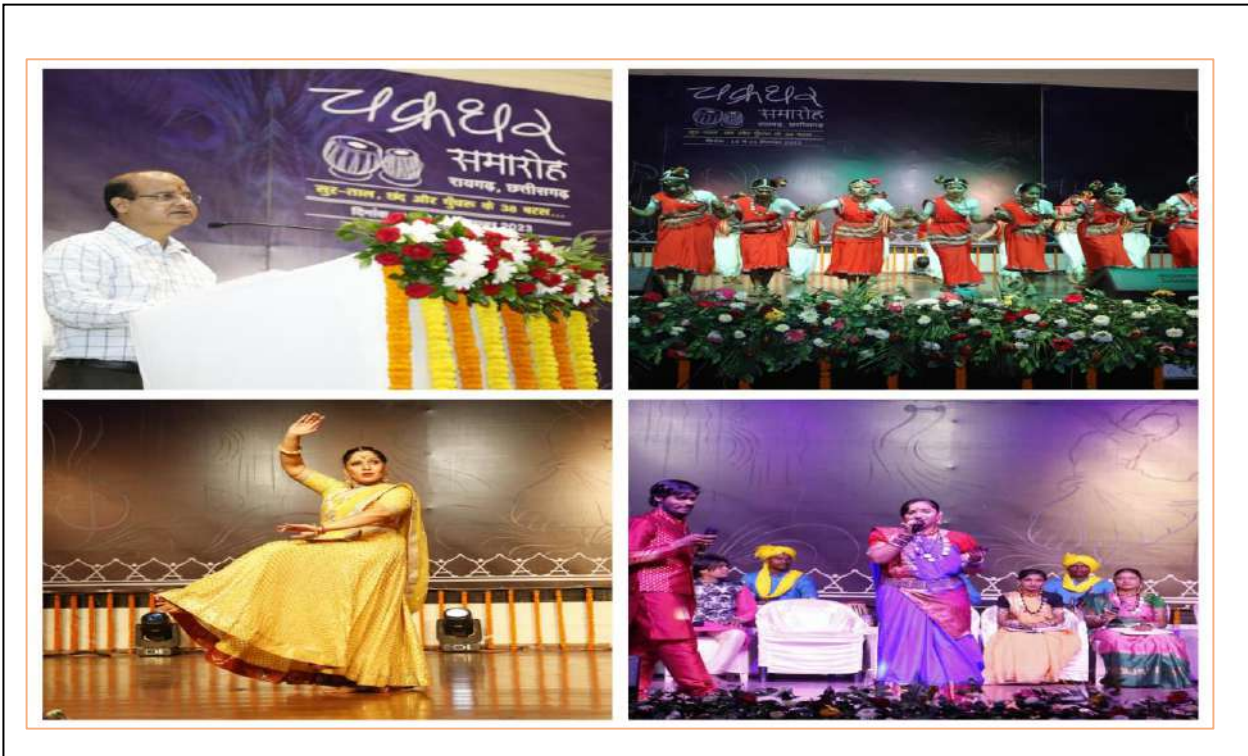
### 4. INFRASTRUCTURE DEVELOPMENT

- Murum was laid with leveling and expansion on 1.2 km BT road form Milupara Chowk to Police Chouki Milupara.
- Bhoomi Poojan done at Beljor Village for construction of Community Hall.
- Estimation submitted to Commercial Department for of all Infrastructure Development Project
- The negotiation process is under progress.



## SOCIAL INITIATIVES

- Promotion of Heritage/Culture/Sports- Providing financial support to Folk dance/song samaroh Jhoola Rath yatra,Rath Yatra, Ganesh Samroh, Chakrdhar Samroh.
- Celebrated World Yoga Day at Kondkel village
- Celebrated Van Mahotsav at Middle and Primary School Kondkel & Milupara Total 150 students participated in drawing and slogan competition and tree plantation also done in both schools.
- Support to Swacchatta Abhiyan
- Celebrated Van Mahotasav





THANK YOU

# Annexure-2



Flat/Door:- Hindalco Industries Limited, Gare Palma IV/4 UG Coal mine, Village:- Bankheta, Post Office:- PO: Milupara, Taluk/Sub Division:- PS : Tamnar, City/District:- RAIGARH, State:- CHHATTISGARH, PIN Code:- 496107, Country:- India, Tel.Number:- +91-9111006243, Email:- hindalco@adityabirla.com

Registered Office: 21st Floor, One International Center, Tower 4, Prabhadevi, Near Prabhadevi Railway Station, Senapati Bapat Marg, Mumbai 400013 T: +91 22 694 7 7000 / 6947 7150 IF: +91226947 7001/6947 7090 I W: www.hindalco.com Corporate ID No.: L27020MH1958PLC011238

PURCHASE ORDER (Domestic)

Vendor Code : 13100576
Vendor : CENTRAL INSTITUTE OF MINING & FUEL RESEARCH
Site : S2-DHANBAD
Address : BARWA ROAD
DHANBAD , JHARKHAND , India - 826001
GSTIN No. : 20AAATC2716R1ZT
Email : prashant@cimfr.nic.in
Contact Person : PRASHANT JI
Mobile : 9431377071
PO. Number : 13552310752
Creation Date : 02-SEP-2023
Amendment No. :
Amendment Date :
Currency : INR
Our Contact : Sunil Choudhary
Email : sunilk.choudhary@adityabirla.com
Phone No. : +91 9111006142
Ship to Location : Gare Palma IV/4 Coal Mines Project

REFERENCE: Scientific study for Liquidation Plan of UG Reserve for Gare Palma IV/4 Coal Block and determining the feasibility of Ut

Please Supply/Service the following items subject to the terms & conditions mentioned here under and overleaf

Table with 6 columns: S.No, Item Code/Desc., HSN/SAC Code, UOM, Ship Qty, Unit Rate. Contains two main items with detailed descriptions and tax calculations (Basic Value, IGST, Item Total Value).

Value in Words ( INR ) : (Thirty Five Lakh Four Thousand Six Hundred Only)

Other Terms and Conditions :

Payment Terms : As per attached Annexure (see notes)
Price Type Terms : Fixed
FOR BANJIKOL
Freight Terms :
Transportation arrangement :

Our General Terms and Conditions are mentioned overleaf.

Subject to Specific & General Terms & Conditions specified herein

Hindalco Industries Limited

Ranjeet Kumar Agrawal
Head Commercial-Coal Mining

This is a digitally signed document.

Table with 4 columns: Field Name, Value, Field Name, Value. Includes DIVISION, PAN, CIN No., Import/Export Code, TAN NO., and GSTIN.

Annexure - 1 Specific T&C :

1. Scope of Service for feasibility of Utilizing ash with overburden as a backfill material in active opencast mine of Gare Palma IV/4 Coal Mine.

- 1.1 Characterization of coal ash, overburden and its admixture.
- 1.2 Leachate study of ash and its impact on surrounding environment & water bodies.
- 1.3 Geotechnical study of ash, overburden, and its admixture
- 1.4 Slope stability of mix overburden and fly ash and related safety aspect in operative mine
- 1.5 Feasibility of transporting ash to mine site
- 1.6 Conclusion and recommendation

2. Scope of Service for Liquidation Plan of GP IV/4 Underground Coal Mine.

- 2.1 Feasibility study of different method of extraction of developed pillar in given geo-mining conditions of Gare Palma IV/4 Coal Block.
- 2.2 Identification of most techno-economic liquidation technique and safety prospects of underground workings.

3. COMPLETION PERIOD : Within 6 Months from the date of work order awarded.

4. Date of Commencement of the Study is considered only after Advance Payment, Collection of Data from HIL Team & Sample availability at CIMFR Lab, Dhanbad.

5. Payment Terms:

- 5.1 GST Shall be payable as per applicable Govt. Norms.
- 5.2 TDS shall be deducted as per applicable Govt. Norms.
- 5.3 75% of the Basic Amount (Excl. GST) against Proforma Invoice immediately.
- 5.4 Balance 25% on submission of Draft Final Report within 7 Working Days.
- 5.5 Lodging, Boarding & Local conveyance: HIL Scope.
- 5.6 To and Fro Transportation of the Sample (Ash and Overburden) is HIL Scope.
- 5.7 As per section 37 of the CGST Act, You shall furnish electronically, the details of outward supply of goods or services or both effected during a tax period i.e. month on or before the tenth day of the succeeding said tax period (month)
- 5.8 As per section 37 of the CGST Act, you shall pay to the Government the tax due on or before the twentieth day of the of the succeeding month.

6. HIL representative Mr. Spandan Sengupta (Mob. No - 9111001167)

7. Termination:

The Company may at any time terminate this Contract in whole or in part by giving thirty (30) days' prior notice in writing to the Supplier. Upon receipt of such notice, the Supplier shall promptly discontinue any further performance of work or relevant part thereof and shall carry out only that part of work as may be necessary to protect the work to date or as may be reasonably requested by the Company.

In the event of the failure of either party to fulfil its obligations under this Contract and if such default or inability is not remedied within thirty (30) days of receipt of written notice of the same, the other party may terminate this Contract forthwith by written notice to the defaulting party.

8. Arbitration:

If any dispute and/or differences shall at any time arise between HINDALCO and you in relation to any clause (s) or matters herein contained or their respective rights/claims or liabilities hereunder or otherwise in relation to or arising out of this contract, such disputes and/or differences shall be settled mutually through discussions between the Chief Executives of the parties in the first instance, failing which the same shall be finally settled by an Arbitral Tribunal composed of a panel of three Arbitrators, one to be appointed by Claimant(s) and one to be appointed by Respondent(s) and the two Arbitrators, so appointed, shall appoint the third Arbitrator who shall act as the presiding Arbitrator. The Award of the Arbitral Tribunal shall be final and binding on the parties and the provisions of the Arbitration and Conciliation Act, 1996 and the Rules made there under and any statutory modification and re-enactment thereof shall be deemed to apply and to be incorporated in this Contract, Place of Arbitration shall be New Delhi and Arbitration proceedings shall be in English language.

9. Suspension of Work :

When situation so demands, Hindalco reserves the right to suspend the work partially/fully and subsequently reinstate the work partially or fully without invalidating the provisions of the contract. The period of completion of the work or contract will be suitably extended to cover the suspended / delayed period. In case the suspension/delay has caused extra financial implications, the same shall be substantiated by the supplier with documentary evidence for consideration and finalizing reasonable financial implications.

In case period of suspension of work is more than one month, the supplier shall discuss with the company to take all steps to minimise extra financial implications during the suspended period and to restart the work at the end of the suspension period.

This financial implication will not be considered if the suspension is done by Hindalco for reasons solely attributable to the supplier. Suspension beyond 6 months will lead to termination of the contract or as mutually decided between the parties. Financial implications due to termination shall be worked out in line with provisions of the termination clause.

10. Force Majeure:

Force majeure shall mean any cause, existing or future, which is beyond the reasonable control of any of the parties including acts of God, storm, fire, floods, explosion, epidemics, quarantine, earthquake, strike, riot, lock out, embargo, interference by civil or military authorities, acts, regulations or orders of any governmental authority in their sovereign capacity, acts of war (declared or undeclared).

None of the parties shall be liable for the failure to perform any obligation in terms of this Contract if and to such extent such failure is caused by a Force Majeure.

The party prevented to fulfil its obligations (hereinafter referred to as "the Affected Party") by Force Majeure shall notify the other party by fax within one week after occurrence and cessation of such Force Majeure and it shall be established by the Affected Party that the Force Majeure had delayed performance of the Affected Party's obligations and services and was beyond the reasonable control of the Affected Party and not due to the default or negligence of the Affected Party.

The periods for performance of this Contract as agreed upon shall be extended by the periods of delay caused by such Force Majeure, as long as the period of Force Majeure does not last longer than three months.

If a Force Majeure continues for more than three months and the parties are not able to reach an agreement on the continuation of the Contract within a further term of one month, the fulfilment of the Contract shall automatically be deemed impossible and shall stand suspended / terminated. In case of such suspension/termination the Supplier or Assignee, as the case may be, shall be entitled to the payment of costs incurred up to that time for all work completed on submission of substantiated invoice on the one hand and shall be liable for prompt refund to the Company the unearned portion of all the corresponding advance payments received by the Supplier or Assignee, as the case may be, from the Company on the other hand.

11. Our Values - INTEGRITY, COMMITMENT, PASSION, SEAMLESSNESS AND SPEED EXTRACTS FROM OUR POLICIES

To procure goods and services by honest use of sound business principles in an impartial/unbiased & transparent manner and dignity by way of fair competition, ethical and equitable dealings from right source, of desired quality, at right time, at optimal cost & in right quantity. Adopt the State of the Art purchase procedures to reduce internal and external lead times, deliver value for money, for all concerned, to create a strong network of competent and reliable suppliers. Preference will be given to manufacturers over dealers. Vendors not complying with environment norms will be discouraged. Vendors who are found to be resorting to unfair or unethical business practice will be deregistered. Vendors will be regarded as partners in our business. We will give preference to local vendors.

12. QUALITY, ENVIRONMENT, OCCUPATIONAL HEALTH & SAFETY POLICY

12.1 We, at "Hindalco Industries Limited", are committed to demonstrate excellence in quality, environment and occupational health & safety for sustainable development. To achieve this, we shall:

- 12.2 Ensure customer satisfaction by providing value added products and services;
- 12.3 Continually establish systems, procedures and best practices with technological interventions;
- 12.4 Optimize resource consumption particularly, raw material, energy, water, oil and promote pollution prevention;
- 12.5 Nurture and sustain safe and healthy work environment;
- 12.6 Comply with applicable legislation in letter and spirit;
- 12.7 Strengthen competence of employees and business associates through continuous training.

===XXX===

**GENERAL TERMS & CONDITIONS :****1. Price:**

The price mentioned in the Purchase Order is firm and fixed till the delivery of entire material and is not subject to any price escalation on any ground unless explicitly mentioned in the order.

**2. GST and other taxes:**

a) GST shall be paid by HINDALCO. You shall have to pay GST and file return immediately after dispatch.

b) You/Vendor shall be liable to fulfil all statutory compliance as may be required by Government of India from time to time, which without limitation to include issue E-invoice, filing GST Returns and paying GST amount on or before due dates. Any non-compliance shall entitle HINDALCO to withhold the sum due to indemnify their exposures.

**3. Completion Period:****Supply :**

Delivery schedule must be strictly followed. If the materials are not delivered strictly within the stipulated time, we reserve the right not to accept the material and/or levy Liquidated Damages as specified in the Purchase Order. Partial dispatches are not allowed unless authorized explicitly in writing by us.

**4. Transportation and Transit Insurance:**

The entire material shall be dispatched by road through the authorized transporter of HINDALCO as mentioned in the PO. In case dispatches are made through any other means or any other transporter, the extra expenses incurred by Hindalco, if any will be realized from the supplier

Transit Insurance from point of loading to point of discharge will be covered by HINDALCO unless otherwise agreed. The supplier has to inform HINDALCO about the dispatch particulars by Fax/e- mail addressed to the concerned Buyer.

**5. Dispatch Documents:**

Bill(s) / Document(s) (one in Original + one set in duplicate) should be sent along with challan and LR/WB/RR to Head (Accounts) and Head-Materials respectively. Bills / Challans should contain all relevant information like Vendor Code, Order No., Item Code, etc., as given in the PO besides supplier's GST & PAN No.

The dispatch documents should consist of the following:

- a) Invoice giving details of taxes.
- b) Packing list
- c) Test/Inspection report
- d) Material Test Certificate
- e) Original consignee copy of LR
- f) Warranty / Guarantee certificate

**6. Guarantee & Warranty clause:**

The entire materials/equipments supplied by you shall be in strict conformity with the specifications and data mentioned in the LOI / PO. It should be free from any defects arising out of poor design, workmanship, inferior material or all the items. The entire material/equipments shall be under guarantee for a period of 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier. In case of any defects attributable to design, material, manufacturing and workmanship arises after commissioning of the equipment and is not found to perform within the guarantee period, the seller shall replace such defective portion or part free inclusive of all costs such repair/replacement shall be carried out without loss of time. Any spares that may be required during the guarantee period (except consumable spares) shall be supplied free of charge. In case higher Guarantee Period has been agreed upon, the same will prevail.

In case the equipment /spares do not perform for the ratings specified, then the supplier will be allowed to rectify the defect. Even after making efforts to rectify the defect within reasonable time (mutually agreed), then HINDALCO will have the option to reject & return the equipment/spares against reimbursement of all payments made to supplier.

**7. Inspection and Testing before dispatch:**

HINDALCO has the right to witness the necessary inspection and testing of all equipment/materials mentioned in the PO during and after manufacture and before dispatch, to ensure seller's compliance with the specifications mentioned in the LOI / PO and the standards according to which seller has produced.

The authorized representative of HINDALCO shall have at all reasonable times right to visit manufacturer/his sub-vendor Works to witness inspection and testing of the equipment / materials. However, HINDALCO reserves the right to arrange third party inspection at HINDALCO's cost, unless otherwise agreed.

The supplier has to inform at least 02 weeks in advance before the dispatches are made about the readiness and to arrange inspection. Inspection / approval by HINDALCO does not absolve supplier's responsibility as per the terms of LOI / PO.

**8. Final inspection will be done at our plant (unless otherwise Specified in the PO :**

Payment will be made for actual weight or quantity accepted by us. Our measurements/inspection shall be final and binding. Rejected material will be returned by us at supplier's risk and cost (including to and fro transportation cost). Unless specifically advised by supplier regarding mode of return of rejection, HINDALCO will be free to choose any means for return of rejected goods. Supplier will intimate well in advance the methodology of documentation to be done specially for GST (ITC related activities).

**9. Operation & Maintenance Manuals (wherever applicable):**

The seller has to deliver four sets of Operation & Maintenance manuals comprising of the following along with the equipment.

- a) Equipment information.
- b) Instructions for equipment erection / commissioning.
- c) Operation and maintenance instructions including start-up and shutdown procedures, adjustment, lubrication schedules, preventive maintenance, trouble shooting, repair instructions.
- d) List of spare parts and lubricants used.
- e) Complete list with specifications for all bought out components.

**10. TAX DEDUCTION:**

Necessary tax deduction shall be made by HINDALCO as per the Government rules.

**11. OTHER TERMS & CONDITIONS:**

- a) The packing material and other accessories to be used for executing the above Purchase Order should be Biodegradable meeting our EHS norms.
- b) Due care should be taken during handling and transportation for prevention of Pollution due to spillage etc. Transporter must have "Transport Emergency card" during transit of Hazardous chemicals.
- c) Supplier should send order acknowledgement within 7 (Seven) days of receipt of PO. This order if not accepted should be returned within 48 hours stating reasons for non-acceptance. If we don't receive any acceptance within 7 (Seven) days, we will presume that all the terms and conditions given in order are acceptable to Supplier.
- d) Any demurrage, wharf age, or similar charges to which Buyer becomes liable because of Sellers failure to book the goods in accordance to Order and or late delivery of LR/RR receipt shall be borne by Supplier.
- e) Timely delivery of the material shall be essence of PO and any failure on that score will entail the Buyer to purchase the material from other sources at the prevailing market rate at the cost and risk of the Supplier without any prejudice to the right of the Buyer to cancel the Order. (Buyer reserves the right to purchase goods from market on Supplier's risk and cost).
- f) Prices are fixed and firm till completion of order.

**12. ARBITRATION:**

If any dispute and/or differences shall at any time arise between HINDALCO and Supplier in relation to any clause (s) or matters herein contained or their respective rights/claims or liabilities hereunder or otherwise in relation to or arising out of LOI / PO, such disputes and/or differences shall be settled mutually through discussions between the representatives of the parties in the first instance, failing which the same shall be finally settled by an Arbitral Tribunal composed of a panel of three Arbitrators, one to be appointed by Claimant(s) and one to be appointed by Respondent(s) and the two Arbitrators, so appointed, shall appoint the third Arbitrator who shall act as the presiding Arbitrator. The Award of the Arbitral Tribunal shall be final and binding on the parties and the provisions of the Arbitration and Conciliation Act, 1996 and the Rules made there under and any statutory modification and re-enactment thereof shall be deemed to apply and to be incorporated in this Contract, Place of Arbitration shall be at Unit Location District and Arbitration proceedings shall be in English language.

### 13. Governing Law & Jurisdiction:

The Purchase Order shall be subject to Indian laws and the Courts of competent Jurisdiction in Unit Location District alone shall have exclusive jurisdiction.

### 14. Information Security , Confidential Agreement:

All non-public, confidential or proprietary information of the Buyer, including, but not limited to, specifications, samples, patterns, designs, plans, drawings, documents, data, business operations, pricing, discounts or rebates, disclosed by Buyer to Supplier's Representative or Agent, whether disclosed orally or disclosed or accessed in written, electronic, or other form or media, and whether or not marked, designated or otherwise identified as "confidential," in connection with the Order is confidential, solely for the use of performing the Order and may not be disclosed or copied unless authorized by Buyer in writing. Buyer shall be entitled to injunctive relief for any violation of this Section. This Section shall not apply to information that is: (a) in the public domain; (b) rightfully and legally known to the Seller at the time of disclosure; or (c) rightfully and legally obtained by the Seller on a non-confidential basis from a third party.

### OUR VALUES

INTEGRITY, COMMITMENT, PASSION, SEAMLESSNESS AND SPEED

### EXTRACTS FROM OUR POLICIES:

To procure goods and services by honest use of sound business principles in an impartial/unbiased & transparent manner and dignity by way of fair competition, ethical and equitable dealings from right source, of desired quality, at right time, at optimal cost & in right quantity. Adopt the State of the Art purchase procedures to reduce internal and external lead times, deliver value for money, for all concerned, to create a strong network of competent and reliable suppliers. Preference will be given to manufacturers over dealers. Vendors not complying with environment norms will be discouraged. Vendors who are found to be resorting to unfair or unethical business practice will be deregistered. Vendors will be regarded as partners in our business. We will give preference to local vendors.

### QUALITY, ENVIRONMENT, OCCUPATIONAL HEALTH & SAFETY POLICY:

We are committed to demonstrate excellence in quality, environment and occupational health & safety for sustainable development.

To Achieve this, we shall:

1. Ensure customer satisfaction by providing value added products and services.
2. Continually establish systems, procedures and best practices with technological interventions.
3. Optimize resource consumption particularly- raw material, energy, water, oil and promote pollution prevention.
4. Nurture and sustain safe and healthy work environment.
5. Comply with applicable legislation in letter and spirit.
6. Strengthen competence of employees and business associates through continuous training.

We shall communicate and make this policy available to all stakeholders.

### Condition related to EOH&S

#### Material Supplier :

1. Supplier should comply with all Environmental Rules and Regulations, applicable to their supplies.
2. Supplier should provide MSDS for all materials, as applicable.
3. For transport, Supplier should use authorized transporter; Supplier should provide TERM Card, as applicable.
4. All Vehicles, used for transportation should comply with Motor Vehicle Rules, 2014.

#### Service Provider :

1. Suppliers, working inside the factory should ensure that they do not contaminate Water and Air.
2. Any Waste, generated during work inside the factory to be disposed of as per instructions given by us.
3. Supplier to ensure good housekeeping in their area of work inside.



# Annexure-3

## BIODIESEL DATA

1. Total No. of HSD engine – Dumpers engaged in the GP IV/4 coal Mines =  $22-14 = 8$  Nos.
2. Engaged in Transportation of coal from GP mines to coal stockyard: 14
3. Total consumption of HSD:  $[74000 \text{ (monthly consump.)} / 31] = 2387.097$  Litter per day
4. Total No. of HSD + Biodiesel engine – Dumpers engaged in the GP IV/4 coal Mines =  $22 + 0 - 14 = 8$  Nos. (a) Engaged in Transportation of coal from GP mines to coal stockyard
5. Total replacement of HSD = 238.709 litter per day
6. Total replacement % with Bio diesel = 10% per day

## Consumption details of HSD and BIOFUEL (Ltr)

DATE	HSD	BIOFUEL	TOTAL	CONSUMPTION	BALANCE
23-07-2023	5000	500	5500	2775	2725
24-07-2023	5000	500	5500	3789	4436
25-07-2023	0	0	0	4421	15
26-07-2023	5000	500	5500	4506	1009
27-07-2023	5000	500	5500	5031	1478
28-07-2023	5000	500	5500	3850	3128
29-07-2023	3000	300	3300	4729	1699
30-07-2023	0	0	0	914	785
31-07-2023	5000	500	5500	4779	1506
01-08-2023	2000	200	2200	277	3429
02-08-2023	0	0	0	26	3403
03-08-2023	2000	200	2200	0	5603
04.08.2023	0	0	0	23	5580
05-08-2023	0	0	0		5580
06-08-2023	0	0	0	2461	3119
07-08-2023	3000	300	3300	3421	2998
08-08-2023	3000	300	3300	3702	2596
09-08-2023	2000	200	2200	3493	1303
10-08-2023	3000	300	3300	3396	1207
11-08-2023	4000	400	4400	3369	2238
12-08-2023	3000	300	3300	3625	1913
13-08-2023	3000	300	3300	3102	2111
14-08-2023	2000	200	2200	3506	805
16-08-2023	5000	500	5500	4518	1787
17-08-2023	3000	300	3300	3677	1410
18-08-2023	2000	200	2200	3391	219
19-08-2023	0	0	0	79	140
20-08-2023	4000	400	4400	4004	536
21-08-2023	3000	300	3300	3789	47
22-08-2023	4000	400	4400	3712	735
23-08-2023	4000	400	4400	4360	775
24-08-2023	2000	200	2200	2540	435
25.08.2023	3000	300	3300	2700	1035
26.08.2023	3000	300	3300	3120	1215
27.08.2023	3000	300	3300	2920	1595
28.08.2023	2000	200	2200	3310	485
29-08-2023	3000	300	3300	2815	970
30-08-2023	3000	300	3300	3370	900
31-08-2023	3000	300	3300	3030	1170
01-09-2023	2000	200	2200	2370	1000
02.09.2023	2000	200	2200	2360	840
03.09.2023	2000	200	2200	2554	486

04-09-2023	0	0	0	0	486
05-09-2023	3000	300	3300	2680	1106
06-09-2023	3000	300	3300	1460	2946
07-09-2023	0	0	0	2290	656
08-09-2023	2000	200	2200	1000	1856
09-09-2023	2000	200	2200	3005	1051
10-09-2023	2000	200	2200	3190	61
11-09-2023	3000	300	3300	2890	471
12-09-2023	2000	200	2200	1630	1041
13-09-2023	0	0	0	0	1041
14-09-2023	0	0	0	0	1041
15-09-2023	0	0	0	0	1041
16-09-2023	0	0	0	0	1041
18-09-2023	0	0	0	0	1041
19-09-2023	0	0	0		1041
20-09-2023	0	0	0		1041
21-09-2023	0	0	0	0	1041
22-09-2023	0	0	0	0	1041
23-09-2023	0	0	0	0	1041
24-09-2023	0	0	0	0	1041
25-09-2023	0	0	0	0	1041
26-09-2023	3000	300	3300	3150	1191
27-09-2023	4000	400	4400	3312	2279
28-09-2023	2000	200	2200	2160	2319
29-09-2023	4000	400	4400	4650	2069
30-09-2023	4000	400	4400	3790	2679
<b>TOTAL</b>		14700	161700	159021	

Month	HSD	BIOFUEL	Total	% use of Biofuel	
Jul-23	33000	3300	36300	10	
Aug-23	74000	7400	81400	10	
Sep-23	40000	4000	44000	10	

# Annexure-4



Flat/Door:- Hindalco Industries Limited, Gare Palma IV/4 UG Coal mine, Village:- Bankheta, Post Office:- PO: Milupara, Taluk/Sub  
Division:- PS : Tamnar, City/District:- RAIGARH, State:- CHHATTISGARH, PIN Code:- 496107, Country:- India, Tel.Number:- +91-9111006243,  
Email:- hindalco@adityabirla.com

Regd.Office:- Ahura Centre,1st Floor,B Wing, Mahakali Caves Road, Andheri(East), Mumbai-400093, Email:- hindalco@adityabirla.com,  
Website:- www.hindalco.com, PH No.(Reg.):-(91-22)6691 7000, PH No.(Local):- 07805 - 281007

### PURCHASE ORDER (Domestic)

Vendor Code : 13103352	PO. Number : 13552310553
Vendor : THERMO FISHER SCIENTIFIC INDIA PVT LTD.	Creation Date : 10-MAY-2023
Site : S1-MUMBAI	Amendment No. :
Address : 403, 404, B Wing, Delphi, Hiranandani Business P Powai MUMBAI , MAHARASHTRA , India - 400001	Amendment Date :
GSTIN No. : 27AABCT3207A1ZZ	Currency : INR
Email : puneet.jain@thermofisher.com	Our Contact : Sunil Choudhary
Contact Person : Puneet Jain	Email : sunilk.choudhary@adityabirla.com
Mobile : 8800599500	Phone No. : +91 9111006142
	Ship to Location : Gare Palma IV/4 Coal Mines Project

REFERENCE: Your Final Offer Ref. No. EPM/CAAQMS/HINDALCO/AQ1 subsequent upon final email conversation Dated 18.04.2023 for Design,

Please Supply/Service the following items subject to the terms & conditions mentioned here under and overleaf

S.No	Item Code/Desc.	UOM	Ship Qty	Unit Rate
1	231531000853 EQUIPMENT PACKAGE, GENERAL; TYPE: CONTINUOUS AMBIENT AIR QUALITY MONITORING SYSTEM; DRAWING: EPM/CAAQMS/HINDALCO/AQ1 OF THERMO FISHER SCIENTIFIC; APPLICATION: NOX, SO2, CO, PM2.5, PM10, COMPRISING: WEATHER MONITORING SYSTEM, LED DISPLAY BOARD, MULTIPOINT CALIBRATOR ALONG WITH REMOTE CALIBRATION FACILITY, GLS FIBER PAPER, 20 M X 0.288 MM, CALIBRATION FOIL KIT, C14 BETA, GAS SAMPLING SYSTEM, HEATED TUBE FOR PM, ZERO AIR UNIT WITH COMPRESSOR, CAL GAS CYLINDERS WITH REGULATORS, RACK FOR ANALYSERS, LOCAL MONITORING STATION PC, AAQMS DATA TRANSFER TO CPCB/SPCB, 6 KVA UPS WITH 2 HRS POWER BACK-UP, SHELTER WITH ALL ACCESSORIES, (2) SPLIT AC (CAPACITY: 1.5 TON), STANDARD: USEPA	NUMBER	1.000	4350000.00
	Shipment Date 1	31-AUG-2023		
	<u>Description..</u>	<u>%/Amount</u>	<u>Rate</u>	<u>Amount</u>
	Basic Value			43,50,000.00
	IGST_DEL_COAL_CG_18	%	18.00	7,83,000.00
			Item Total Value :	51,33,000.00
			Total Purchase Order Value :	51,33,000.00

Value in Words ( INR ) : (Fifty One Lakh Thirty Three Thousand Only)

#### Other Terms and Conditions :

Payment Terms : As per attached Annexure (see notes)

Price Type Terms : Fixed

FOR BANJIKOL

Freight Terms :

Transportation arrangement :

Our General Terms and Conditions are mentioned overleaf.

Subject to Specific & General Terms & Conditions specified herein

Hindalco Industries Limited

Ranjeet Kumar Agrawal  
Head Commercial-Coal Mining

This is a digitally signed document.

DIVISION : Chhattisgarh	Import/Export Code : 0388147237
PAN : AAACH1201R	TAN NO. : JBPH01054E
CIN No. : L27020MH1958PLC011238	GSTIN : 22AAACH1201R1ZX

PO.No: 13552310553

PO Date: 16-MAY-2023

SCOPE OF SUPPLY, SCOPE OF WORK AND GENERAL TERMS & CONDITION IS ATTACHED HEREBY AS ANNEXURE - I

**GENERAL TERMS & CONDITIONS :****1. Price:**

The price mentioned in the Purchase Order is firm and fixed till the delivery of entire material and is not subject to any price escalation on any ground unless explicitly mentioned in the order.

**2. GST and other taxes:**

a) GST shall be paid by HINDALCO. You shall have to pay GST and file return immediately after dispatch.

**b) You/Vendor shall liable to fulfil all statutory compliance as may be required by Government of India from time to time, which without limitation to include issue E-invoice, filing GST Returns and paying GST amount on or before due dates. Any non-compliance shall entitle HINDALCO to withheld the sum dues to indemnify their exposures.**

**3. Completion Period:****Supply :**

Delivery schedule must be strictly followed. If the materials are not delivered strictly within the stipulated time, we reserve the right not to accept the material and/or levy Liquidated Damages as specified in the Purchase Order. Partial dispatches are not allowed unless authorized explicitly in writing by us.

**4. Transportation and Transit Insurance:**

The entire material shall be dispatched by road through the authorized transporter of HINDALCO as mentioned in the PO. In case dispatches are made through any other means or any other transporter, the extra expenses incurred by Hindalco, if any will be realized from the supplier

Transit Insurance from point of loading to point of discharge will be covered by HINDALCO unless otherwise agreed. The supplier has to inform HINDALCO about the dispatch particulars by Fax/e- mail addressed to the concerned Buyer.

**5. Dispatch Documents:**

Bill(s) / Document(s) (one in Original + one set in duplicate) should be sent along with challan and LR/WB/RR to Head (Accounts) and Head-Materials respectively. Bills / Challans should contain all relevant information like Vendor Code, Order No., Item Code, etc., as given in the PO besides supplier's GST & PAN No.

The dispatch documents should consist of the following:

- a) Invoice giving details of taxes.
- b) Packing list
- c) Test/Inspection report
- d) Material Test Certificate
- e) Original consignee copy of LR
- f) Warranty / Guarantee certificate

**6. Guarantee & Warranty clause:**

The entire materials/equipments supplied by you shall be in strict conformity with the specifications and data mentioned in the LOI / PO. It should be free from any defects arising out of poor design, workmanship, inferior material or all the items. The entire material/equipments shall be under guarantee for a period of 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier. In case of any defects attributable to design, material, manufacturing and workmanship arises after commissioning of the equipment and is not found to perform within the guarantee period, the seller shall replace such defective portion or part free inclusive of all costs such repair/replacement shall be carried out without loss of time. Any spares that may be required during the guarantee period (except consumable spares) shall be supplied free of charge. In case higher Guarantee Period has been agreed upon, the same will prevail.

In case the equipment /spares do not perform for the ratings specified, then the supplier will be allowed to rectify the defect. Even after making efforts to rectify the defect within reasonable time (mutually agreed), then HINDALCO will have the option to reject & return the equipment/spares against reimbursement of all payments made to supplier.

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HINDALCO has the right to witness the necessary inspection and testing of all equipment/materials mentioned in the PO during and after manufacture and before dispatch, to ensure seller's compliance with the specifications mentioned in the LOI / PO and the standards according to which seller has produced.

The authorized representative of HINDALCO shall have at all reasonable times right to visit manufacturer/his sub-vendor Works to witness inspection and testing of the equipment / materials. However, HINDALCO reserves the right to arrange third party inspection at HINDALCO's cost, unless otherwise agreed.

The supplier has to inform at least 02 weeks in advance before the dispatches are made about the readiness and to arrange inspection. Inspection / approval by HINDALCO does not absolve supplier's responsibility as per the terms of LOI / PO.

**8. Final inspection will be done at our plant (unless otherwise Specified in the PO :**

Payment will be made for actual weight or quantity accepted by us. Our measurements/inspection shall be final and binding. Rejected material will be returned by us at supplier's risk and cost (including to and fro transportation cost). Unless specifically advised by supplier regarding mode of return of rejection, HINDALCO will be free to choose any means for return of rejected goods. Supplier will intimate well in advance the methodology of documentation to be done specially for GST (ITC related activities).

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The seller has to deliver four sets of Operation & Maintenance manuals comprising of the following along with the equipment.

- a) Equipment information.
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Necessary tax deduction shall be made by HINDALCO as per the Government rules.

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- a) The packing material and other accessories to be used for executing the above Purchase Order should be Biodegradable meeting our EHS norms.
- b) Due care should be taken during handling and transportation for prevention of Pollution due to spillage etc. Transporter must have "Transport Emergency card" during transit of Hazardous chemicals.
- c) Supplier should send order acknowledgement within 7 (Seven) days of receipt of PO. This order if not accepted should be returned within 48 hours stating reasons for non-acceptance. If we don't receive any acceptance within 7 (Seven) days, we will presume that all the terms and conditions given in order are acceptable to Supplier.
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- f) Prices are fixed and firm till completion of order.

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The Purchase Order shall be subject to Indian laws and the Courts of competent Jurisdiction in Unit Location District alone shall have exclusive jurisdiction.

### 14. Information Security , Confidential Agreement:

All non-public, confidential or proprietary information of the Buyer, including, but not limited to, specifications, samples, patterns, designs, plans, drawings, documents, data, business operations, pricing, discounts or rebates, disclosed by Buyer to Supplier's Representative or Agent, whether disclosed orally or disclosed or accessed in written, electronic, or other form or media, and whether or not marked, designated or otherwise identified as "confidential," in connection with the Order is confidential, solely for the use of performing the Order and may not be disclosed or copied unless authorized by Buyer in writing. Buyer shall be entitled to injunctive relief for any violation of this Section. This Section shall not apply to information that is: (a) in the public domain; (b) rightfully and legally known to the Seller at the time of disclosure; or (c) rightfully and legally obtained by the Seller on a non-confidential basis from a third party.

### OUR VALUES

INTEGRITY, COMMITMENT, PASSION, SEAMLESSNESS AND SPEED

### EXTRACTS FROM OUR POLICIES:

To procure goods and services by honest use of sound business principles in an impartial/unbiased & transparent manner and dignity by way of fair competition, ethical and equitable dealings from right source, of desired quality, at right time, at optimal cost & in right quantity. Adopt the State of the Art purchase procedures to reduce internal and external lead times, deliver value for money, for all concerned, to create a strong network of competent and reliable suppliers. Preference will be given to manufacturers over dealers. Vendors not complying with environment norms will be discouraged. Vendors who are found to be resorting to unfair or unethical business practice will be deregistered. Vendors will be regarded as partners in our business. We will give preference to local vendors.

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1. Ensure customer satisfaction by providing value added products and services.
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1. Supplier should comply with all Environmental Rules and Regulations, applicable to their supplies.
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4. All Vehicles, used for transportation should comply with Motor Vehicle Rules, 2014.

#### Service Provider :

1. Suppliers, working inside the factory should ensure that they do not contaminate Water and Air.
2. Any Waste, generated during work inside the factory to be disposed of as per instructions given by us.
3. Supplier to ensure good housekeeping in their area of work inside.

# Annexure-5

**Hindalco Industries Limited**

**Gare Palma Mines**

**Note for Approval**

NFA No. - GP/Sus/BM/23-24/11

Dt. 20/09/23

**Sub: Development of sal nursery as per EC condition (Unplanned<sup>1</sup> activity) and involvement of CCDS**

Recently, one EC amendment had been received which say the following:

***'The PP shall develop Sal nursery with the minimum plant capacity of 25,000 within 5 ha of project area. Further, Sal tree shall be planted as much as possible while reclaiming during mine closure activity'.\****

\* Letter No J. 11015/183/2010/IA-II(M) Date :- 3 Apr' 23  
Keeping in mind the same, HIL is planning to set up one Net house with 5000 saplings<sup>2</sup> capacity.

For the same, the plan is to involve CCDS (Chotanagpur Craft Development Society), who have already submitted their plan and proposal. \* Attached

Reasons for involving CCDS are as follows:

1. CCDS has expertise in plantation and community development projects.
2. CCDS has experience in working with native species variety.
3. CCDS is being appointed as implementation partners in other mines as well as in units which signifies their credibility too.

The following expenditure will be incurred to do the activity:

SI No	Particulars	Unit	Unit cost	Total cost
1	Estimate for 500 sq. mtrs multi span arch type net house (Annex 1)	1	₹ 7,92,250.00	₹ 7,92,250.00
2	Saplings price (along with tools and equipments)	5000	₹ 60.00	₹ 3,00,000.00
3	Estimate for drip irrigation in each net house (Annex 2)	1	₹ 1,38,400.00	₹ 1,38,400.00
4	Other costs (Annex 3)	1	₹ 17,54,210.00	₹ 17,54,210.00
5	HR and Project management cost for 24 months (from Oct'23 - Oct'25)	24	₹ 25,000.00	₹ 6,00,000.00
			<b>Total Cost</b>	<b>₹ 35,84,860.00</b>

<sup>1</sup> This activity is unplanned as the EC amendment was received on April and P&B was approved prior to that. As this is an EC amendment, we must act up on it and have to report for the compliance too.

<sup>2</sup> Currently, taking approval for the activities to be completed by March 24 as we are currently undertaking nursery for 5000 saplings. During preparation of P&B for FY25, the cost of the project will be included in overall budget.

**Hindalco Industries Limited**

**Gare Palma Mines**

**Note for Approval**

Approval will be needed for: **35,84,860 (Thirty five lakhs eighty four thousand eight hundred sixty only).**

**Way forward:** The Saal saplings would be used for our "native species plantation" as per our BMP and mine closure plans. The saal saplings which will be planted in nursery this year, will be ready for OB dump plantation in next 1-2 years. Once they are ready, it can be used for backfilling. Moreover, as part of our BMP interventions, we shall involve the community for saal plantation on available land outside lease. Also, if we have saplings available with us in the nursery the same can be handed over to the community to maintain and sell to other industries present in the area for backfilling. This would ensure regeneration of sal and associate native forests in accordance with national goals.

**Annex 1: Estimate for 500 sq. mtrs multi span arch type net house**

Particulars	Description
Structure	GI Pipe
Width	15m
Length	33m
Middle Height	12ft
Side Height	8ft
Shed Net	Green Net 50%
Column	2inch
Horizontal Bar	1.25inch
Arch	1.25inch
Purline	1inch
Cross	1inch
Bay Span	3m
Foundation	Telescopic
Net Fixing	C type GI profile with zigzag spring
Sand, Cement, aggregates, etc	
Labour for land clearing and installation	
Transportation of materials to site	
<b>Total</b>	<b>Rs. 7,92,250.00</b>

**Annex 2: Estimate for drip irrigation**

Particulars	Amount
DRIP IRRIGATION FOR POLY/GREEN HOUSE – IT INCLUDES SAND FILTER & SCREEN FILTER FOR WATER FILTRATION, VENTUREY FOR FERTIGATION TO PLANTS, G.I FITTING MATERIALS, PVC MAINLINE AND SUB MAINLINE & TAP LINE, INLINE DRIP IRRIGATION FOR WATER AND FERTIGATION, FOGGER SYSTEMS FOR INCREASE HUMIDITY IN POLYHOUSE, CONTROL VALVE TO OPERATE THE DRIP AND FOGGER SYSTEM, BACK FLUSH LINE AND FLUSH VALVE TO FLUSH AND CLEANING THE SYSTEM, TAP LINE FOR SERVICE WATER, USING 6 KG PVC FITTING MATERIAL	
<b>Total for 01 drip system</b>	<b>Rs. 1,38,400.00</b>

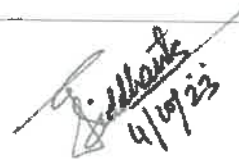
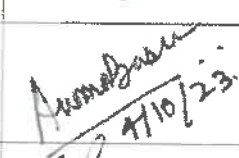
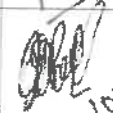
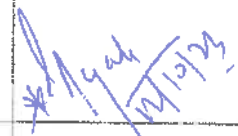
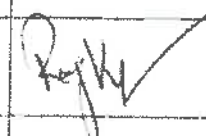

**Hindalco Industries Limited**

**Gare Palma Mines**

**Note for Approval**

**Annex 3: Other costs**

Sl No	Particulars	Unit	Unit cost	Total cost
1	Mandays for plantation and maintenance (3 persons/day/month for 24 months)	1872	₹ 700.00	₹ 13,10,400.00
2	Fertilizers and manure	1	₹ 2,00,000.00	₹ 2,00,000.00
3	Plant protection inputs	1	₹ 15,000.00	₹ 15,000.00
4	Miscellaneous (15%)			₹ 2,28,810.00
			<b>Total Cost</b>	<b>₹ 17,54,210.00</b>

Sl No.	Details	Name and designation	Signature
1	Initiator	Gipsy Siddhanta Asst. Manager - Sustainable Mining, GP mines	 4/10/23
2	Endorser	Anoma Basu GM - Sustainability	 4/10/23
3	Approver	Vidyadhar Patel Head - F & A	 10/10/23
		Sanjib Nayak Head - F&A, Coal vertical	 10/10/23
4		Ranjeet Agrawal Head - Commercial	
5		Rajiv Kumar Head - GP mines	
6		Vivek Mishra Head - Coal Vertical	

In-principle ok. Implementation process ~~can~~ must be evaluated without limiting to one vendor. We can get many vendors for sal nursery.  
10/10/23

**Hindalco Industries Limited**

**Gare Palma Mines**

**Note for Approval**

Kindly Note:

- (i) All plant/saplings are of superior quality and good health for best results.
- (ii) GST not applicable on supply of plant saplings, fertilizers and manures
- (iii) Maintenance of plants will be CCDS's responsibility. However, mortality due to grazing, theft or unavoidable circumstances will be borne by HIL
- (iv) Water source for irrigation facility to be provided by HIL at the site for plantation
- (v) Payment Terms - 50% advance of the Cost of Saplings/Plants and Manures and Fertilizers along with PO. Balance on delivery
- (vi) Transportation of materials extra (as per actual). 50% advance to be paid along with PO
- (vii) 50% advance for CCDS HR & Management Cost along with PO. 30% after 10 months. Balance on project completion
- (viii) Lodging & Fooding for the CCDS Management team to be provided by HIL
- (ix) Unskilled labour for land preparation, pit digging, plantation, maintenance, etc to be provided by HIL
- (x) Daily transportation facility for the CCDS team members to be provided by HIL.
- (xi) Transportation of materials to the site to be provided by HIL
- (xii) All invoices raised, to be cleared within 7 days
- (xiii) HR compliances to be relaxed for Project team, since the project will be on turnkey contract basis.

\* Process for PR / PO will be followed.  
\* Instead of considering the single vendor CCDS. We have to explore more vendor's locally to get cost benefit"

11/10/23

\* please routed through Commercial for ~~Vendor~~ evaluation & finalization of vendors' commercial Negotiations  
11/10/23  
page 4 of 4

# Annexure-6

Photographs of 650 nos. in-house developed Sal sapling  
at Gare Palma IV/4 Coal Mine





# Annexure-7

## Girija Tamrakar

---

**From:** Sachin Sharma  
**Sent:** 24 November 2023 13:32  
**To:** Girija Tamrakar  
**Subject:** FW: Decision of 67th Internal EAC \_ 21-4/125/CT/MIN/2011 \_M/S HINDALCO INDUSTRIES LTD. (GARE PALMA IV/4 COAL MINE)

---

**From:** Central Ground Water Authority <cgwa@nic.in>  
**Sent:** Wednesday, July 26, 2023 4:05 PM  
**To:** Sachin Sharma <sachin.s.sharma@adityabirla.com>; jmenviron@hotmail.com  
**Subject:** Decision of 67th Internal EAC \_ 21-4/125/CT/MIN/2011 \_M/S HINDALCO INDUSTRIES LTD. (GARE PALMA IV/4 COAL MINE)

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Sir,

You are herewith requested to find the below decision for the mentioned application.

**Deliberation:**

1. PP has confirmed that the project is an open cast and underground mine. At present, the project is an open cast mine.
2. PP has applied for GW quantum of 8432 KLD/ 3077680 KLY (Mine seepage of 3460 KLD and Rainfall quantum of 4972 KLD)
3. CHR and modelling report is as per SOP and hence approved.

**Decision:**

The internal EAC is of the considered opinion that the CHR is as per SOP and is approved for 8432 KLD/ 3077680 KLY.

Regards,

**O/o सदस्य सचिव Member Secretary,**

**केंद्रीय भूजल प्राधिकरण Central Ground Water Authority**

जल शक्ति मंत्रालय, भारत सरकार Ministry of Jal Shakti, Govt. of India

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली-110011

18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Ph- (011) 23383824; Fax- (011) 23382051; e-mail: [cgwa@nic.in](mailto:cgwa@nic.in)



75  
Azadi Ka  
Amrit Mahotsav



भारत 2023 INDIA

वसुधैव कुटुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE

# Annexure-8

**File No. J-11015/183/2010 IA-II. (M)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

\*\*\*\*\*

Indira Paryavaran Bhawan,  
Jorbagh Road, N Delhi – 3  
Email: [lk.bokolia@nic.in](mailto:lk.bokolia@nic.in) Tel: 011-20819417

**Dated: 3rd April, 2023**

**To,**

The Assistant Vice-President (Corporate-Affairs)  
M/s **Hindalco Industries Limited**,  
Aditya Birla Centre, 3<sup>rd</sup> Floor,  
B wing, S.K. Ahire Marg, Worli,  
Mumbai-400030 (**Maharashtra**)  
Email: [corporateaffairs@adiatyabirla.com](mailto:corporateaffairs@adiatyabirla.com)

**Sub: Gare-Palma IV/4 Coal Block of Capacity 1 MTPA (Opencast: 0.56 MTPA to 0.84 MTPA (Increase by 0.28 MTPA) & Underground: 0.44 MTPA to 0.16 MTPA (Decrease by 0.28 MTPA) with reduction in mine lease area from 701.512, i.e. 683.272 ha by M/s Hindalco Industries Limited located in District Raigarh (Chhattisgarh) - For Amendment of Environment Clearance letter dated 24.05.2019 – reg.**

**Sir,**

This has reference to your online proposal No. IA/CG/CMIN/293233/2022 dated 21<sup>st</sup> October, 2022 on the above mentioned subject.

2. The Ministry of Environment, Forest and Climate Change has granted environmental clearance vide letter dated 12th March, 2013 in favour of M/s Jayaswal Neco Industries to Gare-Palma IV/4 Coal Block of production capacity 1 MTPA (0.6 MTPA Underground & 0.4 MTPA Opencast) in mine lease area of 701.512 ha located in District Raigarh (Chhattisgarh).
3. Subsequent to cancellation of coal blocks pursuant to order of Hon'ble Supreme Court in August/September, 2014 and their reallocation to successful bidders, Gare-Palma IV/4 coal block was vested with M/s Hindalco Industries Limited vide Allotment Order No.104/16/2015/NA dated 23rd March, 2015 issued by the Nominated Authority in the Ministry of Coal. The said Environmental Clearance was accordingly transferred to M/s Hindalco Industries Limited vide this Ministry's letter dated 16th April, 2015.
4. Further, Amendment in Environment Clearance was granted by Ministry vide its letter dated 24<sup>th</sup> May, 2019 restructuring of EC capacity for Opencast mine from 0.56 MTPA to 0.84 MTPA and for Underground Mine from 0.44 MTPA to 0.16 MTPA with no change in mine lease area and overall production capacity.

5. Now Project proponent has again requested for amendment in Environment Clearance for restructuring of EC capacity for Opencast mine from 0.56 MTPA to 0.84 MTPA and for Underground Mine from 0.44 MTPA to 0.16 MTPA with reduction in mine lease area from 701.512 ha to 683.272 ha and same overall production capacity as per the granted Environmental Clearance. With the proposed restructuring, mining operations would be revised as under:-

Mining method	Proposed Production Capacity w.r.t EC dated 12 <sup>th</sup> March, 2013
Opencast	0.84 MTPA (Increase by 0.44 MTPA)
Underground	0.16 MTPA (Decrease by 0.44 MTPA)

6. It has been submitted that coal block area is 885.525 ha as allotted and approved by the Ministry of Coal. However, Project Proponent has submitted the approved Mining plan vide letter dated 14.02.2023 for the project area of 683.272 ha. The Mine plan and Mine Closure Plan (5th Modification) has been prepared by Indian Mine planners and consultants and approved by Ministry of Coal vide its Application No. Gare Palma IV-4CTCG013/APP00229/2022 dated 14.02.2023 for Gare Palma IV-4 for project area of 683.272 ha. Further, following details has been submitted by PP during appraisal.

- Land use details on the basis of 5<sup>th</sup> Revision of Mining Plan along with Mine Closure Plan Approved in Feb., 2023 is given below:

a. Pre-Mining Land use details

S. No.	Land Use	Within ML Area (In Ha)	Outside ML Area (In Ha)	Total (In Ha)
1.	Agricultural Land	279.862	0.0	279.862
2.	Forest Land	236.553	0.0	236.553
3.	Waste Land	50.344	0.0	50.344
4.	Grazing Land	65.144	0.0	65.144
5.	Surface Water Bodies	9.767	0.0	9.767
6.	Settlements	0.0	0.0	0.0
7.	Other (Tenancy, Road, Community, Other Govt.)	41.602	0.0	41.602
<b>Total</b>		<b>683.272</b>	<b>0.0</b>	<b>683.272</b>

b. Post Mining Land use details:

Proposed land use	Area (In Ha)
Plantation	190.531
Agricultural Land	115.067
Public/Company Use	54.672
Water harvesting	25.673
Dismantled area	0
Forest land	236.553
Undisturbed	60.776
<b>Total</b>	<b>683.272</b>

- 5th Revision of Mining Plan along with Mine Closure Plan Approved in Feb., 2023, Life of Mine is ~7 years for Opencast from 2022-23 and ~11 years for Underground mining from 2022-23.
- 5th Revision of Mining Plan along with Mine Closure Plan Approved in Feb., 2023; 190.531 ha area will be covered under greenbelt/plantation. 01 External dump in patch C created by prior allotted which is technically & bio-logically reclaimed. Internal OB Dump: 45.79 MCuM of OB will be generated from 22-23 to 28-29 (End of OC Operation). Total OB is soil, shale & sandstone. It is proposed to backfill OB in maximum possible de-coaled area. OB backfilled in de-coaled area will be technically & biologically reclaimed in stages for the restoration of mined out land.
- Forest land of 419.887 ha comes within the mining lease and Forest Clearance has been obtained vide MoEF&CC and letter No. 8112/2002 FC dated 09.06.2003 in favor of JNIL and Forest Clearance was transferred from JNIL to HIL dated 18.05.2015.

7. The proposal was considered by the sectoral Expert Appraisal Committee (EAC) in the 37<sup>th</sup> EAC meeting held during 17-18 November, 2022 and 40<sup>th</sup> meeting during 16 -17 February, 2023 through physical mode wherein the Committee recommended the proposal for Amendment in Environmental Clearance. Based on recommendations of the EAC, Ministry of Environment, Forest and Climate Change hereby accords approval for amendment in Environment Clearance(EC) to Gare-Palma IV/4 Coal Block of Capacity 1 MTPA (**Opencast: 0.56 MTPA to 0.84 MTPA (Increase by 0.28 MTPA) & Underground: 0.44 MTPA to 0.16 MTPA (Decrease by 0.28 MTPA)**) with reduction in mine lease area from 701.512, i.e. 683.272 ha by M/s Hindalco Industries Limited located in District Raigarh (Chhattisgarh), under the provisions of EIA Notifications, 2006 and its amendments therein with following specific conditions.

- As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP to comply with all the recommendation of Carrying Capacity Study being conducted by reputed institute by CPCB & SPCB.
- As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, Coal transportation is permitted for only one year through road from date of commissioning and subsequently, transport must be done by rail or closed conveyor belt only.
- As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, proper and free health care facilities with multispecialty treatment system shall be provided in coal mine buffer area.
- As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP shall have to comply that when coal is sold to TPP, there is the agreement to sell that at least 25% Fly Ash of the coal sold, should be accepted by the coal company (seller) from TPP (Purchaser) failing which coal company shall be liable for civil action and other legal measures.
- PP shall use the Overburden dump for backfilling purpose to bring the mine at the ground level.
- PP shall deploy minimum 10% of total Mine vehicle operating, on biofuels and Electric.
- The PP shall increase the truck fleet size i.e. upto 50 tonne.
- The PP shall install one CAAQMS in the core zone of mine lease area and the data to display on the website as well as on the main entry gate of the organization

- (ix) The PP shall develop Sal nursery with the minimum plant capacity of 25,000 within 5 ha of project area. Further, Sal tree shall be planted as much as possible while reclaiming during mine closure activity.
- (x) The PP shall submit the renewal of CGWA NOC in order to smooth continuation of Mines to Ministry's IRO within six months.

8. All other conditions stipulated in Environment Clearance (EC) granted vide letter dated 12<sup>th</sup> March, 2013, transfer of EC dated 16<sup>th</sup> April, 2015 and amendment in EC dated 24<sup>th</sup> May, 2019 shall remain unchanged.

This issues with the approval of the competent Authority

  
(Lalit Bokolia)  
Director

**Copy to:**

1. The Secretary, Department of Environment & Forests, Government of Chhattisgarh, Secretariat Raipur
2. Deputy Director General of Forests (C), Ministry of Env., Forest and Climate Change, Integrated Regional Office, Aranya Bhawan, North Block, Sector-19 Naya Raipur, Atal Nagar, Chhattisgarh - 492002
3. The Member Secretary, Central Ground Water Authority, Ministry of Water Resources, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001
4. The Member Secretary, Central Pollution Control Board, CBD-cum Office Complex East Arjun Nagar New Delhi- 32
5. The District Collector, Raigarh, Government of Chhattisgarh.
6. Monitoring File
7. PARIVESH

  
(Lalit Bokolia)  
Director



# Annexure-9



Ref. No. HIL/GP-IV-4/CCO/2023-24/168

Dated: 03.10.2023

To,  
The Coal Controller,  
Office of the Coal Controller,  
Ministry of Coal,  
Government of India,  
1, Council House Street,  
Kolkata-700001.

Sub: **Statistical Return for the month of September-2023 of Gare Palma IV/4 Coal Mine.**

Sir,

Enclosed please find the Statistical Return for the month of September-2023 of Gare Palma-IV/4 Coal Mine of M/s. Hindalco Industries Limited.

This is for your kind information please.

Thanking you,

Yours sincerely,

*S.K. Panda*  
9/10/23  
Mine Manager  
Gare Palma-IV/4 Coal Mine  
Banjikhhol, Raigarh (CG).



Encl.: as above.

Copy to: OSD, CCO, Bilaspur.

**Hindalco Industries Limited**

Gare Palma Mines ( IV/4 & IV/5), Vill & Po: Milupara , Tehsil: Tamnar Dist: Raigarh- 496107 , Chhattisgarh  
T: +91 7762 228212, Website : www.hindalco.com E mail : hindalco@adityabirla.com  
Registered Office : Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road Andheri (East) , Mumbai 400093, India  
T: + 912266917000 | Fax: + 912266917001

**Statistical return for the month of September-2023.**

- 1 Name of the Coal Company :- Gare Palma IV/4 Coal Mine, M/s Hindalco Industries Limited.
- 2 Contact Name with Designation & Telephone No. :- B Gopal Krishna (Mines Manager), Mob.No.9111006007
- 3 Coal Consuming sector :- Captive Power Plant

**Table-1: Production of Raw Coal, Clean Coal and Middling etc.**

Coal Type	Production (In Thousand Tonnes)					
	During Month			Progressive (F.Y. 2023-24)		
	Opencast	Underground	Total	Opencast	Underground	Total
Coking	-	-	-	-	-	-
Non Coking	32.817	0.000	<b>32.817</b>	292.498	0.000	<b>292.498</b>
Total Raw Coal	32.817	0.000	<b>32.817</b>	292.498	0.000	<b>292.498</b>
Clean Coal	-	-	-	-	-	-
Middlings	-	-	-	-	-	-
Rejects	-	-	-	-	-	-

**Table 2 : Despatch of Raw Coal, Clean Coal and Middling etc.**

Coal Type	Despatch (In Thousand Tonnes)		Mode of Despatch (In Thousand Tonnes)			
	During Month	Progressive (F.Y. 2023-24)	Rail	Road	Others	Total
Coking	-	-	-	-	-	-
Non Coking	42.056840	282.820640	0.00000	42.056840	-	42.056840
Total Raw Coal	42.056840	282.820640	0.00000	42.056840	-	42.056840
Clean Coal	-	-	-	-	-	-
Middlings	-	-	-	-	-	-
Rejects	-	-	-	-	-	-

\* Domestic Consumption - Nil

**Table 3 : Pit Head Closing Stock of 30.09.2023**

Coal Type	Pit Head Closing Stock (In Thousand Tonnes)
	During Month
Coking	-
Non Coking	12.396230
Total Raw Coal	12.396230
Clean Coal	-
Middlings	-
Rejects	-

Signature:

*B. Gopal Krishna*  
03/10/23

Designation: Owner/Agent/ Manager

Date :- 03.10.2023

*B. Gopal Krishna*  
3/10/23



# Annexure-10

**CSR & Sustainability Expenditure Details**  
**From April 2023 to September 2023**  
**Hindalco Industries Ltd. Gare Palma IV/4**

<b>Sr. No.</b>	<b>Focused Area/ Project Activities</b>	<b>Summary Cost (In Lakhs)</b>
1	Education	8.11
2	Health	9.12
3	Sustainable Livelihood	7.60
4	Infra structure	2.96
5	Social Development	12.43
6	Other (if any)	2.39
7	Under Sustainable Development	32.75
<b>Total</b>		<b>75.36</b>

# Annexure-11

## Plantation details of Gare Palma IV/4 Coal Mine of M/s Hindalco Industries Limited

Year wise plantation detail of Gare Palma IV/4 Coal Mine						
Year	Location	No. of Tree Planted (Approx.)	Survival Rate (%)	Number of Plant Survived	Area Covered in Plantation (hectare)	Sapling Details
Upto 2015	Coal mine lease area/OB Dump.	53000	85.00	45050	18.0	Siris, Shisham, Yellow flametree, Kassod , Satvan, Acacia Mangium, Ganga Emli, Arjuna, Chirol, Gliricidia, Amla, Mango, guava, Neem, Pipal, Ficus sp., Peltafarm, Nilgiri, Casia Samia, Gulmohar, Acacia Coliformis, Jamun, Kachnar, Baheda & Kathal etc.
2016		6500	90.00	5850	2.3	
2017		10000	87.00	8700	3.5	
2018		5000	87.00	4350	1.7	
2019		6600	90.00	5940	2.4	
2020		10200	90.00	9180	3.7	
2021		8521	94.38	8042	3.2	
2022		12000	95.00	11400	4.6	
2023		21000	100.00	21000	8.4	
<b>Total</b>			<b>132821</b>	<b>90.93</b>	<b>119512</b>	

*Note : Gap filling of plants is a continous process*

## Photographs of Plantation at OB Dump Area of Gare Palma IV/4 Coal Mine















# Plantation Photographs at Patch “B” in OB Dump Area at GP IV/4 Coal Mine for 2023-24





Latitude: 22.15347  
Longitude: 83.541504  
Elevation: 342.58±99 m  
Accuracy: 18.1 m  
Time: 11-03-2023 10:09  
Note: Gare Palma IV/4 Coal Mines

Powered by NoteCam



Latitude: 22.158406  
Longitude: 83.535208  
Elevation: 276.29±47 m  
Accuracy: 23.7 m  
Time: 11-02-2023 12:19  
Note: Gare Palma IV/4 Coal Mines

Powered by NoteCam



Latitude: 22.156171  
Longitude: 83.54442  
Elevation: 266.58±100 m  
Accuracy: 16.3 m  
Time: 11-03-2023 09:43  
Note: Gare Palma IV/4 Coal Mines

Powered by NoteCam

# Plantation Photographs at Patch “C” in OB Dump Area at GP IV/4 Coal Mine for 2023-24







# Annexure-12

# Photographs of Garland and Toe Drain constructed at Patch "C" in OB Dump Area at GP IV/4 Coal Mine





**Photographs of Garland Drain constructed at Patch  
"B" in OB Dump Area at GP IV/4 Coal Mine**





# Annexure-13

PHOTOGRAPHS OF GABION / RETAINING WALL CONSTRUCTED IN PATCH "C"  
AT GARE PALMA IV/4 COAL MINE







Latitude: 22.165373  
Longitude: 83.550588  
Elevation: 288.74±5 m  
Accuracy: 9.1 m  
Time: 02-11-2023 12:59  
Note: Gare Palma IV/4 Coal Mines



Latitude: 22.165271  
Longitude: 83.550767  
Elevation: 286.3±5 m  
Accuracy: 4.7 m  
Time: 02-11-2023 12:58  
Note: Gare Palma IV/4 Coal Mines



Latitude: 22.16491  
Longitude: 83.551724  
Elevation: 340.86±8 m  
Accuracy: 2.4 m  
Time: 02-11-2023 12:55  
Note: Gare Palma IV/4 Coal Mines

Powered by NoteCam



Latitude: 22.164884  
Longitude: 83.552556  
Elevation: 289.59±4 m  
Accuracy: 14.2 m  
Time: 02-11-2023 12:53  
Note: Gare Palma IV/4 Coal Mines

Powered by NoteCam



# Annexure-14

## **Settling Pond at Patch C Banjikhoh**



HIL constructed an additional settling pond of size 30m X 10m X 1.5m (01Nos) to collect whole mine seepage water generated during the mining activities from Patch "C" specially in the rainy season for proper settling of mine seepage water before discharge

# Annexure-15

Constructed 03 Nos of Settling ponds of size 50m X 30m X 3m (each)  
with chemical dosing arrangement



SETTLING POND, NO – 1



SETTLING POND, NO – 2



SETTLING POND, NO – 3

# Annexure-16



**2. Vetiver grass plantation at OB dump near Patch "C" at Banjikhoh in GP IV/4 Coal Mine : Aprox. 50,000 Nos of Vetiver grass plantation has been done in OB Dump area near Patch "C" to provide the stability and prevent top soil erosion / Reduce the surface Run- off from OB dumps.**



Before



After

Vetiver is a large tufted bunchgrass and can reach up to 1.5 meter (5 feet) in height. The thin leaves and stems are erect and rigid and the plant bears small brown – purple flowers in long spikes. The fragrant roots grow downward in the soil and can attain depths of more than 3 meters (10 feet)



# Annexure-17

# Photographs of Fixed type of water sprinklers & Truck mounted water sprinklers at GP IV/4 Coal Mines

## Fixed type of water sprinklers



## Truck mounted water sprinkler



# Annexure-17A



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	<b>REPORT NO.</b>	UES/TR/23-24/04652	
	<b>LAB REF NO.</b>	UES/23-24/FE/08532-08539	
	<b>DATE OF SAMPLING</b>	21/09/2023 - 23/09/2023	
	<b>DATE OF RECEIPT</b>	25/09/2023	
	<b>DATE OF REPORT</b>	27/09/2023	
	<b>DATE OF ANALYSIS</b>	START: 25/09/2023	END: 27/09/2023
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	FUGITIVE EMISSION		
<b>SAMPLING LOCATION</b>	Gare Palma-IV/4 COAL MINE		
<b>DURATION OF SAMPLING</b>	8 HOURS		
<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST		
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	GMF FILTER PAPER (8 X 10 INCH) : 1X10 NO.		

<b>TEST REPORT</b>				
Locations	Unit	Suspended Particulate Matter SPM	Moef& CC Notification (350-1)	Method Reference
Haul Road - Bankheta	$\mu\text{g}/\text{m}^3$	235	500	EPA Method IO-2.1
Haul Road - Banjhikhol	$\mu\text{g}/\text{m}^3$	253	500	
Coal Stoke Yard - Bankheta	$\mu\text{g}/\text{m}^3$	214	500	
Coal Stoke Yard - Banjhikhol	$\mu\text{g}/\text{m}^3$	243	500	
Near OB Dump - Bankheta	$\mu\text{g}/\text{m}^3$	221	500	
Near OB Dump - Banjhikhol	$\mu\text{g}/\text{m}^3$	256	500	
Working Face - Bankheta	$\mu\text{g}/\text{m}^3$	244	500	
Working Face - Banjhikhol	$\mu\text{g}/\text{m}^3$	236	500	

**REMARKS:**

*Terms & conditions*

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- This is for information as the party has asked for above test(s) only.

 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

# Annexure-18



## Settling Pond at Patch B Bankheta



HIL constructed 02 nos of additional settling pond of size (50m X 40m X 5.0 m) for proper settling of mine seepage water generated from mining activities from Batch “B” before discharge for the agriculture purpose

# Annexure – 18A

**CONTINUOUS ONLINE EFFLUENT QUALITY MONITORING SYSTEM (COEQMS - 01 Nos.) AT GARE PALMA IV/4 COAL MINE, BANKHETA, RAIGARH**



# Annexure – 18B

## Photographs of Mist Canon at GP IV/4 Coal Mines



# Annexure-19

**Photographs of coal transport trucks is being properly covered & sealed with the use of plastic & wire at Gare Palma IV/4 Coal mines**



# Annexure-20





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0537	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA, POST MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/01343	
		DATE OF SAMPLING	26/04/2023	
		DATE OF RECEIPT	27/04/2023	
		DATE OF REPORT	02/05/2023	
		DATE OF ANALYSIS	START: 27/04/2023	END: 01/05/2023
<b>SAMPLE DETAILS</b>				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O. 13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	SETTLING POND INLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART 1): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2012, 4500-H'-B, 4-92	5.5 to 9.0	7.10
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 2540-D, 2-66	100	74.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.21
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	5.0	0.17
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 5520-B, 5-17	250	124.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44): 1993, RA 2003	30	24.2
19	Oil & Grease	mg/L	IS 3025 (Part 39): 1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43): 1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.: Not Detected.

**Terms & conditions**

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above tests only.

 02/05/23 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS   AUTHORIZED SIGNATORY
-----------------------------	--	--

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/0888	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/02066	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	18/05/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	19/05/2023	
<b>VILLAGE - BANKHETA, POST MILUPARA,</b>		<b>DATE OF REPORT</b>	24/05/2023	
<b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>DATE OF ANALYSIS</b>	START:19/05/2023	END:23/05/2023
<b>SAMPLE DETAILS</b>				
<b>SAMPLE TYPE</b>	WASTE WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022	
<b>CUSTOMER SAMPLE ID</b>	SETTLING POND INLET BANJIKHOL	<b>SAMPLE CONDITION AT RECEIPT</b>	OK	
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART 1):1987 RA 2003: APHA 22ND ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.4
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2012, 4500-H'-B, 4-92	5.5 to 9.0	7.12
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 2540-D, 2-66	100	75.2
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.23
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	5.0	0.19
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 5520-B, 5-17	250	128.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	25.0
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.: Not Detected.

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 24/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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.....End of the test report.....



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/01995	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA, POST MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/04346	
		DATE OF SAMPLING	29/06/2023	
		DATE OF RECEIPT	30/06/2023	
		DATE OF REPORT	04/07/2023	
		DATE OF ANALYSIS	START: 30/06/2023	END: 04/07/2023
<b>SAMPLE DETAILS</b>				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O. 13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	SETTLING POND INLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	IS:3025(PART 1):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.9
4	pH	-	APHA 23 <sup>rd</sup> Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.08
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed.2012,2540- D, 2-66	100	65.8
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.19
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	5.0	0.14
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 5520-B,5-17	250	104.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	20.2
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.: Not Detected.

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- This is for information as the party has asked for above tests only.

 04/07/23 <b>REVIEWED BY</b>	 <b>For ULTIMATE ENVIROLYTICAL SOLUTIONS</b>	 <b>AUTHORIZED SIGNATORY</b>
------------------------------------	---	---------------------------------

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/03039
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA, POST MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/05838
		DATE OF SAMPLING	26/07/2023
		DATE OF RECEIPT	27/07/2023
		DATE OF REPORT	31/07/2023
		DATE OF ANALYSIS	START: 27/07/2023 END: 31/07/2023
SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	SETTLING FOND INLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X I NO. PVC CAN 1 L X I NO. PVC CAN 1 L X I NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY LABORATORY CHEMIST
SAMPLING PROCEDURE	IS:3025(PART 1):1997 RA 2003, APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

### TEST REPORT

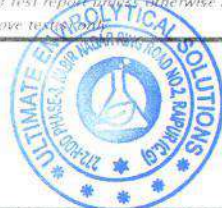
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.7
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	7.10
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 2540-D, 2-66	100	66.3
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.20
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	5.0	0.15
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 5520-B, 5-17	250	108.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993, RA 2003	30	21.1
19	Oil & Grease	mg/L	IS 3025(Part 39):1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.: Not Detected.

Terms & conditions:

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- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test.

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Subhojeet

AUTHORIZED SIGNATORY

.....End of the test report.....



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/03834	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA, POST MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/07308	
		DATE OF SAMPLING	23/08/2023	
		DATE OF RECEIPT	24/08/2023	
		DATE OF REPORT	31/08/2023	
		DATE OF ANALYSIS	START:24/08/2023	END:28/08/2023
<b>SAMPLE DETAILS</b>				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	SETTLING POND INLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H'-B,4-92	5.5 to 9.0	7.07
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,2540- D, 2-66	100	64.8
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B&D,4-84 & 8	2.0	0.18
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5.0	0.14
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 5520-B,5-17	250	100.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	19.56
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.: Not Detected.

*Terms & conditions*

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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.....End of the test report.....



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04656	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/W/08562	
		<b>DATE OF SAMPLING</b>	22/09/2023	
		<b>DATE OF RECEIPT</b>	23/09/2023	
		<b>DATE OF REPORT</b>	27/09/2023	
		<b>DATE OF ANALYSIS</b>	START: 23/09/2023	END: 27/09/2023
<b>SAMPLE DETAILS</b>				
<b>SAMPLE TYPE</b>	WASTE WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED: 07.09.2022	
<b>CUSTOMER SAMPLE ID</b>	SETTLING POND INLET BANJIKHOL	<b>SAMPLE CONDITION AT RECEIPT</b>	OK	
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	5.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.4
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H <sup>+</sup> -B,4-92	5.5 to 9.0	7.16
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,2540- D, 2-66	100	59.4
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B&D,4-84 & 8	2.0	0.16
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5.0	0.12
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 5520-B,5-17	250	88.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	18.7
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.: Not Detected.

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 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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.....End of the test report.....



HDD-272, Phase III - Near JP Chowk  
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Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/0538	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/01344	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	26/04/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	27/04/2023	
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	02/05/2023	
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START:27/04/2023	END:01/05/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>				
SAMPLE DETAILS				
<b>SAMPLE TYPE</b>	WASTE WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022	
<b>CUSTOMER SAMPLE ID</b>	SETTLING POND OUTLET BANJIKHOL	<b>SAMPLE CONDITION AT RECEIPT</b>	OK	
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.1
4	pH	-	APHA 23 <sup>rd</sup> Ed.2012,4500-H-B,4-92	5.5 to 9.0	7.25
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed.2012,2540- D, 2-66	100	40.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 5520-B,5-17	250	60.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	17.2
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

#### Terms & conditions

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- This is for information as the party has asked for above test(s) only.

 02/05/23 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS   AUTHORIZED SIGNATORY
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/0889
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/02067
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	18/05/2023
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	19/05/2023
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	24/05/2023
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START:19/05/2023      END:23/05/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>			
SAMPLE DETAILS			
<b>SAMPLE TYPE</b>	WASTE WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	SETTLING POND OUTLET BANJIKHOL	<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	<b>SEALED</b>	<b>SAMPLE COLLECTED BY</b> CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	'C	APHA 23 <sup>rd</sup> Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 23 <sup>rd</sup> Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.27
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed.2012,2540- D, 2-66	100	41.3
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 5520-B,5-17	250	64.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	18.4
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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 24/05/23 <b>REVIEWED BY</b>	 <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>	For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/01996
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/W/04347
		<b>DATE OF SAMPLING</b>	29/06/2023
		<b>DATE OF RECEIPT</b>	30/06/2023
		<b>DATE OF REPORT</b>	04/07/2023
		<b>DATE OF ANALYSIS</b>	START:30/06/2023      END:04/07/2023
<b>SAMPLE DETAILS</b>			
<b>SAMPLE TYPE</b>	WASTE WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	SETTLING POND/OUTLET BANJIKHOL	<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	<b>SEALED</b>	<b>SAMPLE COLLECTED BY</b>
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	CHEMIST 5 LTR

### TEST REPORT

Sr. No.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.7
4	pH	-	APHA 23 <sup>rd</sup> Ed.2012,4500-H-B,4-92	5.5 to 9.0	7.13
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed.2012,2540- D, 2-66	100	35.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 5520-B,5-17	250	52.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	16.5
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

#### Terms & conditions

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- > This is for information as the party has asked for above tests only.

 04/07/23 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/03040	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/05839	
		DATE OF SAMPLING	26/07/2023	
		DATE OF RECEIPT	27/07/2023	
		DATE OF REPORT	31/07/2023	
		DATE OF ANALYSIS	START: 27/07/2023	END: 31/07/2023
<b>SAMPLE DETAILS</b>				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O. 13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	SETTLING POND/OUTLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART 1):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

Sr. No.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.6
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	7.15
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 2540-D, 2-66	100	36.2
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-F-B&D, 4-84 & B	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 5520-B, 5-17	250	56.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	17.7
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report, unless otherwise agreed with customer.
- This is for information as the party has asked for above tests.

*R. S. Ch*  
31/07/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/03835	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/07309	
		DATE OF SAMPLING	24/08/2023	
		DATE OF RECEIPT	25/08/2023	
		DATE OF REPORT	31/08/2023	
		DATE OF ANALYSIS	START:25/08/2023	END:29/08/2023
<b>SAMPLE DETAILS</b>				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	SETTLING POND OUTLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X I NO. PVC CAN 1 L X I NO. PVC CAN 1 L X I NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.1
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H-B, 4-92	5.5 to 9.0	7.09
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-66	100	33.4
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F-B&D, 4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 5520-B, 5-17	250	52.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	16.4
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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- This is for information as the party has asked for above test(s) only.

 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04657	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/08563	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	22/09/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	23/09/2023	
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	27/09/2023	
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START:23/09/2023	END:27/09/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>				
SAMPLE DETAILS				
<b>SAMPLE TYPE</b>	WASTE WATER		<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	SETTLING POND OUTLET BANJIKHOL		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		<b>QUANTITY RECEIVED</b>	5 LTR

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.7
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H-B,4-92	5.5 to 9.0	7.18
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,2540- D, 2-66	100	36.7
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 5520-B,5-17	250	64.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	17.1
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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- > This is for information as the party has asked for above test(s) only.

 27/09/23 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY
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-----End of the test report-----

# Annexure-21

**Ground Water Level Monitoring Report in and around the Coal Mine Area  
(From April 2023 to June 2023)**

Sr. No.	Location	Types of Structure	In Meters		
			Ground Water level (BGL) Apr' 2023	Ground Water level (BGL) May' 2023	Ground Water level (BGL) Jun' 2023
1	Near Security Gate, Bankheta	Borewell / AWLR	12.85	13.14	13.40
2	Near Mines office, Banjikhoh	Borewell / AWLR	27.30	28.10	28.75
3	Near Mines office, Milupara	Borewell / AWLR	13.11	13.55	13.83
4	Near Staff Quarter, Milupara	Borewell / AWLR	8.49	8.74	8.60
5	Near PHC – HIL, Milupara Village	Dugwell	6.22	6.33	4.42
6	Near Primary School, Sakta Village	Dugwell	3.51	3.59	2.91
7	Near Primary School, Sidarpara Village	Dugwell	9.27	9.51	6.55
8	Near Primary School, Beljor Village	Dugwell	6.95	7.15	7.10



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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/01263	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/02506	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	20/05/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	22/05/2023	
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	26/05/2023	
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START: 22/05/2023	END: 26/05/2023
<b>DISTT. - RAIGARH (C.G.) 496107.</b>				
<b>SAMPLE DETAILS</b>				
<b>SAMPLE TYPE</b>	GROUND WATER		<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	NEAR MAIN SECURITY GATE BANKHETA MINE (PIEZOMETER) AWLR		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS: 3025 (PART I):1987 RA 2003; APHA 23RD ED. 2012, 1060-B, 1-39		<b>QUANTITY RECEIVED</b>	5 LTR

Report No.01263

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>nd</sup> Ed.2012,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	6.93
5	Turbidity	NTU	APHA 23 <sup>nd</sup> Ed.2012,2130-B,2-13	1	5	1.34
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	156.3
7	Residual Chlorine	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2540- B, 2-64	-	-	96.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	93.5
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2540- D, 2-66	-	-	2.6
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	44.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2340-C, 2-44,45	200	600	64.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	-	-	40.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	-	-	24.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	75	200	16.03
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	30	100	5.83
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-Cl-B, 4-72	250	1000	13.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-SO <sub>4</sub> -E, 4-190	200	400	16.6
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	0.36



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Report No.01263

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.07
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>nd</sup> Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

#### Microbiological Analysis

1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample	Absent

#### Pesticides

1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o.p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.





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Report No.01263

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
11	Beta-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995		0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994		1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994		3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994		30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994		2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994		-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994		-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995		30	N.D.
20	Alachlor	µg/L	US EPA 508- 1995		20	N.D.
21	Atrazine	µg/L	US EPA 532-2000		2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994		0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994		-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994		190	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994		-	N.D.
26	Aldrin	µg/L	US EPA 508- 1995		0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995		0.03	N.D.

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

**REMARKS: RESULTS ARE AS ABOVE**

**Terms & conditions**

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 26/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



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<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/01264	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.</b>		<b>LAB REF NO</b>	UES/23-24/W/02507	
		<b>DATE OF SAMPLING</b>	20/05/2023	
		<b>DATE OF RECEIPT</b>	22/05/2023	
		<b>DATE OF REPORT</b>	26/05/2023	
		<b>DATE OF ANALYSIS</b>	START: 22/05/2023	END: 26/05/2023
<b>SAMPLE DETAILS</b>				
<b>SAMPLE TYPE</b>	GROUND WATER		<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED: 07.09.2022
<b>CUSTOMER SAMPLE ID</b>	NEAR MINE OFFICE - BANJIKHOL MINE (PIEZOMETER) AWLR		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B,1-39		<b>QUANTITY RECEIVED</b>	5 LTR

Report No.01264

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>nd</sup> Ed.2012,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.23
5	Turbidity	NTU	APHA 23 <sup>nd</sup> Ed.2012,2130-B,2-13	1	5	1.21
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	189.2
7	Residual Chlorine	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2540- B, 2-64	-	-	115.2
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	113.0
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2540- D, 2-66	-	-	2.2
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	56.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2340-C, 2-44,45	200	600	82.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	-	-	46.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	-	-	36.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	75	200	18.44
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	30	100	8.75
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-Cl-B, 4-72	250	1000	17.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-SO <sub>4</sub> -E, 4-190	200	400	26.41
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	2.38
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Na-B, 3-97	-	-	9.1



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### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-K-B, 3-87	-	-	0.32
23	Boron (as B)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.08
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>nd</sup> Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

#### Microbiological Analysis

1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample	Absent

#### Pesticides

1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.



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Report No.01264

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D.- Not Detected.

**REMARKS: RESULTS ARE AS ABOVE**

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

*R. Bell*  
26/05/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/01281	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/02524	
		DATE OF SAMPLING	20/05/2023	
		DATE OF RECEIPT	22/05/2023	
		DATE OF REPORT	26/05/2023	
		DATE OF ANALYSIS	START:22/05/2023	END:26/05/2023
		<b>SAMPLE DETAILS</b>		
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	VERBAL COMMUNICATION.
CUSTOMER SAMPLE ID	NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR

REPORT NO.01281

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 <sup>nd</sup> Ed.2012,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.21
5	Turbidity	NTU	APHA 22 <sup>nd</sup> Ed.2012,2130-B,2-13	1	5	2.78
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	276.6
7	Residual Chlorine	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-Cl-G,4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2540- B, 2-64	-	-	175.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	167.2
10	Total Suspended Solids	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2540- D, 2-66	-	-	8.4
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	42.0
12	Total Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2340-C, 2-44,45	200	600	70.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	-	-	38.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	-	-	32.0
15	Calcium (as Ca)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	75	200	15.23
16	Magnesium (as Mg)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	30	100	7.77
17	Chloride (as Cl)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-Cl-B, 4-72	250	1000	20.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-SO <sub>4</sub> -	200	400	17.2



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REPORT NO. 01281

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			E,4-190			
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	3.3
20	Phosphate (as P)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-P-C, 4-153	-	-	N.D.
20	Sodium (as Na)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Na-B, 3-97	-	-	8.4
21	Potassium (as K)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-K-B, 3-87	-	-	0.32
22	Boron (as B)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.21
25	Manganese (as Mn)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Cd,3-105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 <sup>nd</sup> Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						



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REPORT NO. 01281

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	p,p DDT	µg/L	US EPA 508-1995		1	N.D.
2	o.p DDT	µg/L	US EPA 508-1995		1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995		1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995		1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995		1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995		2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995		0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995		0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995		0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995		0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994		1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994		3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994		30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994		2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994		-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994		-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995		30	N.D.
20	Alachlor	µg/L	US EPA 508-1995		20	N.D.
21	Atrazine	µg/L	US EPA 532-2000		2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994		0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994		-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994		190	N.D.
25	Malaaxon	µg/L	US EPA 8141A-1994		-	N.D.
26	Aldrin	µg/L	US EPA 508-1995		0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995		0.03	N.D.

Note: mg/lit.: milligram per liter, N.D. - Not Detected

#### REMARKS: RESULTS ARE AS ABOVE

##### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only

*RB*  
28/05/23

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----

AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/01280	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/02523	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	18/05/2023	
<b>GARE PALMA - IV/5, MILUPARA</b>		<b>DATE OF RECEIPT</b>	19/05/2023	
<b>U/G COAL MINE,VILLAGE - MILUPARA,</b>		<b>DATE OF REPORT</b>	23/05/2023	
<b>BLOCK-TAMNAR,</b>		<b>DATE OF ANALYSIS</b>	START:19/05/2023	END:23/05/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>				
SAMPLE DETAILS				
<b>SAMPLE TYPE</b>	GROUND WATER		<b>ORDER /REFERENCE:</b>	P.O.13552310212, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	STAFF QUARTER- MILUPARA PIEZOMETER (AWLR)		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		<b>QUANTITY RECEIVED</b>	5 LTR

REPORT NO.01280

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025:(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025:(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 <sup>nd</sup> Ed.2012,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	6.99
5	Turbidity	NTU	APHA 22 <sup>nd</sup> Ed.2012,2130-B,2-13	1	5	0.76
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	221.0
7	Residual Chlorine	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2540- B, 2-64	-	-	140.7
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	132.6
10	Total Suspended Solids	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2540- D, 2-66	-	-	8.1
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	42.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2340-C, 2-44,45	200	600	92.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	-	-	60.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	-	-	82.0
15	Calcium (as Ca)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	75	200	22.04
16	Magnesium (as Mg)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	30	100	7.29
17	Chloride (as Cl)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-Cl-B, 4-72	250	1000	25.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-SO <sub>4</sub> -E,4-190	200	400	28.2
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-NO <sub>3</sub> -B,4-122	45	No Relaxation	0.74
20	Phosphate (as P)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-P-C, 4-153	-	-	N.D.





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REPORT NO. 01280

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	6.2
22	Potassium (as K)	mg/Lit	APHA 22nd Ed.2012,3500-K-B, 3-87	-	-	3.7
23	Boron (as B)	mg/Lit	APHA 22nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.19
26	Manganese (as Mn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 22nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.



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REPORT NO. 01280

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508-1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D. - Not Detected.

**REMARKS: RESULTS ARE AS ABOVE**

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- This is for information as the party has asked for above test(s) only.

*R. Ch*  
23/05/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhojeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



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<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/01282	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/W/02525	
		<b>DATE OF SAMPLING</b>	19/05/2023	
		<b>DATE OF RECEIPT</b>	20/05/2023	
		<b>DATE OF REPORT</b>	24/05/2023	
		<b>DATE OF ANALYSIS</b>	<b>START:20/05/2023</b>	<b>END:24/05/2023</b>
<b>SAMPLE DETAILS</b>				
<b>SAMPLE TYPE</b>	GROUND WATER		<b>ORDER /REFERENCE:</b>	VERBAL COMMUNICATION.
<b>CUSTOMER SAMPLE ID</b>	MILUPARA VILLAGE NEAR PHC-HIL (DUGWELL)		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	<b>SEALED</b>	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART 1):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		<b>QUANTITY RECEIVED</b>	5 LTR

REPORT NO.01282

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 <sup>nd</sup> Ed.2012,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.51
5	Turbidity	NTU	APHA 22 <sup>nd</sup> Ed.2012,2130-B,2-13	1	5	1.78
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	243.3
7	Residual Chlorine	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2540- B, 2-64	-	-	154.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	146.0
10	Total Suspended Solids	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2540- D, 2-66	-	-	8.6
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	48.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2340-C, 2-44,45	200	600	108.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ca-B,3-67	-	-	52.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Mg-B,3-84	-	-	56.0
15	Calcium (as Ca)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ca-B,3-67	75	200	20.84
16	Magnesium (as Mg)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	30	100	13.60
17	Chloride (as Cl)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-Cl-B, 4-72	250	1000	39.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-SO <sub>4</sub> -E, 4-190	200	400	24.9
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-NO <sub>3</sub> -B,4-122	45	No Relaxation	2.6
20	Phosphate (as P)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Na-B, 3-97	-	-	6.8
22	Potassium (as K)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-K-B, 3-87	-	-	2.31



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REPORT NO. 01282

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.1	0.3	0.08
27	Lead (as Pb)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 <sup>nd</sup> Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.



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REPORT NO. 01282

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508-1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D. - Not Detected.

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*[Signature]*  
24/05/23

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

*[Signature]*

AUTHORIZED SIGNATORY

-----End of the test report-----



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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/01283	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/02526	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	19/05/2023	
<b>GARE PALMA - IV/5, MILUPARA</b>		<b>DATE OF RECEIPT</b>	20/05/2023	
<b>U/G COAL MINE,VILLAGE - MILUPARA,</b>		<b>DATE OF REPORT</b>	24/05/2023	
<b>BLOCK-TAMNAR,</b>		<b>DATE OF ANALYSIS</b>	START:20/05/2023	END:24/05/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>				
SAMPLE DETAILS				
<b>SAMPLE TYPE</b>	GROUND WATER		<b>ORDER /REFERENCE:</b>	<b>VERBAL COMMUNICATION.</b>
<b>CUSTOMER SAMPLE ID</b>	NEAR PRIMARY SCHOOL - SAKTA VILLAGE (PIEZOMETER - DUGWELL)		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		<b>QUANTITY RECEIVED</b>	5 LTR

REPORT NO. 01283

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 <sup>nd</sup> Ed.2012,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	NoRelaxation	7.44
5	Turbidity	NTU	APHA 22 <sup>nd</sup> Ed.2012,2130-B,2-13	1	5	1.19
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	314.6
7	Residual Chlorine	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2540- B, 2-64	-	-	194.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	188.8
10	Total Suspended Solids	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2540- D, 2-66	-	-	5.2
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	60.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,2340-C, 2-44,45	200	600	96.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ca-B,3-67	-	-	58.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Mg-B,3-84	-	-	38.0
15	Calcium (as Ca)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ca-B,3-67	75	200	23.24
16	Magnesium (as Mg)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	30	100	9.23
17	Chloride (as Cl)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-Cl-B, 4-72	250	1000	22.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-SO <sub>4</sub> -E, 4-190	200	400	28.8
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-NO <sub>3</sub> -B,4-122	45	NoRelaxation	4.27
20	Phosphate (as P)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-P-C, 4-153	-	-	N.D.



HDD-272, Phase III - Near JP Chowk  
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REPORT NO. 01283

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B,3-18	0.3	NoRelaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.17
26	Manganese (as Mn)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.1	0.3	0.08
27	Lead (as Pb)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.01	NoRelaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Cd, 3-105	0.003	NoRelaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3112-B, 3-23	0.001	NoRelaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	NoRelaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,3500-Cr-B, 3-69	0.05	NoRelaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 22 <sup>nd</sup> Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 <sup>nd</sup> Ed.2012,6440-6-93	0.0001	NoRelaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

### Microbiological Analysis

1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample	Absent

### Pesticides

1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o.p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.



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REPORT NO. 01283

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D. - Not Detected.

### REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

*REK*  
24/05/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----





HDD-272, Phase III - Near JP Chowk  
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<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/01265
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/02508
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	19/05/2023
<b>GARE PALMA - IV/4, COAL MINE,VILLAGE -</b>		<b>DATE OF RECEIPT</b>	20/05/2023
<b>BANKHETA, POST -MILUPARA,</b>		<b>DATE OF REPORT</b>	24/05/2023
<b>DISTT. - RAIGARH (C.G.) 496107.</b>		<b>DATE OF ANALYSIS</b>	START:20/05/2023      END:24/05/2023
<b>SAMPLE DETAILS</b>			
<b>SAMPLE TYPE</b>	GROUND WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED: 07.09.2022
<b>CUSTOMER SAMPLE ID</b>	NEAR PRIMARY SCHOOL - SIDARPARA VILLAGE, (PIEZOMETER - DUGWELL)	<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE      SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 23RD ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR

Report No.01265

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed.2012,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.41
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed.2012,2130-B,2-13	1	5	0.68
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	280.4
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,2540- B, 2- 64	-	-	171.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	168.2
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,2540- D, 2- 66	-	-	2.9
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	90.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,2340-C, 2- 44,45	200	600	116.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,3500-Ca-B, 3-67	-	-	78.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,3500-Mg-B, 3-84	-	-	38.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,3500-Ca-B, 3-67	75	200	31.26
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,3500-Mg-B, 3-84	30	100	9.23
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,4500-Cl-B, 4-72	250	1000	20.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,4500-SO <sub>4</sub> -E, 4-190	200	400	21.4
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	0.72
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,3500-Na-B, 3-97	-	-	13.34
22	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2012,3500-K-B, 3-87	-	-	0.75

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Report No.01265

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>nd</sup> Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

#### Microbiological Analysis

1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample	Absent

#### Pesticides

1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.

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Report No.01265

### TEST REPORT


SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaaxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D.- Not Detected.

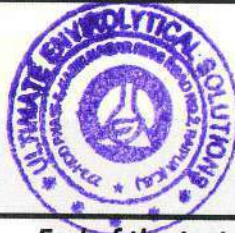
**REMARKS: RESULTS ARE AS ABOVE**

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

  
24/05/23

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For ULTIMATE ENVIROLYTICAL SOLUTIONS



AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/01266		
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,VILLAGE -</b> <b>BANKHETA, POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107.</b>		LAB REF NO	UES/23-24/W/02509		
		DATE OF SAMPLING	19/05/2023		
		DATE OF RECEIPT	20/05/2023		
		DATE OF REPORT	24/05/2023		
		DATE OF ANALYSIS	START:20/05/2023	END:24/05/2023	
		<b>SAMPLE DETAILS</b>			
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	NEAR PRIMARY SCHOOL - BELJOR VILLAGE ( PIEZOMETER - DUGWELL)		SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST	
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR	

Report No.01266

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>nd</sup> Ed.2012,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.36
5	Turbidity	NTU	APHA 23 <sup>nd</sup> Ed.2012,2130-B,2-13	1	5	0.62
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	289.9
7	Residual Chlorine	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2540- B, 2-64	-	-	176.5
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	173.9
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2540- D, 2-66	-	-	2.6
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	102.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,2340-C, 2-44,45	200	600	118.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	-	-	78.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	-	-	40.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ca-B, 3-67	75	200	31.26
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Mg-B, 3-84	30	100	9.72
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-Cl-B, 4-72	250	1000	22.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-SO <sub>4</sub> -E, 4-190	200	400	23.84
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	1.31
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Na-B, 3-97	-	-	7.78
22	Potassium (as K)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-K-B, 3-87	-	-	0.62

AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Report No.01266

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>nd</sup> Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>nd</sup> Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

#### Microbiological Analysis

1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100 ml sample	Absent

#### Pesticides

1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.



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Report No.01266

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D.- Not Detected.

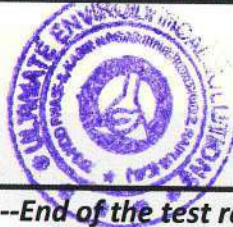
**REMARKS: RESULTS ARE AS ABOVE**

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

*Reck*  
24/05/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----

**Ground Water Level Monitoring Report in and around the Coal Mine Area  
(From Jul 2023 to Sep 2023)**

Sr. No.	Location	Types of Structure	In Meters		
			Ground Water level (BGL) Jul 2023	Ground Water level (BGL) Aug 2023	Ground Water level (BGL) Sep 2023
1	Bankheta (Near HIL Office)	Borewell/ AWLR	12.07	10.60	9.15
2	Banjikhol (Near Office)	Borewell/ AWLR	28.37	26.64	26.29
3	Milupara (Near Office)	Borewell/ AWLR	12.75	10.09	8.09
4	HIL Staff Quarter	Borewell/ AWLR	5.63	4.43	4.07
5	Milupara Village (PHC-HIL)	Dugwell	4.40	1.77	0.42
6	Sakta Village (Near Primary School)	Dugwell	2.92	1.86	1.24
7	Sidarpara Village (Near Primary School)	Dugwell	6.33	4.95	3.53
8	Beljor Village	Dugwell	5.20	4.33	3.13



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<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107.</b>		REPORT NO	UES/TR/23-24/03849	
		LAB REF NO	UES/23-24/W/07324	
		DATE OF SAMPLING	24/08/2023	
		DATE OF RECEIPT	25/08/2023	
		DATE OF REPORT	31/08/2023	
		DATE OF ANALYSIS	START: 25/08/2023	END: 29/08/2023
<b>SAMPLE DETAILS</b>				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	NEAR MAIN SECURITY GATE BANKHETA MINE (PIEZOMETER) AWLR	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I) :1987 RA 2003; APHA 23RD ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

Report No. 03849

<b>TEST REPORT</b>						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed.2017,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	6.82
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed.2017,2130-B,2-13	1	5	1.27
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	144.8
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2540- B, 2-64	-	-	89.18
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	86.88
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2540- D, 2-66	-	-	2.3
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	38.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2340-C, 2-44,45	200	600	56.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ca-B, 3-67	-	-	36.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Mg-B, 3-84	-	-	20.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ca-B, 3-67	75	200	14.42
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Mg-B, 3-84	30	100	4.86
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-Cl-B, 4-72	250	1000	11.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-SO <sub>4</sub> -E, 4-190	200	400	14.13
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	0.31
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Na-B, 3-97	-	-	8.79
22	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-K-B, 3-87	-	-	0.45





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Report No.03849

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-F-B &D, 4-84 & 87	1	1.5	0.05
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>rd</sup> Ed.2017,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.



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Report No. 03849

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

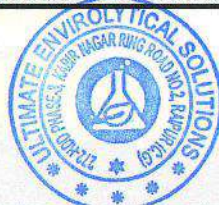
#### REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

*Pluseff*  
3/10/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107.</b>		<b>REPORT NO</b>	UES/TR/23-24/03850	
		<b>LAB REF NO</b>	UES/23-24/W/07325	
		<b>DATE OF SAMPLING</b>	24/08/2023	
		<b>DATE OF RECEIPT</b>	25/08/2023	
		<b>DATE OF REPORT</b>	31/08/2023	
		<b>DATE OF ANALYSIS</b>	START: 25/08/2023	END: 29/08/2023
<b>SAMPLE DETAILS</b>				
<b>SAMPLE TYPE</b>	GROUND WATER		<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	NEAR MINE OFFICE - BANJIKHOL MINE (PIEZOMETER) AWLR		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B,1-39		<b>QUANTITY RECEIVED</b>	5 LTR

Report No.03850

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed.2017,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.11
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed.2017,2130-B,2-13	1	5	1.16
6	Electrical Conductivity	μS/cm	IS 3025(part-14):1984, RA 2013	-	-	173.7
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2540- B, 2-64	-	-	106.22
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	104.21
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2540- D, 2-66	-	-	2.0
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	52.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2340-C, 2-44,45	200	600	72.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ca-B, 3-67	-	-	42.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Mg-B, 3-84	-	-	30
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ca-B, 3-67	75	200	16.83
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Mg-B, 3-84	30	100	7.29
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-Cl-B, 4-72	250	1000	15.2
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-SO <sub>4</sub> -E, 4-190	200	400	23.8
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	2.12
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Na-B, 3-97	-	-	8.8



HDD-272, Phase III - Near JP Chowk  
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Report No.03850

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-K-B, 3-87	-	-	0.27
23	Boron (as B)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-F-B &D, 4-84 & 87	1	1.5	0.05
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>rd</sup> Ed.2017,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.



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Report No. 03850

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaaxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D.- Not Detected.

REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

*Sheela*  
31/08/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/03885	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/5, MILUPARA</b> <b>U/G COAL MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/W/07399	
		<b>DATE OF SAMPLING</b>	24/08/2023	
		<b>DATE OF RECEIPT</b>	25/08/2023	
		<b>DATE OF REPORT</b>	31/08/2023	
		<b>DATE OF ANALYSIS</b>	<b>START:25/08/2023</b>	<b>END:29/08/2023</b>
<b>SAMPLE DETAILS</b>				
<b>SAMPLE TYPE</b>	<b>GROUND WATER</b>		<b>ORDER /REFERENCE:</b>	<b>VERBAL COMMUNICATION.</b>
<b>CUSTOMER SAMPLE ID</b>	<b>NEAR MILUPARA MINES OFFICE</b> <b>PIEZOMETER -AWLR</b>		<b>SAMPLE CONDITION AT</b> <b>RECEIPT</b>	<b>OK</b>
<b>PACKING OF SAMPLE</b>	<b>3 L X 1 NO. PVC CAN</b> <b>1 L X 1 NO. PVC CAN</b> <b>1 L X 1 NO. GLASS</b> <b>BOTTLE</b>	<b>SEALED</b>	<b>SAMPLE COLLECTED BY</b>	<b>CHEMIST</b>
<b>SAMPLING PROCEDURE</b>	<b>IS:3025 (PART I):1987 RA 2003;</b> <b>APHA 22ND ED. 2012, 1060-B, 1-39</b>		<b>QUANTITY RECEIVED</b>	<b>5 LTR</b>

REPORT NO. 03885

**TEST REPORT**

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.32
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	1	5	2.61
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	288.3
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G,4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2540- B, 2-64	-	-	179.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	172.0
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2540- D, 2-66	-	-	7.6
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	44.0
12	Total Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2340-C, 2-44,45	200	600	78.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ca-B, 3-67	-	-	56.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Mg-B, 3-84	-	-	22.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ca-B, 3-67	75	200	22.44
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Mg-B, 3-84	30	100	5.35
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-B, 4-72	250	1000	21.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-SO <sub>4</sub> -E,4-190	200	400	19.3
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	3.6
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	-	-	N.D.
20	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Na-B,	-	-	8.9

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REPORT NO. 03885

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			3-97			
21	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-K-B, 3-87	-	-	0.35
22	Boron (as B)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-B-B, 4-25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B & D, 4-84 & 87	1	1.5	0.32
25	Manganese (as Mn)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ni, 3-108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd,3-105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.



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REPORT NO. 03885

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995		2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995		0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995		0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995		0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995		0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994		1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994		3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994		30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994		2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994		-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994		-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995		30	N.D.
20	Alachlor	µg/L	US EPA 508-1995		20	N.D.
21	Atrazine	µg/L	US EPA 532-2000		2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994		0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994		-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994		190	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994		-	N.D.
26	Aldrin	µg/L	US EPA 508-1995		0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995		0.03	N.D.

Note: mg/lit.: milligram per liter, N.D. - Not Detected

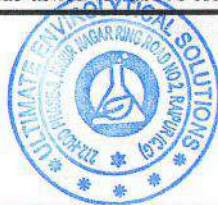
**REMARKS: RESULTS ARE AS ABOVE**

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- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
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*Subhajeet*  
31/08/23

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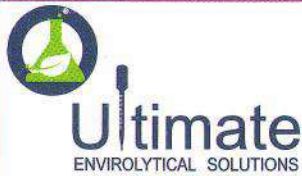
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*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----





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<i>Name &amp; Address Of The Customer</i>		<i>REPORT NO</i>	UES/TR/23-24/03884	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/5, MILUPARA</b> <b>U/G COAL MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		<i>LAB REF NO</i>	UES/23-24/W/07398	
		<i>DATE OF SAMPLING</i>	24/08/2023	
		<i>DATE OF RECEIPT</i>	25/08/2023	
		<i>DATE OF REPORT</i>	31/08/2023	
		<i>DATE OF ANALYSIS</i>	<i>START: 25/08/2023</i>	<i>END: 29/08/2023</i>
SAMPLE DETAILS				
<i>SAMPLE TYPE</i>	GROUND WATER		<i>ORDER /REFERENCE:</i>	P.O.13552310212, DATED:07.09.2022
<i>CUSTOMER SAMPLE ID</i>	STAFF QUARTER- MILUPARA PIEZOMETER (AWLR)		<i>SAMPLE CONDITION AT RECEIPT</i>	OK
<i>PACKING OF SAMPLE</i>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<i>SAMPLE COLLECTED BY</i>	CHEMIST
<i>SAMPLING PROCEDURE</i>	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		<i>QUANTITY RECEIVED</i>	5 LTR

REPORT NO. 03884

## TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025:(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025:(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.11
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	1	5	0.82
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	242.0
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2540- B, 2-64	-	-	143.4
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	135.0
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2540- D, 2-66	-	-	8.4
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	44.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2340-C, 2-44,45	200	600	98.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ca-B, 3-67	-	-	72.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Mg-B, 3-84	-	-	26.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ca-B, 3-67	75	200	28.86
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Mg-B, 3-84	30	100	6.31
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-B, 4-72	250	1000	28.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-SO <sub>4</sub> -E,4-190	200	400	30.1
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-NO <sub>3</sub> -B,4-122	45	No Relaxation	0.66
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Na-B, 3-97	-	-	6.9
22	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-K-B,	-	-	3.1



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REPORT NO. 03884

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
			3-87			
23	Boron (as B)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B &D, 4-84 & 87	1	1.5	0.19
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.

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REPORT NO. 03884

**TEST REPORT**

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D. - Not Detected.

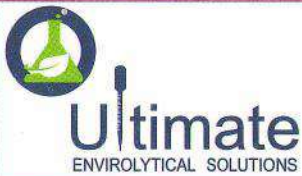
**REMARKS: RESULTS ARE AS ABOVE**

*Terms & conditions*

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 <b>REVIEWED BY</b>		<p>For ULTIMATE ENVIROLYTICAL SOLUTIONS</p>  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/03886	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/07400	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	24/08/2023	
<b>GARE PALMA - IV/5, MILUPARA</b>		<b>DATE OF RECEIPT</b>	25/08/2023	
<b>U/G COAL MINE,VILLAGE - MILUPARA,</b>		<b>DATE OF REPORT</b>	31/08/2023	
<b>BLOCK-TAMNAR,</b>		<b>DATE OF ANALYSIS</b>	START:25/08/2023	END:29/08/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>				
SAMPLE DETAILS				
<b>SAMPLE TYPE</b>	GROUND WATER		<b>ORDER /REFERENCE:</b>	VERBAL COMMUNICATION.
<b>CUSTOMER SAMPLE ID</b>	MILUPARA VILLAGE NEAR PHC-HIL (DUGWELL)		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		<b>QUANTITY RECEIVED</b>	5 LTR

REPORT NO.03886

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.58
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	1	5	1.82
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	262.4
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2540- B, 2-64	-	-	157.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	150.0
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2540- D, 2-66	-	-	7.6
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	50.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2340-C, 2-44,45	200	600	114.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ca-B,3-67	-	-	62.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Mg-B,3-84	-	-	52.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ca-B,3-67	75	200	24.85
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Mg-B, 3-84	30	100	12.64
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-B, 4-72	250	1000	41.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-SO <sub>4</sub> -E, 4-190	200	400	23.2
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-NO <sub>3</sub> -B,4-122	45	No Relaxation	2.6
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Na-B, 3-97	-	-	7.6
22	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-K-B, 3-87	-	-	2.44

REPORT NO. 03886

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B &D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	0.3	0.06
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.

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REPORT NO. 03886

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995		0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994		1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994		3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994		30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994		2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994		-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994		-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995		30	N.D.
20	Alachlor	µg/L	US EPA 508- 1995		20	N.D.
21	Atrazine	µg/L	US EPA 532-2000		2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994		0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994		-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994		190	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994		-	N.D.
26	Aldrin	µg/L	US EPA 508- 1995		0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995		0.03	N.D.

Note: mg/lit.: milligram per liter, N.D. - Not Detected.

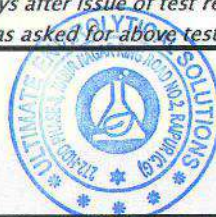
**REMARKS: RESULTS ARE AS ABOVE**

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- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

*Reviewed*  
3/11/08/23

REVIEWED BY

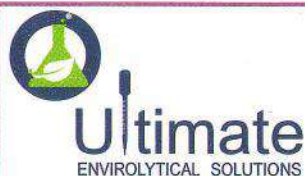


For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/5, MILUPARA</b> <b>U/G COAL MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	REPORT NO	UES/TR/23-24/03887	
	LAB REF NO	UES/23-24/W/07401	
	DATE OF SAMPLING	24/08/2023	
	DATE OF RECEIPT	25/08/2023	
	DATE OF REPORT	31/08/2023	
	DATE OF ANALYSIS	START:25/08/2023	END:29/08/2023
<b>SAMPLE DETAILS</b>			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	VERBAL COMMUNICATION.
CUSTOMER SAMPLE ID	NEAR PRIMARY SCHOOL - SAKTA VILLAGE (PIEZOMETER - DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39	QUANTITY RECEIVED	5 LTR

REPORT NO. 03887

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	NoRelaxation	7.51
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	1	5	1.26
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	328.4
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2540- B, 2-64	-	-	197.8
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	192.0
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2540- D, 2-66	-	-	5.8
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	62.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,2340-C, 2-44,45	200	600	104.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ca-B,3-67	-	-	64.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Mg-B,3-84	-	-	40.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ca-B,3-67	75	200	25.65
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Mg-B, 3-84	30	100	9.72
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-B, 4-72	250	1000	20.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-SO <sub>4</sub> -E, 4-190	200	400	26.4
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-NO <sub>3</sub> -B,4-122	45	NoRelaxation	4.36
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Na-B, 3-97	-	-	21.4
22	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-K-B, 3-87	-	-	3.28

REPORT NO. 03887

**TEST REPORT**

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B,3-18	0.3	NoRelaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B &D, 4-84 & 87	1	1.5	0.13
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	0.3	0.07
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.01	NoRelaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	0.003	NoRelaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.001	NoRelaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.01	NoRelaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B, 3-69	0.05	NoRelaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>rd</sup> Ed. 2017,6440-6-93	0.0001	NoRelaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o.p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.



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REPORT NO. 03887

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaaxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D. - Not Detected.

REMARKS: RESULTS ARE AS ABOVE

*Terms & conditions*

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

*Reviewed*  
31/08/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
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<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/03851
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/07326
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	24/08/2023
<b>GARE PALMA - IV/4, COAL MINE,VILLAGE -</b>		<b>DATE OF RECEIPT</b>	25/08/2023
<b>BANKHETA, POST -MILUPARA,</b>		<b>DATE OF REPORT</b>	31/08/2023
<b>DISTT. - RAIGARH (C.G.) 496107.</b>		<b>DATE OF ANALYSIS</b>	START:25/08/2023      END:29/08/2023
SAMPLE DETAILS			
<b>SAMPLE TYPE</b>	GROUND WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	NEAR PRIMARY SCHOOL - SIDARPARA VILLAGE, (PIEZOMETER - DUGWELL)	<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 23RD ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR

Report No.03851

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed.2017,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.30
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed.2017,2130-B,2-13	1	5	0.59
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	267.9
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2540- B, 2- 64	-	-	163.34
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	160.74
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2540- D, 2- 66	-	-	2.6
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	84.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2340-C, 2- 44,45	200	600	112.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ca-B, 3-67	-	-	76.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Mg-B, 3-84	-	-	36.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ca-B, 3-67	75	200	30.46
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Mg-B, 3-84	30	100	8.74
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-Cl-B, 4-72	250	1000	18.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-SO <sub>4</sub> -E, 4-190	200	400	20.2
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	0.61
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-P-C, 4- 153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Na-B, 3-97	-	-	11.62
22	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-K-B, 3-	-	-	0.67



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Report No.03851

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			87			
23	Boron (as B)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-F-B &D, 4-84 & 87	1	1.5	0.12
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>rd</sup> Ed.2017,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
<b>Microbiological Analysis</b>						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
<b>Pesticides</b>						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.



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Report No. 03851

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508-1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D.- Not Detected.

REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

*Devi*  
31/08/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/03944
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.</b>		<b>LAB REF NO</b>	UES/23-24/W/07504
		<b>DATE OF SAMPLING</b>	24/08/2023
		<b>DATE OF RECEIPT</b>	25/08/2023
		<b>DATE OF REPORT</b>	31/08/2023
		<b>DATE OF ANALYSIS</b>	START: 25/08/2023      END: 29/08/2023
		<b>SAMPLE DETAILS</b>	
<b>SAMPLE TYPE</b>	GROUND WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	NEAR PRIMARY SCHOOL - BELJOR VILLAGE ( PIEZOMETER - DUGWELL)	<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b> CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR

Report No.03944

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 23 <sup>rd</sup> Ed.2017,4500-H <sup>+</sup> -B, 4-92	6.5-8.5	No Relaxation	7.22
5	Turbidity	NTU	APHA 23 <sup>rd</sup> Ed.2017,2130-B,2-13	1	5	0.57
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	276.7
7	Residual Chlorine	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2540- B, 2-64	-	-	168.32
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	166.02
10	Total Suspended Solids	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2540- D, 2-66	-	-	2.3
11	Alkalinity Total (as CaCO <sub>3</sub> )	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	94.0
12	Total Hardness ( as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,2340-C, 2-44,45	200	600	110.0
13	Calcium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ca-B, 3-67	-	-	74.0
14	Magnesium Hardness (as CaCO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Mg-B, 3-84	-	-	36.0
15	Calcium (as Ca)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ca-B, 3-67	75	200	29.65
16	Magnesium (as Mg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Mg-B, 3-84	30	100	8.75
17	Chloride (as Cl)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-Cl-B, 4-72	250	1000	20.9
18	Sulphate (as SO <sub>4</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-SO <sub>4</sub> -E, 4-190	200	400	21.98
19	Nitrate (as NO <sub>3</sub> )	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-NO <sub>3</sub> -B, 4-122	45	No Relaxation	1.12
20	Phosphate (as P)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Na-B, 3-97	-	-	7.13
22	Potassium (as K)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-K-B,	-	-	0.51



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Report No. 03944

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			3-87			
23	Boron (as B)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,4500-F-B &D, 4-84 & 87	1	1.5	0.13
26	Manganese (as Mn)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/Lit	APHA 23 <sup>rd</sup> Ed.2017,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 <sup>rd</sup> Ed.2017,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

#### Microbiological Analysis

1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample	Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100 ml sample	Absent

#### Pesticides

1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.



HDD-272, Phase III - Near JP Chowk  
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Report No.03944

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	µg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaaxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

Note: mg/lit.: milligram per liter, N.D.- Not Detected.

REMARKS: RESULTS ARE AS ABOVE

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/08/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
---	---	--

-----End of the test report-----

# Annexure-21A





Letter No.: HIL/EC/GP-IV/4 –Q1/2023-24/125

12<sup>TH</sup> July, 2023

The Integrated Regional Office,  
Ministry of Environment Forests &  
Climate Change (MoEF & CC)  
Aranya Bhawan, North Block, Sector – 19,  
Naya Raipur, Atal Nagar,  
Chhattisgarh, 492002

Sub.: Compliance of condition no. xxxv of Environment Clearance Letter no. – No. J-11015/183/2010-IA.II (M) dated 12 March, 2013.


Ref.: Environment Clearance Letter no. – No. J-11015/183/2010-IA.II (M) dated 12 March, 2013.

Dear Sir,

With reference to above subject, we are submitting herewith the quarterly monitoring report of Ground Water Level (from Apr'2023 to Jun'2023) & GW Quality for the month of May 2023 – Pre Monsoon Season of Gare Palma IV/4 Coal Mine, M/s Hindalco Industries Limited, Village – Bhanjikhoh, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.

Thanking you,

Yours faithfully,

  
12/07/23

Govind Kumar  
(Mine Agent – Gare Palma Mines)  
Hindalco Industries Limited



Encl: As above

- CC: 1) Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas, Bhawan, Raipur, Chhattisgarh.  
2) Regional Officer, Chhattisgarh Environment Conservation Board, TV tower Road, Raigarh (CG).  
3) The Regional Director, Regional Directorate (Central), Bhopal Central Pollution Control Board (MoEF & CC, GOI), "Parivesh Bhawan" Paryavaran Parishar, E – 5, Arera Colony, Bhopal (MP), 462016  
4) The Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, 2nd Floor, LK Corporate and Logistic Park, Dumartarai, Raipur-492015  
5) Member Secretary, Central Ground Water Authority, 18/11, Jamnagar House, Mansingh Road, New Delhi – 110011

**Hindalco Industries Limited**

Gare Palma Mines ( IV/4 & IV/5), Vill & Po: Mitupara , Tehsil: Tamnar Dist: Raigarh- 496107 , Chhattisgarh  
T: +91 7762 228212, Website : www.hindalco.com E mail : hindalco@adityabirla.com  
Registered Office : Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road Andheri (East) , Mumbai 400093, India  
T: + 912266917000 | Fax: + 912266917001  
Corporate ID No: L27020MH1958PLC011238



HIL/EC/GP-IV/4-Q2/2023-24/211

11<sup>th</sup> October, 2023

The Integrated Regional Office,  
Ministry of Environment Forests &  
Climate Change (MoEF & CC)  
Aranya Bhawan, North Block, Sector – 19,  
Naya Raipur, Atal Nagar,  
Chhattisgarh, 492002

**Sub.: Compliance of condition no. xxxv of Environment Clearance Letter no. – No. J-11015/183/2010-IA.II (M) dated 12 March, 2013.**

**Ref.:** Environment Clearance Letter no. – No. J-11015/183/2010-IA.II (M) dated 12 March, 2013.

Dear Sir,

With reference to above subject, we are submitting herewith the quarterly monitoring report of Ground Water Level (from Jul'2023 to Sep'2023) & Ground Water Quality for the month of August 2023 – Monsoon Season of Gare Palma IV/4 Coal Mine, M/s Hindalco Industries Limited, Village – Banjikhoh, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.

Thanking you,

Yours faithfully,

Rajiv Kumar  
(Asst. Vice President – Gare Palma Coal Mines)  
Hindalco Industries Limited



Encl: As above

- CC: 1) Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas, Bhawan, Raipur, Chhattisgarh.  
2) Regional Officer, Chhattisgarh Environment Conservation Board, TV tower Road, Raigarh (CG).  
3) The Regional Director, Regional Directorate (Central), Bhopal Central Pollution Control Board (MoEF & CC, GOI), "Parivesh Bhawan" Paryavaran Parishar, E – 5, Arera Colony, Bhopal (MP), 462016  
4) The Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, 2nd Floor, LK Corporate and Logistic Park, Dumartarai, Raipur-492015  
5) Member Secretary, Central Ground Water Authority, 18/11, Jamnagar House, Mansingh Road, New Delhi – 110011

**Hindalco Industries Limited**

Gare Palma Mines ( IV/4 & IV/5), Vill. & Po: Milupara , Tehsil: Tamnar Dist: Raigarh- 496107 , Chhattisgarh  
T: +91 7762 228212, Website : www.hindalco.com E mail : hindalco@adityabirla.com  
Registered Office : Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road Andheri (East) , Mumbai 400093, India  
T: + 912266917000 | Fax: + 912266917001  
Corporate ID No: L27020MH1958PLC011238

# Annexure-22

## Transactions Inquiry



A/c. No **0429106000022154** CCY / SOL ID **INR / 429**  
Names **MINE CLOSURE ESCROW ACCOUNT GARE PALMA IV/4 COAL MINE**  
GL Sub Head **10600** Balance **1,51,58,796.00 Cr**  
Opening Bal. **0.00 Cr** Closing Bal. **1,51,58,796.00 Cr**  
Float Balance **0.00 Cr** Funds In Clearing **0.00**  
Available Amt. **1,51,58,796.00 Cr** Eff. Available Amt **1,51,58,796.00 Cr**  
Cust. Status **GEN GENERAL** A/c. Open Date **31-03-2016**  
A/c. Status A/c. Status Date  
Last Purge Date **30-03-2016**

**Address** **HINDALCO INDUSTREIS LTD AHURA CENTRE 1ST FLR  
B WING 82 MAHAKALI CAVES ROAD ANDHERI E**

City **MUM MUMBAI** State **MH MAHARASHTRA**  
Country **IN INDIA** Postal Code **400093**  
Phone No. **919088033444 / 919702203609** Telex No.  
Email ID

Tran. Date	Value Date	Chq. No.	Withdrawl	Deposit	Balance	Narration
<a href="#">01-04-2016</a>	01-04-2016			8,796.00 Cr	1,51,58,796.00 Cr	Int: 9774.00 Tds: 978.00 []
<a href="#">31-03-2016</a>	28-03-2016			1,51,50,000.00 Cr	1,51,50,000.00 Cr	FD BKD



To,

Date: 29<sup>th</sup> March'2017

The Branch Manager  
IDBI Bank, Raigarh Branch.  
Raigarh. C.G.

Sub: Deposit of Rs 1,59,08,000/- in our Escrow Account.

Dear Sir,

We have made RTGS for Rs 1,59,08,000/- Rupees One core Fifty nine Lacs Eight Thousand only to Escrow Account No **0429102000003186** towards deposit of Escrow Amount for the financial year 2016-17.

Also request you to please renew for one year of our FD no 0429106000022154 for Rs 1,62,70,587/- .

Kindly do the needful at an early date and confirm us by return mail.

Regards

For  
**Hindalco Industries Limited**

  
Authorized Signatory  
29/3/17



Hindalco Industries Limited

o/c



To,  
 Manager of IDBI  
 Raigarh Branch

Date : 27<sup>th</sup> March 2018

Sub: Escrow Account Deposit for the financial year 2018

In reference to:

1. Official letter issued by CCO, Kolkata vide letter no CC/MCPS/Notice/2013-14/330/24 dated 02<sup>nd</sup> Jan'18 & CC/MCPS/Notice/2013-14/330/01 dated 02<sup>nd</sup> Jan'18 of IV / 4 & 5 respectively for deposition of Yearly Mine closure cost FY 2017-18,
2. Revised Mining Plan & Mining Closure Plan of Gare Palma IV / 4 & 5 Coal Mine dated 16<sup>th</sup> December 2015, and
3. The Tripartite agreement among Hindalco Industries Ltd, IDBI Bank & CCO dated 5<sup>th</sup> February 2016

We are required to deposit an amount of Rs. 2,06,02,000/- with your Bank as annual closure cost for the FY 2017-18 to Escrow Account which has been opened on 3<sup>rd</sup> February 2016 in IDBI Bank with CCO as the beneficiary positively with in 31.03.2018 as per below mentioned details:

Gare Palma Mines	GP – IV/4	GP – IV/5
Escrow Deposit Amount	Rs.1,67,04,000/-	Rs.38,98,000/-
Name of Bank	IDBI, Raigarh	IDBI,Raigarh
Escrow Account No	0429102000003186	0429102000003179
IFSC Code	IBKL0000429	IBKL0000429
Branch Code	000429	000429
MICR Code	496259001	496259001

You are requested to deposit the said Escrow Account as per above details by 27/03/18.

Regards,

Narendra Kumar Sahu  
 Head Finance & Accounts  
 Gare Palma Mines, Raigarh  
 Hindalco Industries Ltd,





Ref. No. HIL/GP-IV4/CCO/2020/21

Date: 8<sup>th</sup> May 2020

To  
The Officer on Special duty(MC&P)  
Office of The Coal Controller  
Ministry of Coal, Govt of India  
1, Council House street  
Kolkatta-700001

Sub: - Payment of Escrow account for the FY 2019-20, Gare Palma IV/4 Coal Mine of Hindalco Industries Limited

Ref:- Escrow Account statement as on 31st March 2020.

Dear Sir,

With reference to the Tripartite Agreement among Hindalco Industries Limited, IDBI Bank & CCO dated 27<sup>th</sup> March 2019 an amount of 19.19 lakh rupees has been deposited on 31<sup>st</sup> March 2020 at IDBI Bank as annual Mine Closure Cost for the FY 2019-20 to Escrow Account. The detail of the payment is enclosed herewith.

Account #: 0429102000003186  
Name: MINE CLOSURE ESCROW ACCOUNT GARE PALMA IV/4 COAL MINE  
Rs 19,19,000/-

Thanking You,  
Yours sincerely

For Hindalco Industries Limited,

(Dipesh Bhatia)  
Agent, GP IV/5 Coal Mine  
Head, Chhattisgarh Coal Mines

Enclosures: As above  
Copy to- General Manager, OSD, CCO, Bilaspur

**Hindalco Industries Limited**

Gare Palma Mines ( IV/4 & IV/5), Vill & Po: Milupara , Tehsil: Tamnar Dist: Raigarh- 496107 , Chhattisgarh  
T: +91 7762 228212, Website : www.hindalco.com E mail : hindalco@adityabirla.com  
Registered Office : Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road Andheri (East) , Mumbai 400093, India  
T: + 912266917000 | Fax: + 912266917001  
Corporate ID No: L27020MH1958PLC011238



To,  
The Manager IDBI Bank  
Raigarh Branch

Date: 30<sup>th</sup> March'2021

Sub: Escrow Account Deposit for the financial year 2020-21


Ref: Tripartite Agreement executed among Hindalco Industries Ltd, IDBI Bank & CCO dated 27<sup>th</sup> March'2019.

Please find the below remittance details for an amount of Rs. 2,67,19,000/- with your Bank towards annual closure cost for the FY 2020-21 as per payment schedule of the Tripartite Agreement. We request you to deposit the said amount and confirm us along with Statement of Account by 30<sup>th</sup> March 2021.

Gare Palma Mines	GP - IV/4
Escrow Deposit Amount	Rs. 2,67,19,000/-
Name of Bank	IDBI, Raigarh
Escrow Account No	0429102000003186
IFSC Code	IBKL0000429
Branch Code	000429
MICR Code	496259001
RTGS UTR NO:	SBINR52021033018460870

Kindly acknowledge the receipt of the same.

Regards,

  
Mohamad Ghaji  
Head Finance & Accounts  
Gare Palma Mines, Raigarh  
Hindalco Industries Ltd,



30-3-21  
received.



ADITYA BIRLA



To,

Date 31<sup>st</sup> March'2022

The Branch Manager  
IDBI Bank  
Raigarh Branch.

Sub: - Escrow Account Deposit for the Financial Year 2021-22

Ref: Tripartite Agreement executed among Hindalco Industries Ltd. And IDBI Bank & CCO dated 27<sup>th</sup> March'2019.

Please find the below remittance details for an amount of Rs. 2,80,55,000/- with your Bank towards annual closure cost for the F.Y. 2021-22 as per the payment schedule of the Tripartite Agreement. We request you to deposit the said amount and confirm us along with statement of Account by 31<sup>st</sup> March 2022

<b>Gare Palma Mines</b>	<b>GP-IV/4</b>
Escrow Deposit Amount	Rs. 2,80,55,000/-
Name of Bank	IDBI, Raigarh
Escrow Account No	0429102000003186
IFSC Code	IBKL0000429
Branch Code	000429
MICR Code	496259001
<b>RTGS UTR NO:</b>	<b>SBINR52022033175690923</b>

Kindly acknowledge the receipt of the same.

Regards,

**Vidyadhar Patel**  
Head Finance & Accounts  
Gare Palma Mines, Raigarh  
Hindalco Industries Ltd.

Received  
Rampal  
21/03/2022



To,

Date 31<sup>st</sup>-Mar-2023

The Branch Manager  
State Bank of India  
Tamnar, Raigarh. C.G.

Sub: - RTGS of Rs. 3,76,50,000/-

Dear Sir,

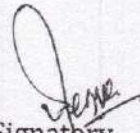
This is to inform you that please make RTGS of Rs. 3,76,50,000/- from our Cash Credit Account No. 39783378981 is as under:


In Favour of	Bank	A/c No	IFSC Code	Amount
Escrow	IDBI Bank, Raigarh	0429102000003186	IBKL0000429	3,76,50,000.00
				3,76,50,000.00

SBINR 52023033141103271

For  
Hindalco Industries Limited

  
Authorized Signatory

  
Authorized Signatory





# Annexure-23

## ENVIRONMENT POLICY

We, at Hindalco Industries Limited, operating across the process chain from mining to semi-fabricated products in non-ferrous metals, will strive to continually improve our environmental performance for sustainable operations and responsible growth globally, by integrating sound environmental systems and practices.

To achieve this, we shall :

- Continue to comply with all applicable legal requirements on environment.
- Continually improve environmental performance by strengthening the Environmental Management System conforming to national/international standards, including setting up and reviewing targets and measuring, monitoring and reporting their progress.
- Allocate sufficient resources such as organisational structure, technology and funds for implementation of the policy and for regular monitoring of performance.
- Adopt pollution prevention approach for all our processes; enhance material efficiency and achieve high productivity.
- Conserve key resources like electricity, coal, water, oil, and raw materials, by promoting efficient technologies and manufacturing process improvements, water conservation programmes, and efficient use of raw materials.
- Adopt energy efficient and cleaner technologies based on techno-economic viability, appropriate to the region in which we operate, and in line with our growth and diversification plans.
- Promote the principles of waste prevention, reduction, reuse, recycling and recovery to minimise waste generation and strengthen the practices for management of wastes.
- Work in partnership with regulatory authorities, relevant suppliers, contractors and all stakeholders, as applicable, to understand and initiate improvement actions.
- Adapt environmental performance over life cycle as an important input to the decision-making processes in the organisation.
- Raise environmental awareness at all levels of our operations, through training and effective communication, participation and consultation.
- Develop and follow appropriate communication system to inform the stakeholders, as applicable, about our environmental commitment and performance.

This policy shall be made available to all employees, suppliers, customers, community and other stakeholders, as appropriate.

**Satish Pai**  
Managing Director

19<sup>th</sup> November 2016

# Annexure-24

# AAQM Report – Core Zone



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0530	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/01283-01290	
		DATE OF SAMPLING	03/04/2023 to 27/04/2023	
		DATE OF RECEIPT	04/04/2023 to 28/04/2023	
		DATE OF REPORT	02/05/2023	
		DATE OF ANALYSIS	START:04/04/2023	END:30/04/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED:07.09.2022	
SAMPLING LOCATION	OFFICE AREA, BANJIKHOL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.04.2023	68	35	17	26	0.51	N.D.
06.04.2023	64	31	16	25	0.64	N.D.
10.04.2023	69	33	15	26	0.89	N.D.
13.04.2023	66	33	16	27	0.73	N.D.
17.04.2023	65	35	17	25	0.66	N.D.
20.04.2023	69	32	18	26	0.80	N.D.
24.04.2023	62	34	15	24	0.55	N.D.
27.04.2023	64	29	14	23	0.43	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 02/05/23 <b>REVIEWED BY</b>	 <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>	For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/0881	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/02006-02013	
		<b>DATE OF SAMPLING</b>	01/05/2023 to 26/05/2023	
		<b>DATE OF RECEIPT</b>	02/05/2023 to 27/05/2023	
		<b>DATE OF REPORT</b>	31/05/2023	
		<b>DATE OF ANALYSIS</b>	<b>START: 02/05/2023</b>	<b>END: 30/05/2023</b>
		<b>SAMPLE DETAILS</b>		
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED: 07.09.2022	
<b>SAMPLING LOCATION</b>	OFFICE AREA, BANJIKHOL			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.05.2023	70	36	18	27	0.63	N.D.
05.05.2023	66	32	17	26	0.74	N.D.
08.05.2023	71	34	16	27	0.90	N.D.
12.05.2023	68	33	17	28	0.81	N.D.
15.05.2023	67	36	18	26	0.72	N.D.
19.05.2023	72	33	19	27	0.93	N.D.
22.05.2023	65	35	16	25	0.64	N.D.
26.05.2023	67	31	15	24	0.56	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/05/23 <b>REVIEWED BY</b>	 <b>For ULTIMATE ENVIROLYTICAL SOLUTIONS</b>	 <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/01988
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/04286-04293
		DATE OF SAMPLING	02/06/2023 to 30/06/2023
		DATE OF RECEIPT	03/06/2023 to 01/07/2023
		DATE OF REPORT	04/07/2023
		DATE OF ANALYSIS	START:03/06/2023      END:04/07/2023
		<b>SAMPLE DETAILS</b>	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P. O.13552310211, DATED:07.09.2022
SAMPLING LOCATION	OFFICE AREA, BANJIKHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
02.06.2023	69	35	17	26	0.58	N.D.
05.06.2023	67	30	16	25	0.71	N.D.
09.06.2023	70	32	15	26	0.82	N.D.
12.06.2023	69	31	16	27	0.70	N.D.
16.06.2023	68	35	18	25	0.62	N.D.
19.06.2023	71	32	17	26	0.81	N.D.
23.06.2023	50	26	13	21	0.53	N.D.
30.06.2023	58	30	14	22	0.48	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 04/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/03032
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/05778-05785
		DATE OF SAMPLING	03/07/2023 to 28/07/2023
		DATE OF RECEIPT	04/07/2023 to 29/07/2023
		DATE OF REPORT	31/07/2023
		DATE OF ANALYSIS	START:04/07/2023      END:31/07/2023
		<b>SAMPLE DETAILS</b>	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED:07.09.2022
SAMPLING LOCATION	OFFICE AREA, BANJIKHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2023	47	28	13	24	0.41	N.D.
07.07.2023	44	27	17	22	0.52	N.D.
10.07.2023	42	24	13	21	0.60	N.D.
14.07.2023	42	26	15	20	0.57	N.D.
17.07.2023	44	25	16	21	0.59	N.D.
21.07.2023	42	26	17	19	0.64	N.D.
24.07.2023	42	25	16	19	0.49	N.D.
28.07.2023	42	26	15	25	0.38	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

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- > This is for information as the party has asked for above test(s) only.

 31/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/03828	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/07254-07261	
		<b>DATE OF SAMPLING</b>	03/08/2023 to 28/08/2023	
		<b>DATE OF RECEIPT</b>	04/08/2023 to 29/08/2023	
		<b>DATE OF REPORT</b>	31/08/2023	
		<b>DATE OF ANALYSIS</b>	<b>START: 04/08/2023</b>	<b>END: 31/08/2023</b>
		<b>SAMPLE DETAILS</b>		
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022	
<b>SAMPLING LOCATION</b>	OFFICE AREA, BANJIKHOL			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.08.2023	38	24	15	26	0.48	N.D.
07.08.2023	44	25	18	22	0.56	N.D.
11.08.2023	43	26	18	22	0.64	N.D.
14.08.2023	41	29	21	25	0.50	N.D.
18.08.2023	43	25	15	25	0.61	N.D.
21.08.2023	38	27	18	25	0.58	N.D.
25.08.2023	38	26	15	26	0.42	N.D.
28.08.2023	39	29	16	24	0.31	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04648	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/08500-08507	
		<b>DATE OF SAMPLING</b>	01/09/2023 to 25/09/2023	
		<b>DATE OF RECEIPT</b>	02/09/2023 to 26/09/2023	
		<b>DATE OF REPORT</b>	27/09/2023	
		<b>DATE OF ANALYSIS</b>	<b>START:02/09/2023</b>	<b>END:27/09/2023</b>
		<b>SAMPLE DETAILS</b>		
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022	
<b>SAMPLING LOCATION</b>	OFFICE AREA, BANJIKHOL			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.09.2023	41	25	17	26	0.39	N.D.
04.09.2023	43	24	22	26	0.44	N.D.
08.09.2023	43	26	18	26	0.52	N.D.
11.09.2023	39	27	16	25	0.43	N.D.
15.09.2023	39	28	18	24	0.54	N.D.
19.09.2023	44	29	21	27	0.47	N.D.
22.09.2023	43	27	20	24	0.31	N.D.
25.09.2023	41	29	15	26	0.22	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0531	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/01291-01298	
		DATE OF SAMPLING	03/04/2023 to 27/04/2023	
		DATE OF RECEIPT	04/04/2023 to 28/04/2023	
		DATE OF REPORT	02/05/2023	
		DATE OF ANALYSIS	START: 04/04/2023	END: 30/04/2023
SAMPLE DETAILS				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022	
SAMPLING LOCATION	ETP AREA, BANJIKHOL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.04.2023	68	29	16	23	0.63	N.D.
06.04.2023	66	34	17	24	0.74	N.D.
10.04.2023	69	35	16	25	0.81	N.D.
13.04.2023	68	33	18	24	0.67	N.D.
17.04.2023	67	31	17	26	0.55	N.D.
20.04.2023	65	32	18	25	0.62	N.D.
24.04.2023	63	29	16	23	0.56	N.D.
27.04.2023	69	35	14	22	0.41	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test.

 02/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/0882
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/02014-02021
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	01/05/2023 to 26/05/2023
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	02/05/2023 to 27/05/2023
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	31/05/2023
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START:02/05/2023      END:30/05/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>			
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	ETP AREA, BANJIKHOL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.05.2023	70	30	17	24	0.71	N.D.
05.05.2023	68	35	18	25	0.82	N.D.
08.05.2023	71	36	17	26	0.90	N.D.
12.05.2023	72	34	19	25	0.74	N.D.
15.05.2023	69	32	18	27	0.62	N.D.
19.05.2023	68	33	19	26	0.73	N.D.
22.05.2023	66	30	17	24	0.66	N.D.
26.05.2023	71	36	15	23	0.58	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/01989	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/04294-04301	
		DATE OF SAMPLING	02/06/2023 to 30/06/2023	
		DATE OF RECEIPT	03/06/2023 to 01/07/2023	
		DATE OF REPORT	04/07/2023	
		DATE OF ANALYSIS	START:03/06/2023	END:04/07/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED:07.09.2022	
SAMPLING LOCATION	ETP AREA, BANJIKHOL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
02.06.2023	69	29	16	23	0.60	N.D.
05.06.2023	67	34	17	24	0.78	N.D.
09.06.2023	70	35	15	25	0.89	N.D.
12.06.2023	71	33	18	24	0.67	N.D.
16.06.2023	68	30	17	26	0.56	N.D.
19.06.2023	67	32	18	25	0.67	N.D.
23.06.2023	52	28	14	21	0.52	N.D.
30.06.2023	59	27	15	22	0.45	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 04/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/03033	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/05786-05793	
		DATE OF SAMPLING	03/07/2023 to 28/07/2023	
		DATE OF RECEIPT	04/07/2023 to 29/07/2023	
		DATE OF REPORT	31/07/2023	
		DATE OF ANALYSIS	START: 04/07/2023	END: 31/07/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022	
SAMPLING LOCATION	ETP AREA, BANJIKHOL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2023	47	23	18	21	0.54	N.D.
07.07.2023	42	26	16	26	0.61	N.D.
10.07.2023	42	26	17	25	0.70	N.D.
14.07.2023	46	28	18	23	0.53	N.D.
17.07.2023	45	23	15	25	0.48	N.D.
21.07.2023	43	25	17	26	0.51	N.D.
24.07.2023	47	27	18	23	0.47	N.D.
28.07.2023	46	27	16	26	0.39	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

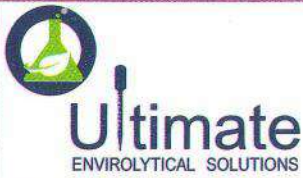
#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
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- This is for information as the party has asked for above test(s) only.

 31/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/03829	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/07262-7269	
		DATE OF SAMPLING	03/08/2023 to 28/08/2023	
		DATE OF RECEIPT	04/08/2023 to 29/08/2023	
		DATE OF REPORT	31/08/2023	
		DATE OF ANALYSIS	START:04/08/2023	END:31/08/2023
		SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED:07.09.2022	
SAMPLING LOCATION	ETP AREA, BANJIKHOL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.08.2023	39	29	15	23	0.43	N.D.
07.08.2023	42	26	19	26	0.56	N.D.
11.08.2023	41	30	18	22	0.61	N.D.
14.08.2023	38	24	17	25	0.45	N.D.
18.08.2023	42	27	15	25	0.37	N.D.
21.08.2023	45	26	21	22	0.52	N.D.
25.08.2023	43	25	18	26	0.36	N.D.
28.08.2023	40	28	15	22	0.28	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/08/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04649	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/08508-08515	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	01/09/2023 to 25/09/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	02/09/2023 to 26/09/2023	
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	27/09/2023	
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START:02/09/2023	END:27/09/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>				
<b>SAMPLE DETAILS</b>				
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022	
<b>SAMPLING LOCATION</b>	ETP AREA, BANJIKHOL			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.09.2023	41	27	18	24	0.24	N.D.
04.09.2023	43	25	16	25	0.31	N.D.
08.09.2023	38	27	20	28	0.49	N.D.
11.09.2023	40	26	19	24	0.30	N.D.
15.09.2023	44	29	15	27	0.27	N.D.
19.09.2023	41	25	15	25	0.46	N.D.
22.09.2023	43	29	20	24	0.25	N.D.
25.09.2023	44	26	19	26	0.20	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0532	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/01299-01306	
		DATE OF SAMPLING	03/04/2023 to 27/04/2023	
		DATE OF RECEIPT	04/04/2023 to 28/04/2023	
		DATE OF REPORT	02/05/2023	
		DATE OF ANALYSIS	START:04/04/2023	END:30/04/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022	
SAMPLING LOCATION	OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.04.2023	63	35	16	26	0.46	N.D.
06.04.2023	67	34	18	25	0.80	N.D.
10.04.2023	68	33	16	24	0.75	N.D.
13.04.2023	63	31	17	26	0.69	N.D.
17.04.2023	62	33	18	25	0.81	N.D.
20.04.2023	68	33	18	26	0.74	N.D.
24.04.2023	65	29	17	24	0.52	N.D.
27.04.2023	64	31	16	23	0.33	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 02/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0883	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/02022-02029	
		DATE OF SAMPLING	01/05/2023 to 26/05/2023	
		DATE OF RECEIPT	02/05/2023 to 27/05/2023	
		DATE OF REPORT	31/05/2023	
		DATE OF ANALYSIS	START: 02/05/2023	END: 30/05/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O. 13552310211, DATED: 07.09.2022	
SAMPLING LOCATION	OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.05.2023	65	36	17	27	0.57	N.D.
05.05.2023	69	35	19	26	0.88	N.D.
08.05.2023	70	32	18	25	0.84	N.D.
12.05.2023	66	33	16	27	0.76	N.D.
15.05.2023	65	34	17	26	0.92	N.D.
19.05.2023	71	36	19	27	0.81	N.D.
22.05.2023	67	31	18	25	0.63	N.D.
26.05.2023	66	32	17	24	0.48	N.D.

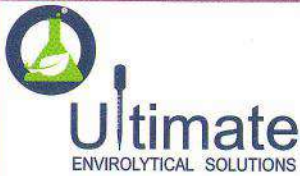
Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/05/23 <b>REVIEWED BY</b>		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/01990
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/04302-04309
		DATE OF SAMPLING	02/06/2023 to 30/06/2023
		DATE OF RECEIPT	03/06/2023 to 01/07/2023
		DATE OF REPORT	04/07/2023
		DATE OF ANALYSIS	START:03/06/2023      END:04/07/2023
		<b>SAMPLE DETAILS</b>	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P. O.13552310211, DATED:07.09.2022
SAMPLING LOCATION	OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
02.06.2023	64	34	16	26	0.42	N.D.
05.06.2023	68	32	18	25	0.73	N.D.
09.06.2023	69	30	17	24	0.70	N.D.
12.06.2023	65	31	15	26	0.63	N.D.
16.06.2023	64	32	16	25	0.80	N.D.
19.06.2023	70	33	18	26	0.72	N.D.
23.06.2023	51	26	14	23	0.54	N.D.
30.06.2023	61	30	15	24	0.37	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- \* The report for publication, arbitration or as legal dispute is forbidden.
- \* Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- \* This is for information as the party has asked for above tests only.

 04/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/03034	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/05794-05801	
		DATE OF SAMPLING	03/07/2023 to 28/07/2023	
		DATE OF RECEIPT	04/07/2023 to 29/07/2023	
		DATE OF REPORT	31/07/2023	
		DATE OF ANALYSIS	START:04/07/2023	END:31/07/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED:07.09.2022	
SAMPLING LOCATION	OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2023	42	24	14	24	0.34	N.D.
07.07.2023	47	24	18	25	0.65	N.D.
10.07.2023	45	26	16	26	0.60	N.D.
14.07.2023	43	26	15	22	0.58	N.D.
17.07.2023	47	23	15	21	0.72	N.D.
21.07.2023	44	27	14	24	0.61	N.D.
24.07.2023	42	27	17	25	0.47	N.D.
28.07.2023	44	23	14	23	0.25	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

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- This is for information as the party has asked for above test(s) only.

 31/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/03830
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/07270-07277
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	03/08/2023 to 28/08/2023
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	04/08/2023 to 29/08/2023
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	31/08/2023
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START:04/08/2023      END:31/08/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>			
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	OFFICE AREA, BANKHETA		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.08.2023	41	26	16	22	0.27	N.D.
07.08.2023	42	24	20	26	0.51	N.D.
11.08.2023	44	26	16	24	0.46	N.D.
14.08.2023	42	24	19	22	0.37	N.D.
18.08.2023	41	26	21	25	0.58	N.D.
21.08.2023	39	24	17	23	0.44	N.D.
25.08.2023	43	28	18	25	0.25	N.D.
28.08.2023	40	29	16	25	0.18	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

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- > This is for information as the party has asked for above test(s).

 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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End of the test report

AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04650
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/08516-08523
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	01/09/2023 to 25/09/2023
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	02/09/2023 to 26/09/2023
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	27/09/2023
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START:02/09/2023      END:27/09/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>			
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	OFFICE AREA, BANKHETA		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.09.2023	41	27	16	28	0.23	N.D.
04.09.2023	44	26	17	27	0.44	N.D.
08.09.2023	40	27	15	26	0.37	N.D.
11.09.2023	39	24	18	27	0.29	N.D.
15.09.2023	44	26	22	28	0.46	N.D.
19.09.2023	41	28	19	26	0.38	N.D.
22.09.2023	44	27	16	24	0.21	N.D.
25.09.2023	42	28	22	25	0.10	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0533	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/01307-01314	
		DATE OF SAMPLING	03/04/2023 to 27/04/2023	
		DATE OF RECEIPT	04/04/2023 to 28/04/2023	
		DATE OF REPORT	02/05/2023	
		DATE OF ANALYSIS	START: 04/04/2023	END: 30/04/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022	
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.04.2023	64	33	18	26	0.65	N.D.
06.04.2023	66	29	17	26	0.83	N.D.
10.04.2023	65	30	18	24	0.76	N.D.
13.04.2023	63	30	16	25	0.88	N.D.
17.04.2023	67	33	16	24	0.49	N.D.
20.04.2023	68	34	17	26	0.67	N.D.
24.04.2023	63	35	16	24	0.46	N.D.
27.04.2023	69	31	15	23	0.58	N.D.

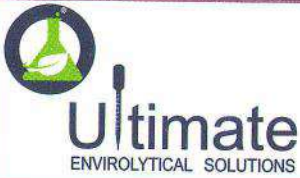
Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test only.

 02/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/0884	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/02030-02037	
		<b>DATE OF SAMPLING</b>	01/05/2023 to 26/05/2023	
		<b>DATE OF RECEIPT</b>	02/05/2023 to 27/05/2023	
		<b>DATE OF REPORT</b>	31/05/2023	
		<b>DATE OF ANALYSIS</b>	<b>START:02/05/2023</b>	<b>END:30/05/2023</b>
<b>SAMPLE DETAILS</b>				
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022	
<b>SAMPLING LOCATION</b>	PIT OFFICE AREA, BANKHETA			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.05.2023	66	34	19	27	0.77	N.D.
05.05.2023	69	30	18	27	0.94	N.D.
08.05.2023	68	31	19	25	0.82	N.D.
12.05.2023	66	32	17	26	0.70	N.D.
15.05.2023	69	34	18	25	0.58	N.D.
19.05.2023	70	35	19	27	0.71	N.D.
22.05.2023	65	36	17	25	0.50	N.D.
26.05.2023	72	32	16	24	0.63	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/01991	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/04310-04317	
		DATE OF SAMPLING	02/06/2023 to 30/06/2023	
		DATE OF RECEIPT	03/06/2023 to 01/07/2023	
		DATE OF REPORT	04/07/2023	
		DATE OF ANALYSIS	START: 03/06/2023	END: 04/07/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022	
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
02.06.2023	65	32	17	26	0.61	N.D.
05.06.2023	68	29	19	25	0.84	N.D.
09.06.2023	67	30	18	24	0.73	N.D.
12.06.2023	65	31	16	27	0.62	N.D.
16.06.2023	68	33	17	24	0.44	N.D.
19.06.2023	69	34	18	26	0.64	N.D.
23.06.2023	60	31	15	22	0.43	N.D.
30.06.2023	62	22	16	23	0.51	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

*RE*  
04/07/23  
REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----

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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/03035	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/05802-05809	
		DATE OF SAMPLING	03/07/2023 to 28/07/2023	
		DATE OF RECEIPT	04/07/2023 to 29/07/2023	
		DATE OF REPORT	31/07/2023	
		DATE OF ANALYSIS	START: 04/07/2023	END: 31/07/2023
		<b>SAMPLE DETAILS</b>		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022	
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

**Test Method and NAAQM Standard for Ambient Air Quality Monitoring**

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--



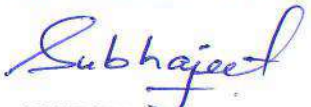
**TEST REPORT**

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2023	43	24	18	22	0.56	N.D.
07.07.2023	44	26	16	23	0.72	N.D.
10.07.2023	43	29	15	24	0.61	N.D.
14.07.2023	45	26	16	23	0.54	N.D.
17.07.2023	46	24	15	25	0.32	N.D.
21.07.2023	47	29	19	22	0.58	N.D.
24.07.2023	45	27	18	23	0.34	N.D.
28.07.2023	44	28	15	25	0.48	N.D.

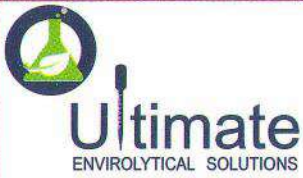
Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

**Terms & conditions**

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 31/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/03939	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/07492-7499	
		<b>DATE OF SAMPLING</b>	03/08/2023 to 28/08/2023	
		<b>DATE OF RECEIPT</b>	04/08/2023 to 29/08/2023	
		<b>DATE OF REPORT</b>	31/08/2023	
		<b>DATE OF ANALYSIS</b>	<b>START: 04/08/2023</b>	<b>END: 31/08/2023</b>
		<b>SAMPLE DETAILS</b>		
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O. 13552310211, DATED: 07.09.2022	
<b>SAMPLING LOCATION</b>	PIT OFFICE AREA, BANKHETA			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.08.2023	43	27	18	25	0.34	N.D.
07.08.2023	39	24	19	25	0.52	N.D.
11.08.2023	40	28	18	24	0.47	N.D.
14.08.2023	39	27	21	26	0.30	N.D.
18.08.2023	42	25	19	24	0.16	N.D.
21.08.2023	39	26	16	23	0.39	N.D.
25.08.2023	44	30	18	23	0.19	N.D.
28.08.2023	41	30	21	25	0.24	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

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- This is for information as the party has asked for above test only.

 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04651
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/08524-08531
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	01/09/2023 to 25/09/2023
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	02/09/2023 to 26/09/2023
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	27/09/2023
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START:02/09/2023      END:27/09/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>			
SAMPLE DETAILS			
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	PIT OFFICE AREA, BANKHETA		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.09.2023	39	25	16	26	0.29	N.D.
04.09.2023	44	27	16	24	0.43	N.D.
08.09.2023	40	26	17	27	0.41	N.D.
11.09.2023	42	25	15	27	0.25	N.D.
15.09.2023	40	27	21	27	0.11	N.D.
19.09.2023	41	26	20	25	0.36	N.D.
22.09.2023	43	28	16	25	0.12	N.D.
25.09.2023	44	29	18	27	0.18	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

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- This is for information as the party has asked for above test(s) only.

 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

# AAQM Report – Buffer Zone



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/0557
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/01365-01372
		<b>DATE OF SAMPLING</b>	03/04/2023 to 27/04/2023
		<b>DATE OF RECEIPT</b>	04/04/2023 to 28/04/2023
		<b>DATE OF REPORT</b>	02/05/2023
		<b>DATE OF ANALYSIS</b>	<b>START:</b> 04/04/2023 <b>END:</b> 30/04/2023
		<b>SAMPLE DETAILS</b>	
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	MAIN OFFICE AREA, MILUPARA		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM10): 1X1 NO., FILTER PAPER (PM2.5): 1X1 NO. SO2: 30MLX1 NO. PVC BOTTLE, NO2: 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.04.2023	68	34	18	26	0.80	N.D.
06.04.2023	64	33	17	25	0.78	N.D.
10.04.2023	64	31	16	24	0.67	N.D.
13.04.2023	63	29	17	24	0.89	N.D.
17.04.2023	63	30	16	25	0.70	N.D.
20.04.2023	67	29	18	24	0.51	N.D.
24.04.2023	65	32	17	25	0.73	N.D.
27.04.2023	69	30	16	24	0.64	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

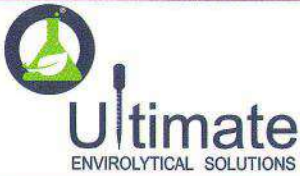
#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 02/05/23  <b>REVIEWED BY</b>		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>    <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/0903
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/02082-02089
		<b>DATE OF SAMPLING</b>	01/05/2023 to 26/05/2023
		<b>DATE OF RECEIPT</b>	02/05/2023 to 27/05/2023
		<b>DATE OF REPORT</b>	31/05/2023
		<b>DATE OF ANALYSIS</b>	START: 02/05/2023      END: 30/05/2023
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED: 07.09.2022
<b>SAMPLING LOCATION</b>	MAIN OFFICE AREA, MILUPARA		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM10): 1X1 NO., FILTER PAPER (PM2.5): 1X1 NO. SO2: 30MLX1 NO. PVC BOTTLE, NO2: 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.05.2023	70	35	20	27	0.82	N.D.
05.05.2023	67	34	19	26	0.80	N.D.
08.05.2023	66	32	18	25	0.69	N.D.
12.05.2023	65	30	19	26	0.91	N.D.
15.05.2023	65	31	18	24	0.75	N.D.
19.05.2023	69	30	20	25	0.55	N.D.
22.05.2023	68	33	19	27	0.77	N.D.
26.05.2023	71	31	18	26	0.68	N.D.

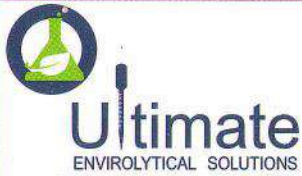
Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

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 31/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS   <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/02010
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE, VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/04362-04369
		DATE OF SAMPLING	02/06/2023 to 30/06/2023
		DATE OF RECEIPT	03/06/2023 to 01/07/2023
		DATE OF REPORT	04/07/2023
		DATE OF ANALYSIS	START:03/06/2023      END:04/07/2023
<b>SAMPLE DETAILS</b>			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310212, DATED:07.09.2022
SAMPLING LOCATION	MAIN OFFICE AREA, MILUPARA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM10): 1X1 NO., FILTER PAPER (PM2.5): 1X1 NO. SO2: 30MLX1 NO. PVC BOTTLE, NO2: 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
02.06.2023	68	34	19	26	0.80	N.D.
05.06.2023	66	33	18	25	0.73	N.D.
09.06.2023	65	31	17	24	0.58	N.D.
12.06.2023	64	29	18	25	0.84	N.D.
16.06.2023	63	30	17	23	0.63	N.D.
19.06.2023	68	29	19	24	0.41	N.D.
23.06.2023	51	27	16	24	0.67	N.D.
30.06.2023	62	28	17	25	0.56	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 04/07/23  <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS    <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....

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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/03054	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/05854-05861	
		DATE OF SAMPLING	03/07/2023 to 28/07/2023	
		DATE OF RECEIPT	04/07/2023 to 29/07/2023	
		DATE OF REPORT	31/07/2023	
		DATE OF ANALYSIS	START: 04/07/2023	END: 31/07/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310212, DATED: 07.09.2022	
SAMPLING LOCATION	MAIN OFFICE AREA, MILUPARA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM10): 1X1 NO., FILTER PAPER (PM2.5): 1X1 NO. SO2: 30MLX1 NO. PVC BOTTLE, NO2: 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelinesVol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2023	45	26	16	23	0.70	N.D.
07.07.2023	47	28	17	24	0.62	N.D.
10.07.2023	43	23	15	22	0.47	N.D.
14.07.2023	44	26	17	22	0.73	N.D.
17.07.2023	47	23	15	24	0.53	N.D.
21.07.2023	42	24	17	23	0.32	N.D.
24.07.2023	44	26	16	25	0.51	N.D.
28.07.2023	44	26	18	21	0.44	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

**Terms & conditions**

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- > This is for information as the party has asked for above test(s) only.

 31/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviron@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/03865
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/07340-7347
		DATE OF SAMPLING	03/08/2023 to 28/08/2023
		DATE OF RECEIPT	04/08/2023 to 29/08/2023
		DATE OF REPORT	31/08/2023
		DATE OF ANALYSIS	START:04/08/2023      END:31/08/2023
<b>SAMPLE DETAILS</b>			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310212, DATED:07.09.2022
SAMPLING LOCATION	MAIN OFFICE AREA, MILUPARA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM10): 1X1 NO., FILTER PAPER (PM2.5): 1X1 NO. SO2: 30MLX1 NO. PVC BOTTLE, NO2: 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelinesVol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.08.2023	40	24	19	22	0.64	N.D.
07.08.2023	39	28	16	22	0.41	N.D.
11.08.2023	38	29	17	26	0.26	N.D.
14.08.2023	40	25	16	26	0.57	N.D.
18.08.2023	43	27	19	26	0.34	N.D.
21.08.2023	42	29	15	26	0.26	N.D.
25.08.2023	41	25	18	25	0.37	N.D.
28.08.2023	44	27	16	24	0.21	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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 <b>REVIEWED BY</b>	 <b>AUTHORIZED SIGNATORY</b>	For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



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Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04671
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/08578-08585
		<b>DATE OF SAMPLING</b>	01/09/2023 to 25/09/2023
		<b>DATE OF RECEIPT</b>	02/09/2023 to 26/09/2023
		<b>DATE OF REPORT</b>	27/09/2023
		<b>DATE OF ANALYSIS</b>	<b>START:02/09/2023</b> <b>END:27/09/2023</b>
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	MAIN OFFICE AREA, MILUPARA		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM10): 1X1 NO., FILTER PAPER (PM2.5): 1X1 NO. SO2: 30MLX1 NO. PVC BOTTLE, NO2: 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelinesVol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.09.2023	44	24	19	27	0.51	N.D.
04.09.2023	44	24	16	26	0.34	N.D.
08.09.2023	42	24	22	28	0.22	N.D.
11.09.2023	44	24	20	26	0.41	N.D.
15.09.2023	44	24	17	26	0.20	N.D.
19.09.2023	44	25	22	27	0.18	N.D.
22.09.2023	38	27	18	28	0.25	N.D.
25.09.2023	41	29	22	24	0.16	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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 27/09/23  <b>REVIEWED BY</b>		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>    <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



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Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>  <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	REPORT NO	UES/TR/23-24/0558	
	LAB REF NO	UES/23-24/AAQM/01373-1380	
	DATE OF SAMPLING	03/04/2023 to 27/04/2023	
	DATE OF RECEIPT	04/04/2023 to 28/04/2023	
	DATE OF REPORT	02/05/2023	
	DATE OF ANALYSIS	START: 04/04/2023	END: 30/04/2023

#### SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310212, DATED: 07.09.2022
SAMPLING LOCATION	HIL STAFF QUARTER, MILUPARA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

#### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

#### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.04.2023	63	33	18	25	0.53	N.D.
06.04.2023	63	33	17	26	0.79	N.D.
10.04.2023	67	30	16	25	0.87	N.D.
13.04.2023	65	33	16	25	0.43	N.D.
17.04.2023	69	31	17	24	0.54	N.D.
20.04.2023	69	35	18	26	0.81	N.D.
24.04.2023	68	33	17	26	0.72	N.D.
27.04.2023	64	35	16	24	0.63	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above tests.

 02/05/23 <b>REVIEWED BY</b>	 <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>	For ULTIMATE ENVIROLYTICAL SOLUTIONS   <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	<b>REPORT NO</b>	UES/TR/23-24/0904	
	<b>LAB REF NO</b>	UES/23-24/AAQM/02090-02097	
	<b>DATE OF SAMPLING</b>	01/05/2023 to 26/05/2023	
	<b>DATE OF RECEIPT</b>	02/05/2023 to 27/05/2023	
	<b>DATE OF REPORT</b>	31/05/2023	
	<b>DATE OF ANALYSIS</b>	START: 02/05/2023	END: 30/05/2023

#### SAMPLE DETAILS

<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P. O. 13552310212, DATED: 07.09.2022
<b>SAMPLING LOCATION</b>	HIL STAFF QUARTER, MILUPARA		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

#### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

#### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.05.2023	65	34	19	26	0.64	N.D.
05.05.2023	67	35	18	27	0.81	N.D.
08.05.2023	69	31	17	26	0.94	N.D.
12.05.2023	67	34	18	24	0.52	N.D.
15.05.2023	71	32	19	25	0.60	N.D.
19.05.2023	72	36	20	27	0.96	N.D.
22.05.2023	70	34	19	26	0.88	N.D.
26.05.2023	66	36	18	25	0.72	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
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- > This is for information as the party has asked for above test(s) only.

 31/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/02011	
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/04370-04377	
		DATE OF SAMPLING	02/06/2023 to 30/06/2023	
		DATE OF RECEIPT	03/06/2023 to 01/07/2023	
		DATE OF REPORT	04/07/2023	
		DATE OF ANALYSIS	START: 03/06/2023	END: 04/07/2023
<b>SAMPLE DETAILS</b>				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310212, DATED: 07.09.2022	
SAMPLING LOCATION	HIL STAFF QUARTER, MILUPARA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
02.06.2023	64	34	18	25	0.41	N.D.
05.06.2023	66	33	17	26	0.73	N.D.
09.06.2023	68	30	16	27	0.82	N.D.
12.06.2023	66	33	17	25	0.45	N.D.
16.06.2023	70	31	18	24	0.56	N.D.
19.06.2023	71	35	19	26	0.85	N.D.
23.06.2023	50	26	15	23	0.73	N.D.
30.06.2023	63	27	17	24	0.61	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- ✓ The report for publication, arbitration or as legal dispute is forbidden.
- ✓ Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- ✓ This is for information as the party has asked for above test(s) only.

 04/07/23  REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS    AUTHORIZED SIGNATORY
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-----End of the test report.....



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<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/03055	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/05862-05869	
		<b>DATE OF SAMPLING</b>	03/07/2023 to 28/07/2023	
		<b>DATE OF RECEIPT</b>	04/07/2023 to 29/07/2023	
		<b>DATE OF REPORT</b>	31/07/2023	
		<b>DATE OF ANALYSIS</b>	<b>START: 04/07/2023</b>	<b>END: 31/07/2023</b>
		<b>SAMPLE DETAILS</b>		
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O. 13552310212, DATED: 07.09.2022	
<b>SAMPLING LOCATION</b>	HIL STAFF QUARTER, MILUPARA			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelinesVol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--



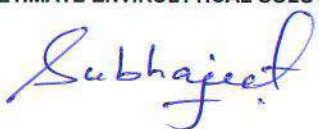
### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2023	47	28	17	22	0.32	N.D.
07.07.2023	42	27	18	23	0.65	N.D.
10.07.2023	47	25	15	22	0.70	N.D.
14.07.2023	43	29	17	26	0.35	N.D.
17.07.2023	43	26	16	24	0.41	N.D.
21.07.2023	43	29	15	25	0.71	N.D.
24.07.2023	45	28	17	22	0.63	N.D.
28.07.2023	43	27	14	23	0.54	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/03866
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/07348-07355
		DATE OF SAMPLING	03/08/2023 to 28/08/2023
		DATE OF RECEIPT	04/08/2023 to 29/08/2023
		DATE OF REPORT	31/08/2023
		DATE OF ANALYSIS	START:04/08/2023      END:31/08/2023
<b>SAMPLE DETAILS</b>			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310212, DATED:07.09.2022
SAMPLING LOCATION	HIL STAFF QUARTER, MILUPARA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelinesVol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.08.2023	39	27	15	23	0.14	N.D.
07.08.2023	39	28	21	25	0.46	N.D.
11.08.2023	41	24	15	25	0.54	N.D.
14.08.2023	39	27	20	23	0.18	N.D.
18.08.2023	42	28	21	22	0.22	N.D.
21.08.2023	43	24	21	26	0.59	N.D.
25.08.2023	41	29	15	25	0.40	N.D.
28.08.2023	42	30	21	24	0.36	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

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- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 31/08/23 <b>REVIEWED BY</b>	 <b>For ULTIMATE ENVIROLYTICAL SOLUTIONS</b>	 <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04672
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/08586-08593
<b>HINDALCO INDUSTRIES LIMITED, GARE</b>		<b>DATE OF SAMPLING</b>	01/09/2023 to 25/09/2023
<b>PALMA - IV/5, MILUPARA U/G COAL</b>		<b>DATE OF RECEIPT</b>	02/09/2023 to 26/09/2023
<b>MINE,VILLAGE - MILUPARA,</b>		<b>DATE OF REPORT</b>	27/09/2023
<b>BLOCK-TAMNAR,</b>		<b>DATE OF ANALYSIS</b>	START:02/09/2023      END:27/09/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>			
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	HIL STAFF QUARTER, MILUPARA		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelinesVol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.09.2023	38	28	18	28	0.09	N.D.
04.09.2023	38	25	20	26	0.31	N.D.
08.09.2023	38	28	21	28	0.42	N.D.
11.09.2023	44	27	17	25	0.11	N.D.
15.09.2023	38	29	16	26	0.18	N.D.
19.09.2023	38	28	16	26	0.42	N.D.
22.09.2023	41	27	15	25	0.34	N.D.
25.09.2023	44	24	17	24	0.26	N.D.

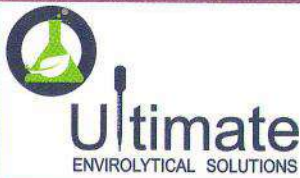
Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 27/09/23  <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS    <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	REPORT NO	UES/TR/23-24/0559	
	LAB REF NO	UES/23-24/AAQM/01381-1388	
	DATE OF SAMPLING	03/04/2023 to 27/04/2023	
	DATE OF RECEIPT	04/04/2023 to 28/04/2023	
	DATE OF REPORT	02/05/2023	
	DATE OF ANALYSIS	START: 04/04/2023	END: 30/04/2023

#### SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O. 13552310212, DATED: 07.09.2022
SAMPLING LOCATION	HIL COLONY, KONDKEL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

#### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

#### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.04.2023	64	30	17	24	0.65	N.D.
06.04.2023	65	33	18	24	0.72	N.D.
10.04.2023	68	34	17	25	0.81	N.D.
13.04.2023	69	29	16	24	0.66	N.D.
17.04.2023	69	35	16	25	0.43	N.D.
20.04.2023	64	32	18	24	0.51	N.D.
24.04.2023	65	31	17	26	0.84	N.D.
27.04.2023	64	35	16	24	0.56	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 02/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/23-24/0905
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/02098-02105
		<b>DATE OF SAMPLING</b>	01/05/2023 to 26/05/2023
		<b>DATE OF RECEIPT</b>	02/05/2023 to 27/05/2023
		<b>DATE OF REPORT</b>	31/05/2023
		<b>DATE OF ANALYSIS</b>	<b>START:</b> 02/05/2023 <b>END:</b> 30/05/2023
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O. 13552310212, DATED: 07.09.2022
<b>SAMPLING LOCATION</b>	HIL COLONY, KONDKEL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO) *	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.05.2023	66	31	18	25	0.74	N.D.
05.05.2023	67	34	19	24	0.82	N.D.
08.05.2023	70	35	18	26	0.96	N.D.
12.05.2023	69	30	17	25	0.71	N.D.
15.05.2023	71	36	19	24	0.53	N.D.
19.05.2023	66	34	17	25	0.60	N.D.
22.05.2023	67	33	18	27	0.92	N.D.
26.05.2023	66	32	17	25	0.65	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/05/23 <b>REVIEWED BY</b>	 <b>For ULTIMATE ENVIROLYTICAL SOLUTIONS</b>	 <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

Name & Address Of The Customer		REPORT NO	UES/TR/23-24/02012
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/04378-04385
		DATE OF SAMPLING	02/06/2023 to 30/06/2023
		DATE OF RECEIPT	03/06/2023 to 01/07/2023
		DATE OF REPORT	04/07/2023
		DATE OF ANALYSIS	START:03/06/2023      END:04/07/2023
		<b>SAMPLE DETAILS</b>	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O. 13552310212, DATED: 07.09.2022
SAMPLING LOCATION	HIL COLONY, KONDKEL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
02.06.2023	65	32	17	24	0.63	N.D.
05.06.2023	66	33	18	23	0.71	N.D.
09.06.2023	69	34	19	25	0.84	N.D.
12.06.2023	68	31	18	24	0.67	N.D.
16.06.2023	70	35	17	23	0.46	N.D.
19.06.2023	65	33	18	26	0.58	N.D.
23.06.2023	52	28	15	22	0.84	N.D.
30.06.2023	64	30	16	23	0.53	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 04/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS    <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

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<b>Name &amp; Address Of The Customer</b>  <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	<b>REPORT NO</b>	UES/TR/23-24/03056	
	<b>LAB REF NO</b>	UES/23-24/AAQM/05870-5877	
	<b>DATE OF SAMPLING</b>	03/07/2023 to 28/07/2023	
	<b>DATE OF RECEIPT</b>	04/07/2023 to 29/07/2023	
	<b>DATE OF REPORT</b>	31/07/2023	
	<b>DATE OF ANALYSIS</b>	START: 04/07/2023	END: 31/07/2023

**SAMPLE DETAILS**

<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED: 07.09.2022
<b>SAMPLING LOCATION</b>	HIL COLONY, KONDKEL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

**Test Method and NAAQM Standard for Ambient Air Quality Monitoring**

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

**TEST REPORT**

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2023	44	28	15	22	0.51	N.D.
07.07.2023	43	25	19	23	0.65	N.D.
10.07.2023	46	29	15	21	0.72	N.D.
14.07.2023	42	26	14	25	0.56	N.D.
17.07.2023	42	27	17	26	0.31	N.D.
21.07.2023	42	24	15	23	0.46	N.D.
24.07.2023	43	24	16	24	0.73	N.D.
28.07.2023	47	25	19	20	0.41	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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 31/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	<b>REPORT NO</b>	UES/TR/23-24/03867	
	<b>LAB REF NO</b>	UES/23-24/AAQM/07356-7383	
	<b>DATE OF SAMPLING</b>	03/08/2023 to 28/08/2023	
	<b>DATE OF RECEIPT</b>	04/08/2023 to 29/08/2023	
	<b>DATE OF REPORT</b>	31/08/2023	
	<b>DATE OF ANALYSIS</b>	<b>START:04/08/2023</b>	<b>END:31/08/2023</b>

SAMPLE DETAILS			
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	HIL COLONY, KONDKEL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

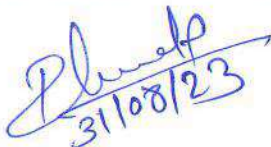


### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.08.2023	40	25	17	22	0.31	N.D.
07.08.2023	42	26	16	26	0.46	N.D.
11.08.2023	41	24	19	23	0.53	N.D.
14.08.2023	44	25	19	24	0.34	N.D.
18.08.2023	39	29	16	22	0.14	N.D.
21.08.2023	38	30	17	23	0.20	N.D.
25.08.2023	41	24	16	23	0.53	N.D.
28.08.2023	38	24	17	23	0.25	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04673
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/08594-08601
		<b>DATE OF SAMPLING</b>	01/09/2023 to 25/09/2023
		<b>DATE OF RECEIPT</b>	02/09/2023 to 26/09/2023
		<b>DATE OF REPORT</b>	27/09/2023
		<b>DATE OF ANALYSIS</b>	START:02/09/2023      END:27/09/2023
<b>SAMPLE DETAILS</b>			
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	HIL COLONY, KONDKEL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.09.2023	41	24	16	26	0.21	N.D.
04.09.2023	44	25	17	25	0.32	N.D.
08.09.2023	42	26	20	26	0.43	N.D.
11.09.2023	41	28	16	25	0.22	N.D.
15.09.2023	41	24	18	24	0.09	N.D.
19.09.2023	39	29	21	24	0.15	N.D.
22.09.2023	39	25	17	26	0.43	N.D.
25.09.2023	40	27	15	28	0.17	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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- This is for information as the party has asked for above test(s) only.

 27/09/23  <b>REVIEWED BY</b>		ForULTIMATE ENVIROLYTICAL SOLUTIONS    <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	REPORT NO	UES/TR/23-24/0560	
	LAB REF NO	UES/23-24/AAQM/01389-1396	
	DATE OF SAMPLING	03/04/2023 to 27/04/2023	
	DATE OF RECEIPT	04/04/2023 to 28/04/2023	
	DATE OF REPORT	02/05/2023	
	DATE OF ANALYSIS	START: 04/04/2023	END: 30/04/2023

#### SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310212, DATED: 07.09.2022
SAMPLING LOCATION	ETP AREA, KONDKEL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

#### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

#### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.04.2023	64	29	18	25	0.58	N.D.
06.04.2023	63	31	16	26	0.61	N.D.
10.04.2023	67	30	18	25	0.53	N.D.
13.04.2023	62	32	16	24	0.63	N.D.
17.04.2023	68	32	17	26	0.70	N.D.
20.04.2023	67	34	16	24	0.85	N.D.
24.04.2023	66	32	18	25	0.76	N.D.
27.04.2023	69	34	17	24	0.44	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

*Belh*  
02/05/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajcet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/23-24/0906
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/02106-2113
		DATE OF SAMPLING	01/05/2023 to 26/05/2023
		DATE OF RECEIPT	02/05/2023 to 27/05/2023
		DATE OF REPORT	31/05/2023
		DATE OF ANALYSIS	START: 02/05/2023      END: 30/05/2023
<b>SAMPLE DETAILS</b>			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O. 13552310212, DATED: 07.09.2022
SAMPLING LOCATION	ETP AREA, KONDKEL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.05.2023	66	30	19	26	0.63	N.D.
05.05.2023	65	32	17	27	0.75	N.D.
08.05.2023	69	31	19	26	0.61	N.D.
12.05.2023	64	33	18	25	0.72	N.D.
15.05.2023	70	30	16	27	0.84	N.D.
19.05.2023	69	35	17	26	0.90	N.D.
22.05.2023	68	34	19	24	0.81	N.D.
26.05.2023	71	33	18	25	0.52	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

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- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 31/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS   <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>  <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	<b>REPORT NO</b>	UES/TR/23-24/02013	
	<b>LAB REF NO</b>	UES/23-24/AAQM/04386-04393	
	<b>DATE OF SAMPLING</b>	02/06/2023 to 30/06/2023	
	<b>DATE OF RECEIPT</b>	03/06/2023 to 01/07/2023	
	<b>DATE OF REPORT</b>	04/07/2023	
	<b>DATE OF ANALYSIS</b>	START: 03/06/2023	END: 04/07/2023

#### SAMPLE DETAILS

<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED: 07.09.2022
<b>SAMPLING LOCATION</b>	ETP AREA, KONDKEL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

#### Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

#### TEST REPORT

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
02.06.2023	65	29	18	25	0.51	N.D.
05.06.2023	64	31	20	26	0.63	N.D.
09.06.2023	68	30	18	25	0.52	N.D.
12.06.2023	63	32	19	24	0.69	N.D.
16.06.2023	69	29	17	26	0.78	N.D.
19.06.2023	68	34	18	25	0.86	N.D.
23.06.2023	50	26	16	22	0.74	N.D.
30.06.2023	70	32	17	23	0.41	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

#### Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 04/07/23  <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS    <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....

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<b>Name &amp; Address Of The Customer</b>  <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	<b>REPORT NO</b>	UES/TR/23-24/03057	
	<b>LAB REF NO</b>	UES/23-24/AAQM/05878-05885	
	<b>DATE OF SAMPLING</b>	03/07/2023 to 28/07/2023	
	<b>DATE OF RECEIPT</b>	04/07/2023 to 29/07/2023	
	<b>DATE OF REPORT</b>	31/07/2023	
	<b>DATE OF ANALYSIS</b>	<b>START: 04/07/2023</b>	<b>END: 31/07/2023</b>

**SAMPLE DETAILS**

<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O. 13552310212, DATED: 07.09.2022
<b>SAMPLING LOCATION</b>	ETP AREA, KONDKEL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

**Test Method and NAAQM Standard for Ambient Air Quality Monitoring**

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

**TEST REPORT**

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2023	43	27	19	25	0.43	N.D.
07.07.2023	42	25	20	22	0.51	N.D.
10.07.2023	45	24	15	23	0.46	N.D.
14.07.2023	44	27	19	24	0.58	N.D.
17.07.2023	44	23	17	25	0.64	N.D.
21.07.2023	44	26	19	21	0.72	N.D.
24.07.2023	44	24	16	23	0.65	N.D.
28.07.2023	43	26	18	22	0.38	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

**Terms & conditions**

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- > This is for information as the party has asked for above test(s) only.

 31/07/23  <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS    <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	<b>REPORT NO</b>	UES/TR/23-24/03868	
	<b>LAB REF NO</b>	UES/23-24/AAQM/07364-07371	
	<b>DATE OF SAMPLING</b>	03/08/2023 to 28/08/2023	
	<b>DATE OF RECEIPT</b>	04/08/2023 to 29/08/2023	
	<b>DATE OF REPORT</b>	31/08/2023	
	<b>DATE OF ANALYSIS</b>	START:04/08/2023	END:31/08/2023

**SAMPLE DETAILS**

<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	ETP AREA, KONDKEL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

**Test Method and NAAQM Standard for Ambient Air Quality Monitoring**

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

**TEST REPORT**

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.08.2023	40	27	16	22	0.21	N.D.
07.08.2023	42	25	15	23	0.33	N.D.
11.08.2023	44	29	19	24	0.27	N.D.
14.08.2023	43	24	20	23	0.34	N.D.
18.08.2023	39	26	15	26	0.46	N.D.
21.08.2023	45	25	21	22	0.55	N.D.
25.08.2023	43	29	21	22	0.42	N.D.
28.08.2023	41	24	21	26	0.17	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....



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<b>Name &amp; Address Of The Customer</b> <b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED, GARE</b> <b>PALMA - IV/5, MILUPARA U/G COAL</b> <b>MINE,VILLAGE - MILUPARA,</b> <b>BLOCK-TAMNAR,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>	<b>REPORT NO</b>	UES/TR/23-24/04674	
	<b>LAB REF NO</b>	UES/23-24/AAQM/08602-8609	
	<b>DATE OF SAMPLING</b>	01/09/2023 to 25/09/2023	
	<b>DATE OF RECEIPT</b>	02/09/2023 to 26/09/2023	
	<b>DATE OF REPORT</b>	27/09/2023	
	<b>DATE OF ANALYSIS</b>	<b>START:02/09/2023</b>	<b>END:27/09/2023</b>

**SAMPLE DETAILS**

<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310212, DATED:07.09.2022
<b>SAMPLING LOCATION</b>	ETP AREA, KONDKEL		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

**Test Method and NAAQM Standard for Ambient Air Quality Monitoring**

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

**TEST REPORT**

Date of Sampling	PM <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
01.09.2023	42	28	18	26	0.10	N.D.
04.09.2023	42	28	17	25	0.27	N.D.
08.09.2023	38	25	18	26	0.19	N.D.
11.09.2023	39	25	21	27	0.28	N.D.
15.09.2023	44	26	15	26	0.32	N.D.
19.09.2023	44	25	20	28	0.46	N.D.
22.09.2023	41	25	19	28	0.35	N.D.
25.09.2023	43	26	15	26	0.12	N.D.

Remarks: \* Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report.....

**Annexure – 24A**



# CONTINUOUS AMBIENT AIR QUALITY MONITORING SYSTEM (CAAQMS - 02 Nos.) AT GARE PALMA IV/4 COAL MINE, BANJIKHOL & BANKHETA, RAIGARH





# Annexure-25



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/05764	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/010806	
		<b>DATE OF SAMPLING</b>	22/09/2023	
		<b>DATE OF RECEIPT</b>	23/09/2023	
		<b>DATE OF REPORT</b>	27/09/2023	
		<b>DATE OF ANALYSIS</b>	START: 23/09/2023	END: 27/09/2023
<b>SAMPLE DETAILS</b>				
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED: 07.09.2022	
<b>SAMPLING LOCATION</b>	PIT OFFICE AREA, BANKHETA			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

## TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m <sup>3</sup>	0.46	6.0	CPCB Guidelines (AAS Method)
2	Nickel (as Ni)	ng/m <sup>3</sup>	0.64	20	CPCB Guidelines (AAS Method)
3	Lead (as Pb)	µg/m <sup>3</sup>	0.03	1.0	IS 5182 (Part 22) :2004
4	Mercury (Hg)	ng/m <sup>3</sup>	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m <sup>3</sup>	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m <sup>3</sup>	N.D.	-	EPA Method IO-5
7	Ozone (O <sub>3</sub> ) *	µg/m <sup>3</sup>	10.4	180	CPCB Guidelines Vol-I
8	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	8.6	400	CPCB Guidelines Vol-I
9	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	N.D.	5.0	IS 5182 (Part 11) :2006
10	Benzo (a) Pyrene	ng/m <sup>3</sup>	N.D.	1.0	IS 5182 (Part 12) :2014

Note: All results are on the basis of 24 hour sampling.

**REMARKS: \* THESE RESULTS ARE ON THE BASIS OF 1 HOUR SAMPLING, N.D.: NOT DETECTED**

### Terms & conditions

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- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

*[Signature]*  
22/09/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*[Signature]*

AUTHORIZED SIGNATORY

-----End of the test report-----



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Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/05765	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/010807	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	22/09/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	23/09/2023	
<b>VILLAGE - BANKHETA,</b>		<b>DATE OF REPORT</b>	27/09/2023	
<b>POST -MILUPARA,</b>		<b>DATE OF ANALYSIS</b>	START: 23/09/2023	END: 27/09/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>				
<b>SAMPLE DETAILS</b>				
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED: 07.09.2022	
<b>SAMPLING LOCATION</b>	ETP AREA, BANJIKHOL			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

## TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m <sup>3</sup>	0.44	6.0	CPCB Guidelines (AAS Method)
2	Nickel (as Ni)	ng/m <sup>3</sup>	0.89	20	CPCB Guidelines (AAS Method)
3	Lead (as Pb)	µg/m <sup>3</sup>	0.02	1.0	IS 5182 (Part 22):2004
4	Mercury (Hg)	ng/m <sup>3</sup>	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m <sup>3</sup>	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m <sup>3</sup>	N.D.	-	EPA Method IO-5
7	Ozone (O <sub>3</sub> ) *	µg/m <sup>3</sup>	9.8	180	CPCB Guidelines Vol-I
8	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	7.5	400	CPCB Guidelines Vol-I
9	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo (a) Pyrene	ng/m <sup>3</sup>	N.D.	1.0	IS 5182 (Part 12):2014

Note: All results are on the basis of 24 hour sampling.

**REMARKS: \* THESE RESULTS ARE ON THE BASIS OF 1 HOUR SAMPLING, N.D.: NOT DETECTED**

### Terms & conditions

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- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

27/09/23  
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AUTHORIZED SIGNATORY

-----End of the test report-----



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Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/05766		
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/AAQM/010808		
		DATE OF SAMPLING	22/09/2023		
		DATE OF RECEIPT	23/09/2023		
		DATE OF REPORT	27/09/2023		
		DATE OF ANALYSIS	START: 23/09/2023	END: 27/09/2023	
		<b>SAMPLE DETAILS</b>			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022		
SAMPLING LOCATION	OFFICE AREA, BANJIKHOL				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.				

## TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m <sup>3</sup>	0.40	6.0	CPCB Guidelines (AAS Method)
2	Nickel (as Ni)	ng/m <sup>3</sup>	1.13	20	CPCB Guidelines (AAS Method)
3	Lead (as Pb)	µg/m <sup>3</sup>	0.05	1.0	IS 5182 (Part 22) :2004
4	Mercury (Hg)	ng/m <sup>3</sup>	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m <sup>3</sup>	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m <sup>3</sup>	N.D.	-	EPA Method IO-5
7	Ozone (O <sub>3</sub> ) *	µg/m <sup>3</sup>	11.6	180	CPCB Guidelines Vol-I
8	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	8.9	400	CPCB Guidelines Vol-I
9	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	N.D.	5.0	IS 5182 (Part 11) :2006
10	Benzo (a) Pyrene	ng/m <sup>3</sup>	N.D.	1.0	IS 5182 (Part 12) :2014

Note: All results are on the basis of 24 hour sampling.

**REMARKS: \* THESE RESULTS ARE ON THE BASIS OF 1 HOUR SAMPLING, N.D.: NOT DETECTED**

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- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

*Reh*  
27/09/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviron@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/05767	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST -MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>LAB REF NO</b>	UES/23-24/AAQM/010809	
		<b>DATE OF SAMPLING</b>	22/09/2023	
		<b>DATE OF RECEIPT</b>	23/09/2023	
		<b>DATE OF REPORT</b>	27/09/2023	
		<b>DATE OF ANALYSIS</b>	<b>START: 23/09/2023</b>	<b>END: 27/09/2023</b>
<b>SAMPLE DETAILS</b>				
<b>MONITORING FOR</b>	<b>AMBIENT AIR QUALITY MONITORING</b>	<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED: 07.09.2022	
<b>SAMPLING LOCATION</b>	OFFICE AREA, BANKHETA			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

## TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m <sup>3</sup>	0.38	6.0	CPCB Guidelines (AAS Method)
2	Nickel (as Ni)	ng/m <sup>3</sup>	1.01	20	CPCB Guidelines (AAS Method)
3	Lead (as Pb)	µg/m <sup>3</sup>	0.02	1.0	IS 5182 (Part 22) :2004
4	Mercury (Hg)	ng/m <sup>3</sup>	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m <sup>3</sup>	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m <sup>3</sup>	N.D.	-	EPA Method IO-5
7	Ozone (O <sub>3</sub> ) *	µg/m <sup>3</sup>	10.4	180	CPCB Guidelines Vol-I
8	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	8.8	400	CPCB Guidelines Vol-I
9	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	N.D.	5.0	IS 5182 (Part 11) :2006
10	Benzo (a) Pyrene	ng/m <sup>3</sup>	N.D.	1.0	IS 5182 (Part 12) :2014

Note: All results are on the basis of 24 hour sampling.

**REMARKS: \* THESE RESULTS ARE ON THE BASIS OF 1 HOUR SAMPLING, N.D.: NOT DETECTED**

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- This is for information as the party has asked for above test(s) only.

 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

# Annexure-26





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address of The Customer		REPORT NO.	UES/TR/23-24/0536
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST - MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO.	UES/23-24/N/01333-01342
		DATE OF REPORT	02/05/2023
		DATE OF SAMPLING	26/04/2023 to 27/04/2023
		<b>SAMPLE DETAILS</b>	
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED:07.09.2022		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

<b>TEST REPORT</b>					
LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	54	41	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	56	45		
DG SET AREA BANKHETA	dB(A)	55	42		
DG SET AREA, BANJIKHOL	dB(A)	60	50		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	57	46		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	61	51		
OFFICE AREA, BANKHETA	dB(A)	60	47		
WEIGHBRIGE AREA, BANKHETA	dB(A)	62	51		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
<b>Outside Plant</b>					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	49	38	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	51	39		

**REMARKS: RESULTS ARE AS ABOVE**

**Terms & conditions**

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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<i>Name &amp; Address of The Customer</i>		REPORT NO.	UES/TR/23-24/0887
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST - MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO.	UES/23-24/N/02056-02065
		DATE OF REPORT	24/05/2023
		DATE OF SAMPLING	19/05/2023 - 20/05/2023
SAMPLE DETAILS			
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	P.O. 13552310211, DATED: 07.09.2022		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

TEST REPORT					
LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	55	42	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	57	46		
DG SET AREA BANKHETA	dB(A)	56	43		
DG SET AREA, BANJIKHOL	dB(A)	61	51		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	59	47		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	62	52		
OFFICE AREA, BANKHETA	dB(A)	61	48		
WEIGHBRIGE AREA, BANKHETA	dB(A)	63	53		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
<b>Outside Plant</b>					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	50	40	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	52	38		

REMARKS: RESULTS ARE AS ABOVE

*Terms & conditions*

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- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 24/05/23 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS   AUTHORIZED SIGNATORY
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviron@gmail.com

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<i>Name &amp; Address of The Customer</i>		REPORT NO.	UES/TR/23-24/01994
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA,</b> <b>POST - MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO.	UES/23-24/N/04336-043045
		DATE OF REPORT	04/07/2023
		DATE OF SAMPLING	29/06/2023
SAMPLE DETAILS			
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

### TEST REPORT

LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	54	41	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	56	45		
DG SET AREA BANKHETA	dB(A)	55	43		
DG SET AREA, BANJIKHOL	dB(A)	58	50		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	56	47		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	61	52		
OFFICE AREA, BANKHETA	dB(A)	60	48		
WEIGHBRIGE AREA, BANKHETA	dB(A)	62	53		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
<b>Outside Plant</b>					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	49	39	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	51	37		

REMARKS: RESULTS ARE AS ABOVE

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-----End of the test report-----

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<i>Name &amp; Address of The Customer</i>		REPORT NO.	UES/TR/23-24/03115
<b>TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO.	UES/23-24/N/05999-06012
		DATE OF REPORT	31/07/2023
		DATE OF SAMPLING	28/07/2023
SAMPLE DETAILS			
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED:07.09.2022		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

TEST REPORT						
SR. NO.	LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
			DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
1	NEAR OFFICE AREA, BANJIKHOL	dB(A)	56	43	75	70
2	NEAR ETP AREA, BANJIKHOL	dB(A)	56	45		
3	NEAR OFFICE AREA, BANKHETA	dB(A)	51	43		
4	NEAR PIT OFFICE AREA, BANKHETA	dB(A)	54	47		
5	NEAR DECO WORK SHOP BANJIKHOL	dB(A)	57	46		
6	NEAR DG SET AREA, BANJIKHOL	dB(A)	59	51		
7	NEAR DG SET AREA BANKHETA	dB(A)	56	44		
8	NEAR WEIGHBRIGE AREA, BANJIKHOL	dB(A)	57	48		
9	NEAR TRUCK PARKING AREA, BANJIKHOL	dB(A)	62	53		
10	NEAR WEIGHBRIGE AREA, BANKHETA	dB(A)	63	54		
SR. NO.	LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
			DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
<b>Outside Mines Premises</b>						
1	NEAR GOVT. SCHOOL BANJIKHOL VILLAGE	dB(A)	50	40	55	45
2	NEAR GOVT. SCHOOL BELJOR VILLAGE	dB(A)	52	38		

REMARKS: RESULTS ARE AS ABOVE

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 31/07/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



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Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address of The Customer		REPORT NO.	UES/TR/23-24/03833
TO, <b>HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO.	UES/23-24/N/07296-07307
		DATE OF REPORT	31/08/2023
		DATE OF SAMPLING	23/08/2023 to 25/08/2023
<b>SAMPLE DETAILS</b>			
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	P.O.13552310211, DATED: 07.09.2022		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

### TEST REPORT

SR. NO.	LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
			DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
1	NEAR OFFICE AREA, BANJIKHOL	dB(A)	64	55	75	70
2	NEAR ETP AREA, BANJIKHOL	dB(A)	60	52		
3	NEAR OFFICE AREA, BANKHETA	dB(A)	59	49		
4	NEAR PIT OFFICE AREA, BANKHETA	dB(A)	55	48		
5	NEAR DECO WORK SHOP BANJIKHOL	dB(A)	52	44		
6	NEAR DG SET AREA, BANJIKHOL	dB(A)	58	47		
7	NEAR DG SET AREA BANKHETA	dB(A)	65	57		
8	NEAR WEIGHBRIGE AREA, BANJIKHOL	dB(A)	57	46		
9	NEAR TRUCK PARKING AREA, BANJIKHOL	dB(A)	58	45		
10	NEAR WEIGHBRIGE AREA, BANKHETA	dB(A)	58	46		
SR. NO.	LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
			DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
<b>Outside Mines Premises</b>						
1	NEAR GOVT. SCHOOL BANJIKHOL VILLAGE	dB(A)	49	40	55	45
2	NEAR GOVT. SCHOOL BELJOR VILLAGE	dB(A)	51	38		

**REMARKS: RESULTS ARE AS ABOVE**

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 <b>REVIEWED BY</b>	 <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>	For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviron@gmail.com

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<b>Name &amp; Address of The Customer</b>		<b>REPORT NO.</b>	UES/TR/23-24/04655
<b>TO,</b>		<b>LAB REF NO.</b>	UES/23-24/N/08550-08561
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF REPORT</b>	27/09/2023
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF SAMPLING</b>	21/09/2023 - 23/09/2023
<b>VILLAGE - BANKHETA,</b>			
<b>POST - MILUPARA,</b>			
<b>DISTT. - RAIGARH (C.G.) 496107</b>			
SAMPLE DETAILS			
<b>MONITORING FOR</b>	NOISE LEVEL MONITORING		
<b>CUSTOMER REF. NO. &amp; DATE</b>	P.O.13552310211, DATED:07.09.2022		
<b>SAMPLING LOCATION</b>	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST		
<b>SAMPLING PROCEDURE</b>	MANUFACTURER'S INSTRUCTION		

TEST REPORT						
SR. NO.	LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
			DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
1	NEAR OFFICE AREA, BANJIKHOL	dB(A)	66	53	75	70
2	NEAR ETP AREA, BANJIKHOL	dB(A)	61	51		
3	NEAR OFFICE AREA, BANKHETA	dB(A)	62	50		
4	NEAR PIT OFFICE AREA, BANKHETA	dB(A)	57	49		
5	NEAR DECO WORK SHOP BANJIKHOL	dB(A)	54	47		
6	NEAR DG SET AREA, BANJIKHOL	dB(A)	59	48		
7	NEAR DG SET AREA BANKHETA	dB(A)	67	59		
8	NEAR WEIGHBRIGE AREA, BANJIKHOL	dB(A)	58	47		
9	NEAR TRUCK PARKING AREA, BANJIKHOL	dB(A)	60	46		
10	NEAR WEIGHBRIGE AREA, BANKHETA	dB(A)	59	47		
SR. NO.	LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
			DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
<b>Outside Mines Premises</b>						
1	NEAR GOVT. SCHOOL BANJIKHOL VILLAGE	dB(A)	50	39	55	45
2	NEAR GOVT. SCHOOL BELJOR VILLAGE	dB(A)	52	40		

REMARKS: RESULTS ARE AS ABOVE

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- > This is for information as the party has asked for above test(s) only.

 27/09/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----

# Annexure-27

# Photographs of ETP, capacity of 50 m<sup>3</sup>/day at Patch “B” Bankheta Gare Palma IV/4 Coal Mine



**Effluent Treatment Plant – 50 KLD - Bankheta**



# Annexure – 27A



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0541	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA, POST MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/01347	
		DATE OF SAMPLING	27/04/2023	
		DATE OF RECEIPT	28/04/2023	
		DATE OF REPORT	02/05/2023	
		DATE OF ANALYSIS	START: 28/04/2023	END: 02/05/2023
		<b>SAMPLE DETAILS</b>		
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	ETP INLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

<b>TEST REPORT</b>					
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	10.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.5
4	pH	-	APHA 23 <sup>rd</sup> Ed.2012,4500-H'-B,4-92	5.5 to 9.0	6.89
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed.2012,2540- D, 2-66	100	87.0
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-P-C, 4-153	5.0	0.78
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.28
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	5.0	0.36
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 5520-B,5-17	250	96.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	22.6
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992,RA 2003	1.0	N.D.

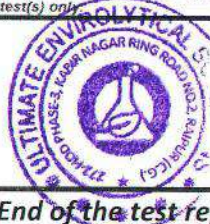
REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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*Pradeep*  
02/05/23

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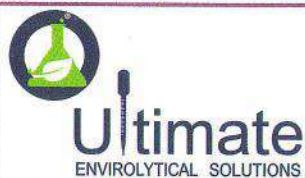


For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0892
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA, POST MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/02070
		DATE OF SAMPLING	20/05/2023
		DATE OF RECEIPT	21/05/2023
		DATE OF REPORT	24/05/2023
		DATE OF ANALYSIS	START: 21/05/2023    END: 24/05/2023
		<b>SAMPLE DETAILS</b>	
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022
CUSTOMER SAMPLE ID	ETP INLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET
1	Colour	Hazen	APHA 23 <sup>nd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	10.0
2	Odour	-	APHA 23 <sup>nd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>nd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.4
4	pH	-	APHA 23 <sup>nd</sup> Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	6.71
5	Total Residual Chlorine	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 2540-D, 2-66	100	88.2
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	0.79
8	Fluoride (as F)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.31
9	Lead (as Pb)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3111-B, 3-18	5.0	0.38
11	Copper (as Cu)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 5520-B, 5-17	250	100.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	23.2
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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*Rebh*  
24/05/23

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*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/01999
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/23-24/W/04350
		DATE OF SAMPLING	29/06/2023
		DATE OF RECEIPT	30/06/2023
		DATE OF REPORT	04/07/2023
		DATE OF ANALYSIS	START: 30/06/2023    END: 04/07/2023
<b>SAMPLE DETAILS</b>			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O. 13552310211, DATED: 07.09.2022
CUSTOMER SAMPLE ID	ETP INLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	10.7
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.9
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2012, 4500-H'-B, 4-92	5.5 to 9.0	6.56
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 2540-D, 2-66	100	69.1
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	0.58
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.26
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	5.0	0.32
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 5520-B, 5-17	250	112.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	23.1
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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*R. Bhatia*  
04/07/23

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



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Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address of The Customer		REPORT NO	UES/TR/23-24/03043	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/23-24/W/05842	
		DATE OF SAMPLING	26/07/2023	
		DATE OF RECEIPT	27/07/2023	
		DATE OF REPORT	31/07/2023	
		DATE OF ANALYSIS	START: 27/07/2023	END: 31/07/2023
<b>SAMPLE DETAILS</b>				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	ETP INLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST	
SAMPLING PROCEDURE	IS: 3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	10.7
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed.2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.8
4	pH	-	APHA 23 <sup>rd</sup> Ed.2012, 4500-H-B, 4-92	5.5 to 9.0	6.58
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 2540- D, 2-66	100	69.8
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 4500-P-C, 4-153	5.0	0.59
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 4500-F-B&D, 4-84 & 8	2.0	0.27
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 3111-B, 3-18	5.0	0.34
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 5520-B, 5-17	250	116.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	24.2
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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*R. B. Ch*  
31/07/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/03838	
TO, <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA, POST MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/07312	
		DATE OF SAMPLING	24/08/2023	
		DATE OF RECEIPT	25/08/2023	
		DATE OF REPORT	31/08/2023	
		DATE OF ANALYSIS	START:25/08/2023	END:29/08/2023
<b>SAMPLE DETAILS</b>				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	ETP INLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	5.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.1
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H <sup>+</sup> -B,4-92	5.5 to 9.0	6.51
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,2540-D, 2-66	100	68.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	5.0	0.57
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B&D, 4-84 & 8	2.0	0.26
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5.0	0.32
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 5520-B,5-17	250	112.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	23.3
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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*Phaneesh*  
31/08/23  
**REVIEWED BY**



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*  
**AUTHORIZED SIGNATORY**

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04660	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/08566	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	22/09/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	23/09/2023	
<b>VILLAGE - BANKHETA, POST MILUPARA,</b>		<b>DATE OF REPORT</b>	27/09/2023	
<b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>DATE OF ANALYSIS</b>	START:23/09/2023	END:27/09/2023
SAMPLE DETAILS				
<b>SAMPLE TYPE</b>	<b>WASTE WATER</b>	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022	
<b>CUSTOMER SAMPLE ID</b>	<b>ETP INLET BANKHETA</b>	<b>SAMPLE CONDITION AT RECEIPT</b>	OK	
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	<b>SEALED</b>	<b>SAMPLE COLLECTED BY</b>	<b>CHEMIST</b>
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 (SCHEDULE-VI) PART-A INLAND SURFACE WATER	BHANKETA ETP INLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	5.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.5
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H'-B,4-92	5.5 to 9.0	6.73
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,2540-D, 2-66	100	63.4
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	5.0	0.61
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B&D,4-84 & 8	2.0	0.34
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5.0	0.43
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 5520-B,5-17	250	128.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	26.6
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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*R. B. Ch*  
27/09/23  
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For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0542	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>GARE PALMA - IV/4, COAL MINE,</b> <b>VILLAGE - BANKHETA, POST MILUPARA,</b> <b>DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/01348	
		DATE OF SAMPLING	27/04/2023	
		DATE OF RECEIPT	28/04/2023	
		DATE OF REPORT	02/05/2023	
		DATE OF ANALYSIS	START: 28/04/2023	END: 02/05/2023
		<b>SAMPLE DETAILS</b>		
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O. 13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	ETP OUTLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.4
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	7.34
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 2540-D, 2-66	100	35.5
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	0.24
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.25
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	5.0	0.28
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 5520-B, 5-17	250	48.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44): 1993, RA 2003	30	13.7
19	Oil & Grease	mg/L	IS 3025 (Part 39): 1991, RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43): 1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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 02/05/23 <b>REVIEWED BY</b>		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----





HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/0893
TO, <b>HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107</b>		LAB REF NO	UES/23-24/W/02071
		DATE OF SAMPLING	20/05/2023
		DATE OF RECEIPT	21/05/2023
		DATE OF REPORT	24/05/2023
		DATE OF ANALYSIS	START: 21/05/2023    END: 24/05/2023
		<b>SAMPLE DETAILS</b>	
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022
CUSTOMER SAMPLE ID	ETP OUTLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

<b>TEST REPORT</b>					
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 <sup>nd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1.0
2	Odour	-	APHA 23 <sup>nd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>nd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.5
4	pH	-	APHA 23 <sup>nd</sup> Ed. 2012, 4500-H <sup>-</sup> -B, 4-92	5.5 to 9.0	7.36
5	Total Residual Chlorine	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 4500-Cl-6, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 2540- D, 2-66	100	36.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	0.25
8	Fluoride (as F)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.27
9	Lead (as Pb)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3111-B, 3-18	5.0	0.30
11	Copper (as Cu)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>nd</sup> Ed. 2012, 5520-B, 5-17	250	52.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44): 1993, RA 2003	30	14.2
19	Oil & Grease	mg/L	IS 3025 (Part 39): 1991, RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43): 1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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*[Signature]*  
24/05/23

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

*[Signature]*

AUTHORIZED SIGNATORY

-----End of the test report-----



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Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/02000	
<b>TO,</b>		LAB REF NO	UES/23-24/W/04351	
<b>HINDALCO INDUSTRIES LIMITED,</b>		DATE OF SAMPLING	29/06/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		DATE OF RECEIPT	30/06/2023	
<b>VILLAGE - BANKHETA, POST MILUPARA,</b>		DATE OF REPORT	04/07/2023	
<b>DISTT. - RAIGARH (C.G.) 496107</b>		DATE OF ANALYSIS	START:30/06/2023	END:04/07/2023
SAMPLE DETAILS				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O. 13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	ETP OUTLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.9
4	pH	-	APHA 23 <sup>rd</sup> Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.28
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed.2012,2540- D, 2-66	100	37.8
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-P-C, 4-153	5.0	0.17
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.23
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	5.0	0.29
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed.2012, 5520-B,5-17	250	48.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	11.7
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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*R. Belle*  
04/07/23

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/23-24/03044	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/23-24/W/05843	
		DATE OF SAMPLING	26/07/2023	
		DATE OF RECEIPT	27/07/2023	
		DATE OF REPORT	31/07/2023	
		DATE OF ANALYSIS	START: 27/07/2023	END: 31/07/2023
		<b>SAMPLE DETAILS</b>		
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	ETP OUTLET BANKHETA	SAMPLE CONDITION AT RECEIPT	OR	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.4
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	7.31
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 2540-D, 2-66	100	38.1
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-P-C, 4-153	5.0	0.18
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.24
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	5.0	0.30
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2012, 5520-B, 5-17	250	52.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44): 1993, RA 2003	30	12.6
19	Oil & Grease	mg/L	IS 3025 (Part 39): 1991, RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43): 1992, RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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- ✓ This is for information as the party has asked for above test.

*Reddy*  
31/07/23

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/03839	
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/07313	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	24/08/2023	
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	25/08/2023	
<b>VILLAGE - BANKHETA, POST MILUPARA,</b>		<b>DATE OF REPORT</b>	31/08/2023	
<b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>DATE OF ANALYSIS</b>	START:25/08/2023	END:29/08/2023
SAMPLE DETAILS				
<b>SAMPLE TYPE</b>	<b>WASTE WATER</b>		<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	ETP OUTLET BANKHETA		<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		<b>QUANTITY RECEIVED</b>	5 LTR

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	<1.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.1
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H <sup>+</sup> -B,4-92	5.5 to 9.0	7.24
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,2540-D, 2-66	100	35.2
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	5.0	0.17
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B&D,4-84 & 8	2.0	0.22
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5.0	0.27
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 5520-B,5-17	250	44.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	10.6
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

REVIEWED BY

*Subhajeet*  
31/08/23



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099  
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1996

<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/23-24/04661
<b>TO,</b>		<b>LAB REF NO</b>	UES/23-24/W/08567
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	22/09/2023
<b>GARE PALMA - IV/4, COAL MINE,</b>		<b>DATE OF RECEIPT</b>	23/09/2023
<b>VILLAGE - BANKHETA, POST MILUPARA,</b>		<b>DATE OF REPORT</b>	27/09/2023
<b>DISTT. - RAIGARH (C.G.) 496107</b>		<b>DATE OF ANALYSIS</b>	START:23/09/2023    END:27/09/2023
SAMPLE DETAILS			
<b>SAMPLE TYPE</b>	WASTE WATER	<b>ORDER /REFERENCE:</b>	P.O.13552310211, DATED:07.09.2022
<b>CUSTOMER SAMPLE ID</b>	ETP OUTLET BANKHETA	<b>SAMPLE CONDITION AT RECEIPT</b>	OK
<b>PACKING OF SAMPLE</b>	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	<b>SAMPLE COLLECTED BY</b>	CHEMIST
<b>SAMPLING PROCEDURE</b>	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	<b>QUANTITY RECEIVED</b>	5 LTR

### TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	<1.0
2	Odour	-	APHA 23 <sup>rd</sup> Ed. 2017,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 <sup>rd</sup> Ed. 2017,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.3
4	pH	-	APHA 23 <sup>rd</sup> Ed. 2017,4500-H <sup>+</sup> -B,4-92	5.5 to 9.0	7.35
5	Total Residual Chlorine	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,2540- D, 2-66	100	39.7
7	Dissolved Phosphate (as P)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-P-C, 4-153	5.0	0.19
8	Fluoride (as F)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,4500-F-B&D, 4-84 & 8	2.0	0.26
9	Lead (as Pb)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	5.0	0.34
11	Copper (as Cu)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017,3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 <sup>rd</sup> Ed. 2017, 5520-B,5-17	250	68.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	15.9
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

#### Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

*R. Ch*  
27/09/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Subhajeet*

AUTHORIZED SIGNATORY

-----End of the test report-----

# Annexure-28

## Form 59

[See rules 115 (2)]

**Pollution Under Control Certificate**

Authorised By :  
Government of Chhattisgarh

**Date** : **07/06/2023**  
**Time** : **17:15:47 PM**  
**Validity upto** : **06/06/2024**



Certificate SL. No. : CG00600010010143  
Registration No. : OD15U7902  
Date of Registration : 03/Jun/2022  
Month & Year of Manufacturing : April-2022  
Valid Mobile Number : \*\*\*\*\*2334  
Emission Norms : BHARAT STAGE VI  
Fuel : DIESEL  
PUC Code : CG0060001  
GSTIN :  
Fees : Rs.150.00  
(GST to be paid extra as applicable)  
MIL observation : No

Vehicle Photo with Registration plate  
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.68
This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.				

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC operator  
60mm x 20 mm

## Form 59

[See rules 115 (2)]

**Pollution Under Control Certificate**

Authorised By :  
Government of Chhattisgarh

Date : 26/08/2023

Time : 14:50:40 PM

Validity upto : 25/08/2024 ✓



Certificate SL. No. : CG01300090002727  
 Registration No. : CG12AS3038  
 Date of Registration : 02/Oct/2017  
 Month & Year of Manufacturing : August-2017  
 Valid Mobile Number : \*\*\*\*\*1539  
 Emission Norms : BHARAT STAGE IV  
 Fuel : DIESEL  
 PUC Code : CG0130009  
 GSTIN :  
 Fees : Rs.150.00  
 (GST to be paid extra as applicable)  
 MIL observation : No

Vehicle Photo with Registration plate  
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	1.62	0.7

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC operator  
60mm x 20 mm



Form 59

[See rules 115 (2)]

**Pollution Under Control Certificate**

Authorised By :  
Government of Chhattisgarh

Date : 20/09/2023  
Time : 12:36:19 PM  
Validity upto : 19/09/2024



Certificate SL. No. : CG01300090002892  
Registration No. : CG13AT2784  
Date of Registration : 14/Sep/2022  
Month & Year of Manufacturing : July-2022  
Valid Mobile Number : \*\*\*\*\*7029  
Emission Norms : BHARAT STAGE VI  
Fuel : DIESEL  
PUC Code : CG0130009  
GSTIN :  
Fees : Rs.150.00  
MIL observation : (GST to be paid extra as applicable)  
No

Vehicle Photo with Registration plate  
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.67

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC operator  
60mm x 20 mm



[See rules 115 (2)]

**Pollution Under Control Certificate**

Authorised By :  
Government of Chhattisgarh

Date : 15/08/2023  
Time : 16:52:17 PM  
Validity upto : 14/08/2024



Certificate SL. No. : CG00600010012356  
Registration No. : CG04NW0183  
Date of Registration : 17/Aug/2022  
Month & Year of Manufacturing : July-2022  
Valid Mobile Number : \*\*\*\*\*5471  
Emission Norms : BHARAT STAGE VI  
Fuel : DIESEL  
Code : CG0060001  
GSTIN :  
Fees : Rs.150.00  
(GST to be paid extra as applicable)  
MIL observation : No

Vehicle Photo with Registration plate  
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High Idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.64

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC operator  
60mm x 20 mm

1049  
Naveen  
25/8/23

**Pollution Under Control Certificate**

Authorised By :  
Government of Haryana

Date : 08/08/2023  
Time : 11:07:12 AM  
Validity upto : 07/08/2024 ✓



Certificate SL. No. :  
Registration No. : HR08400260004889  
Date of Registration : HR840080 ✓  
Month & Year of Manufacturing : 02/Mar/2023  
Valid Mobile Number : January-2023  
Emission Norms : \*\*\*\*\*5160  
Fuel : BHARAT STAGE VI  
PUC Code : DIESEL  
GSTIN : HR0840026  
Fees : Rs.100.00  
(GST to be paid extra as applicable)  
MIL observation : No

Vehicle Photo with Registration plate  
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.54

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC operator  
60mm x 20 mm

**Pollution Under Control Certificate**

Authorised By :  
Government of Odisha

Date : 03/09/2023  
Time : 18:11:46 PM  
Validity upto : 02/09/2024



Certificate SL. No. :  
Registration No. : OR01600090003607  
Date of Registration : OD16J0693  
Month & Year of Manufacturing : 06/Sep/2021  
Valid Mobile Number : July-2021  
Emission Norms : \*\*\*\*\*3050  
Fuel : BHARAT STAGE VI  
PUC Code : DIESEL  
GSTIN : OR0160009  
Fees : 21APRPC0385A1ZH  
Rs.177.0  
MIL observation : (GST to be paid extra as applicable)  
No

Vehicle Photo with Registration plate  
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.5

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://vahan.parivahan.gov.in>

Authorised Signature with stamp of PUC operator  
60mm x 20 mm

7084  
5/9/23  
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## Form 59

[See rules 115 (2)]

**Pollution Under Control Certificate**

Authorised By :  
Government of Odisha

**Date** : **13/09/2023**  
**Time** : **15:46:21 PM**  
**Validity upto** : **12/09/2024**



Certificate SL. No. : OR01700590003746  
Registration No. : CG13AR6788  
Date of Registration : 13/Apr/2022  
Month & Year of Manufacturing : March-2022  
Valid Mobile Number : \*\*\*\*\*8456  
Emission Norms : BHARAT STAGE VI  
Fuel : DIESEL  
PUC Code : OR0170059  
GSTIN : 21ADAPP6026E1Z4  
Fees : Rs.177.00  
(GST to be paid extra as applicable)  
MIL observation : No

Vehicle Photo with Registration plate  
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.67

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC operator  
60mm x 20 mm

# Annexure-29



National Accreditation Board for  
Testing and Calibration Laboratories

**CERTIFICATE OF ACCREDITATION**

**ULTIMATE ENVIROLYTICAL SOLUTIONS**

has been assessed and accredited in accordance with the standard

**ISO/IEC 17025:2017**

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

for its facilities at

HDD 272, PHASE-III, KABIR NAGAR, RAIPUR, CHHATTISGARH, INDIA

in the field of

**TESTING**

Certificate Number: TC-6065

Issue Date: 27/10/2021

Valid Until: 26/10/2023

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Name of Legal Identity : ULTIMATE ENVIROLYTICAL SOLUTIONS

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer



**छत्तीसगढ़ पर्यावरण संरक्षण मंडल**  
**पर्यावास भवन, सेक्टर - 19,**  
**नवा रायपुर अटल नगर, जिला-रायपुर (छ.ग.) 492002**

Email add - [hocecb@gmail.com](mailto:hocecb@gmail.com)

क्रमांक 1007 मुख्या/वैज्ञा./छ.ग.प.सं.मं./2022  
प्रति,

नवा रायपुर, अटल नगर, दिनांक 12/5/2022

श्री अनुराग श्रीवास्तव,  
मैनेजिंग पार्टनर/क्वालिटी मैनेजर,  
मेसर्स अल्टीमेट इन्वायरोलाईटिकल सॉल्यूशन्स,  
272-एच.डी.डी., फेस-3, कबीर नगर, रिंग रोड नं. 2,  
**जिला - रायपुर (छ.ग.)**

विषय :- प्रदेश में संचालित निजी प्रयोगशाला को छत्तीसगढ़ पर्यावरण संरक्षण मंडल द्वारा प्रदत्त मान्यता के संबंध में।

संदर्भ :- 1. आपका आवेदन पत्र क्रमांक UES/22-23/027 दिनांक 04/05/2022.  
2. मंडल मुख्यालय का पत्र क्रमांक 3398 दिनांक 17/08/2021.  
3. National Accreditation Board for Testing and Calibration Laboratories का सर्टिफिकेट नं. TC-6065 दिनांक 27/10/2021.

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उपरोक्त विषयांतर्गत संदर्भित पत्रों का अवलोकन करें। लेख है कि मंडल मुख्यालय द्वारा पत्र क्रमांक 3398 दिनांक 17/08/2021 के माध्यम से आपके निजी प्रयोगशाला को जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 की धारा 17 (2) एवं वायु (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1981 की धारा 17 (2) के अंतर्गत मान्यता प्रदान की गई थी, जिसकी वैधता दिनांक 25/06/2022 तक है। संदर्भ - 3 पर उल्लेखित सर्टिफिकेट नं. TC-6065 दिनांक 27/10/2021 के अनुक्रम में छत्तीसगढ़ पर्यावरण संरक्षण मंडल द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 की धारा 17 (2) एवं वायु (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1981 की धारा 17 (2) के अंतर्गत प्रदत्त मान्यता की वैधता दिनांक 26/10/2023 तक बढ़ाई जाती है। कृपया आपकी प्रयोगशाला में प्रचालकों की अद्यतन विश्लेषण दर सूची से मंडल को अवगत कराते हुए इस पत्र की पावती भेजे।



**सदस्य सचिव**

छत्तीसगढ़ पर्यावरण संरक्षण मंडल,  
नवा रायपुर अटल नगर, रायपुर (छ.ग.)

पृ.क्रमांक मुख्या/वैज्ञा./छ.ग.प.सं.मं./2022

प्रतिलिपि: क्षेत्रीय अधिकारी, क्षेत्रीय कार्यालय,  
रायपुर/भिलाई-दुर्ग/बिलासपुर/कोरबा/रायगढ़/अंबिकापुर/जगदलपुर की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

नवा रायपुर अटल नगर, दिनांक / /2022

छत्तीसगढ़ पर्यावरण संरक्षण मंडल,  
नवा रायपुर अटल नगर, रायपुर (छ.ग.)

**सदस्य सचिव**

छत्तीसगढ़ पर्यावरण संरक्षण मंडल,  
नवा रायपुर अटल नगर, रायपुर (छ.ग.)





केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
CENTRAL POLLUTION CONTROL BOARD  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार  
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

F. No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt/ 4564 Dated: 28<sup>th</sup> September, 2022

Provisional Certificate

To,  
Head of Laboratory,  
M/s Ultimate Envirollytical Solutions,  
HDD272, Phase-III, Kabir Nagar,  
Raipur -492099, Chhattisgarh.

Subject: Recognition of M/s Ultimate Envirollytical Solutions, HDD272, Phase-III, Kabir Nagar, Raipur -492099, Chhattisgarh, as Environmental laboratory under the Environmental (Protection) Act-1986.

Sir,

I am directed to refer the online application, dated 24/05/2022 for recognition of your laboratory under Environmental (Protection) Act, 1986. Based on the recommendations of the concerned Division, approval of Competent Authority for recognition of Environmental laboratories and your acceptance of the revised terms and conditions at Annexure-III & IV of the guidelines for recognition of environmental laboratories, CPCB approves the renewal of recognition of M/s Ultimate Envirollytical Solutions, HDD272, Phase-III, Kabir Nagar, Raipur -492099, Chhattisgarh, as shall be notified in the Gazette of India. Considering the current requirement of mandatory accreditation/ certifications of the laboratory, **this recognition shall be valid up to 26/10/2023 in continuation to earlier recognition.**

2. As sought in the aforementioned application M/s Ultimate Envirollytical Solutions, HDD272, Phase-III, Kabir Nagar, Raipur -492099, Chhattisgarh, may undertake the following tests:

- i. **Physical Tests-** Conductivity, Colour, pH, Fixed & Volatile Solids, Total Solids, Total Dissolved Solids, Total Suspended Solids, Turbidity, Temperature, Velocity & Discharge measurement, Flocculation test (Jar test), Odour, Salinity, Settleable Solids and Sludge Volume Index (SVI).
- ii. **Inorganic (General and Non-Metallic):** Acidity, Alkalinity, Ammonical Nitrogen, Chloride, Chlorine residual, Dissolved Oxygen, Fluoride, Total Hardness, Total Kjeldahl Nitrogen (TKN), Nitrite Nitrogen, Nitrate Nitrogen, Phosphate, Sulphate, Bromide, Chlorine Demand, Iodine, Sulphite, Silica, Cyanide and Sulphide.
- iii. **Inorganic (Trace Metals):** Boron, Cadmium, Calcium, Chromium Total, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium, Sodium Absorption Ratio (SAR), Zinc, Arsenic, Aluminium, Barium, Manganese, Selenium and Vanadium.
- iv. **Organics (General) and Trace Organics:** Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Oil and Grease, Phenolic Compounds, Pesticides (each) (Organochlorine and Organo nitrogen-phosphorus), Total Organic Carbon, Poly-Chlorinated Biphenyl (PCB's) each, Polynuclear Aromatic Hydrocarbon (PAH) each, and Organic Carbon (in solid).
- v. **Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli*, *Faecal Streptococci* and Total Plate Count.
- vi. **Toxicological Tests:** Bioassay method for evaluation of toxicity using fish and Measurement of toxicity using Daphnia or Other Organism.
- vii. **Characterization of Hazardous waste:** Preparation of Leachate (TCLP extract/water extract), Corrosivity, Ignibility (Flash point), Reactivity and Measurement of heavy metals/ pesticides in the waste and leachate.

Contd.

‘परिवेश भवन’ पूर्वी अर्जुन नगर, दिल्ली-110032

Parivesh Bhawan, East Arjun Nagar, Delhi-110032

दूरभाष/Tel : 43102030, 22305792, वेबसाइट/Website : www.cpcb.nic.in

- viii. **Soil/Sludge/Sediment and Solid Waste:** Boron, Cation Exchange Capacity (CEC), Electrical Conductivity, Nitrogen (available), Organic Carbon/matter (Chemical method), pH, Phosphorous (available), Phosphate (ortho), Phosphate (total), Potassium, SAR in Soil Extract, Sodium, Soil Moisture, TKN, Calorific Value, Ammonia, Bicarbonate, Calcium, Calcium Carbonate, Chloride, Colour, Exchangeable Sodium Percentage (ESP), Heavy metal, Magnesium, Nitrate, PAH, Pesticide and Sulphate.
- ix. **Ambient Air/ Fugitive Emissions:** Nitrogen Dioxide (NO<sub>2</sub>), Sulphur Dioxide (SO<sub>2</sub>), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter (PM<sub>10</sub>), Ammonia, Carbon Monoxide, Chlorine, Fluoride, Lead, Ozone, and PM<sub>2.5</sub>.
- x. **Stack Gases/ Source Emission:** Particulate Matter, Sulphur Dioxide, Velocity & Flow, Carbon Dioxide, Carbon Monoxide, Temperature, Oxygen, Oxides of Nitrogen, Acid mist, Ammonia, Fluoride (Gaseous), Chlorine and Hydrogen Sulphide.
- xi. **Noise Level:** Noise Level Measurement (20-140 dBa) and Ambient Noise and Source Specific Noise.
- xii. **Meteorological:** Ambient Temperature, Wind Direction, Wind Speed, Relative Humidity, and Rainfall.

3. Further, the following analysts have been approved as Government Analysts.

- i. Sh. Anurag K. Shrivastava
- ii. Smt. Snehal Akulwar
- iii. Sh. Pramod Choubey

2. The laboratory shall compulsorily participate in the Analytical Quality Exercise conducted by the Central Pollution Control Board (CPCB) to ascertain the capability of the laboratory and analysis carried out and shall submit quarterly progress report to CPCB.
3. The surprise inspection/periodic surveillance of the recognized environment laboratory will be undertaken by CPCB to assess its proper functioning systematic operation and reliability of data generated at the laboratory.
4. It is also mandatory for the laboratory to have requisite accreditations of the ISO: 17025 (NABL) and ISO:45001 (OH&SMS) and its renewal as per accreditation rules. This recognition is subject to such accreditations and renewals as applicable. The laboratory is required to apply online for further renewal of recognition through CPCB web portal after renewal of the mandatory accreditations / certifications concerned.
5. The laboratory should compulsorily follow the accepted terms and conditions. In case of serious non-compliance of any of the terms and conditions, the laboratory may be black listed for a minimum period of two years and civil/criminal proceedings, as applicable, may be initiated for performing functions on behalf of the Government in an unauthorized manner.

Yours faithfully,

 28/7/22

(Dr. K. Ranganathan)  
Scientist-E & Divisional Head  
Instrumentation Laboratory

# Annexure-30

## IME PME REPORT

### IME & PME REPORT CY 2021

Month	IME-IV/4 2021				PME IV/4 2021		
	DEPARTMENT	DEPARTMENT	GET/TRAINEE	CONTRACT	DEPARTMENT	DEPARTMENT	CONTRACT
	STAFF	ASSOCIATE			ASSOCIATE	STAFF	
Jan-21	0	0	0	27	13	6	0
Feb-21	0	0	0	18	17	4	0
Mar-21	0	0	0	50	0	0	46
Apr-21	0	0	0	7	0	0	0
May-21	0	0	0	6	0	0	0
Jun-21	0	0	0	4	0	0	0
Jul-21	0	0	0	1	1	0	0
Aug-21	0	0	0	0	14	14	0
Sep-21	0	0	0	2	0	0	0
Oct-21	0	0	5	6	0	0	0
Nov-21	0	0	3	22	0	0	0
Dec-21	0	0	2	24	0	0	6
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>167</b>	<b>45</b>	<b>24</b>	<b>52</b>

### IME & PME REPORT CY 2022

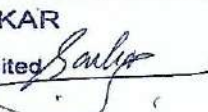
Month	IME-IV/4 2022				PME IV/4 2022		
	DEPARTMENT	DEPARTMENT	GET/TRAINEE	CONTRACT	DEPARTMENT	DEPARTMENT	CONTRACT
	STAFF	ASSOCIATE			ASSOCIATE	STAFF	
Jan-22	0	0	0	1	0	0	0
Feb-22	0	0	0	7	0	0	0
Mar-22	0	0	0	13	2	13	31
Apr-22	0	0	12	56	0	0	0
May-22	0	0	2	23	0	0	0
Jun-22	0	0	0	38	0	0	0
Jul-22	0	0	0	30	15	1	0
Aug-22	0	0	0	17	1	8	43
Sep-22	0	0	0	11	0	0	4
Oct-22	0	0	0	20	1	0	0
Nov-22	0	0	4	54	0	0	0
Dec-22	0	0	2	19	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>289</b>	<b>19</b>	<b>22</b>	<b>78</b>

### IME & PME REPORT CY 2023 (upto September 2023)

Month	IME-IV/4 2023				PME IV/4 2023		
	DEPARTMENT	DEPARTMENT	GET/TRAINEE	CONTRACT	DEPARTMENT	DEPARTMENT	CONTRACT
	STAFF	ASSOCIATE			ASSOCIATE	STAFF	
Jan-23	3	0	0	5	1	27	0
Feb-23	0	0	2	17	12	15	0
Mar-23	0	0	3	25	13	9	0
Apr-23	0	0	0	45	19	15	0
May-23	1	0	7	38	0	2	70
Jun-23	0	0	0	20	1	0	50
Jul-23	0	0	0	13	0	0	127
Aug-23	0	0	0	2	0	2	70
Sep-23	1	0	0	3	0	1	4
<b>TOTAL</b>	<b>5</b>	<b>0</b>	<b>12</b>	<b>168</b>	<b>46</b>	<b>71</b>	<b>321</b>

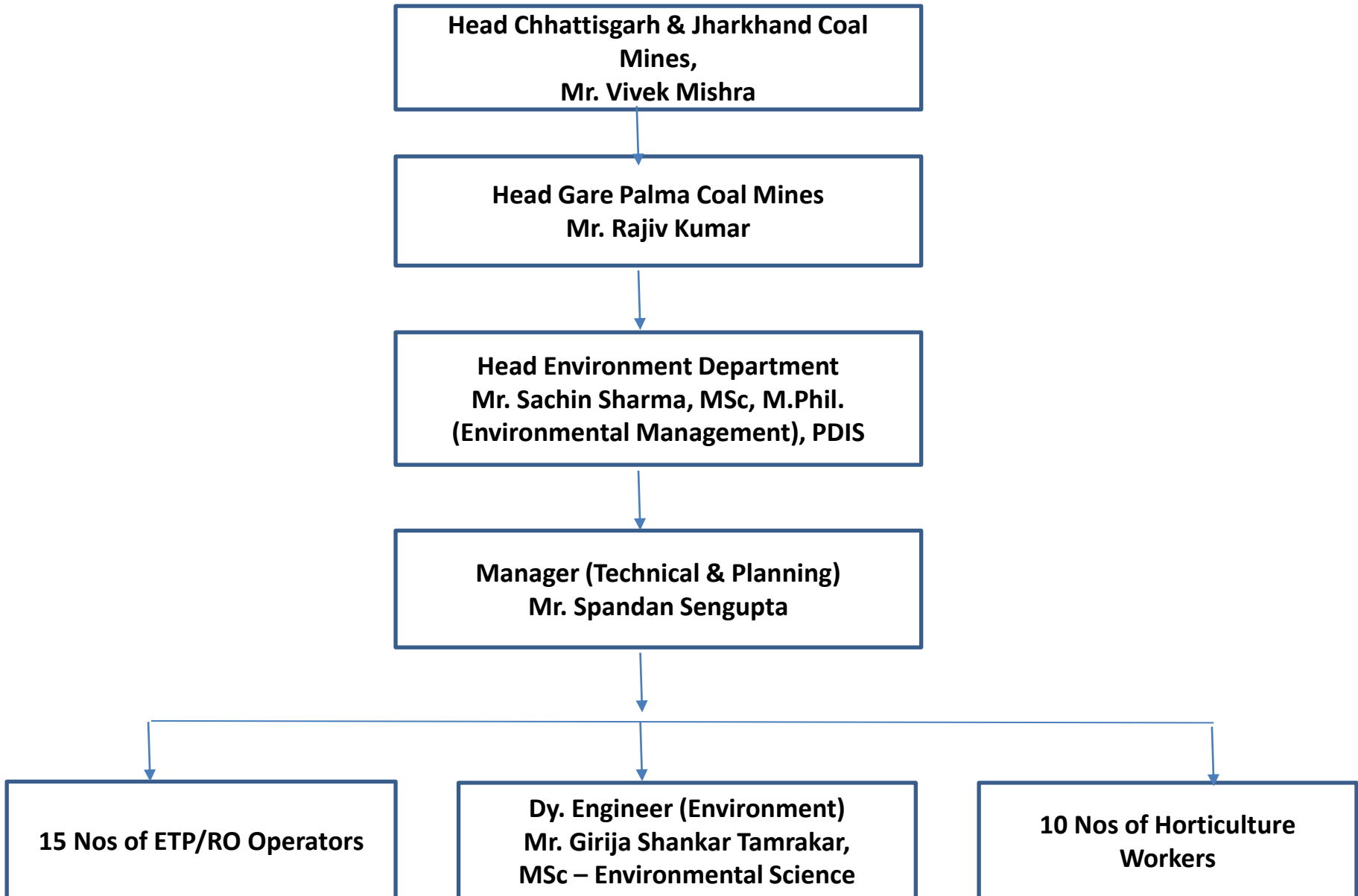
Dr. SHANKAR SARKAR

Medical Officer  
Hindalco Industries Limited  
Gare-Palma Mines  
Milupara, Tamnar  
Dist. Raigarh (C.G.)



# Annexure-31

# Organisation Chart of Environment Management Cell (Gare Palma Coal Mines)



# Annexure-32

**Environmental Expenditure Details for FY 2023-24**  
**(April 2023 to September 2023)**

**M/s Hindalco Industries Limited, Gare Palma Mines IV/4**

<b>Particulars</b>	<b>Amount (Lakh)</b>
Water Quality Management	498.74
Air Quality Management	54.98
Plantation, Green Belt Development	9.54
Others	53.00
<b>Total</b>	<b>616.26</b>