

Letter No.: HIL/EC/GP- IV/4/II/2022 -23/68

29th May, 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.

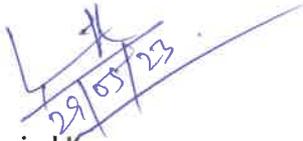
Respected Sir,

This has reference to the Environment Clearance Letter no. – J-11015/183/2010- IA –II. (M) dated 16.04.2015 (Transferred in favour of HIL) and Amendment in EC for production capacity i.e. Opencast: 0.56 MTPA & Under Ground: 0.44 MTPA dated 24.05.2019.

We are submitting herewith the Half Yearly EC Compliance Report along with Environmental Monitoring Report (Hard & Soft) for the period from **October 2022 to March 2023** for your kind perusal please.

The receipt of the report may kindly be acknowledged.

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


29/05/23

Govind Kumar
(Mine Agent GP IV/4 CM)

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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Corporate ID No: L27020MH1958PLC011238

COMPLIANCE REPORT

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 16.04.2015 (TRANSFERRED IN FAVOUR OF HIL) & AMENDMENT IN EC FOR PRODUCTION CAPACITY I.E. OPENCAST: 0.56 MTPA & UNDER GROUND: 0.44 MTPA DATED 24.05.2019.

Sr. No.	Stipulated Conditions	Compliance Statement As on 31.03.2023
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 th 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 31.03.2023
A. SPECIFIC CONDITIONS		
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 1.0 MTPA of which 0.4 MTPA OC and 0.6 MTPA UG in ML area of 701.512 ha)	Being Complied. Amendment has been done in this stipulated condition by MoEF & CC dated 24.05.2019 (Letter No. J-11015/183/2010-IA–II. (M) for the production capacity i.e. Open cast - 0.56 MTPA and Under Ground – 0.44 MTPA, Total capacity – 1 MTPA instead of 0.4 MTPA OC and 0.6 MTPA UG. Amendment Copy of EC is already submitted.

		<p>The coal production from the mine from April 2022 to March 2023 is within the limit of 1 MTPA as prescribed in the EC.</p> <p>Production from (April 2022 to March 2023) Open Cast: 0.55993 MT (Million Tons) Under Ground: 0.00 MT (Million Tons)</p> <p>Total Coal Production from OC & UG (2022 - 2023): 0.55993 MT (Million Tons)</p> <p>Open Cast: 0.55993 MT (Million Tons) Under Ground: 0.00 MT (Million Tons)</p> <p>A copy of Statistical return for the month of March 2023 submitted to The Coal Controller Ministry of Coal, GOI New Delhi dated 03.04.2023 is attached as <u>Annexure -. 1</u></p>
ii	The calendar plan should be uploaded on MOEF website.	<p>As per Approved mining plan (2018) the coal production from HIL GP IV/4 is 0.56 MTPA from OC & 0.44 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 22-23:</p> <p>Open Cast: 0.56 MT (Million Tons) Under Ground: No proposal as of now</p> <p>In future if there will be any change in calendar plan the same will be intimated to MoEF & 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 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	<p>Not Applicable.</p> <p>This particular condition is not applicable to us, as per Vesting order issued by Ministry of Coal, GOI, (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 -</p>

	transportation shall be shifted to by rail by 2017.	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.	Complied. 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.	Being Complied. As per condition Rs. 5 /T of coal /annum is being utilized under CSR activities & Sustainability. Expenditure details from October 2022 to March 2023 is enclosed as <u>Annexure – 2</u>
vi	No external OB dump will be left after mine operation and shall be backfilled in the mine void.	Being Complied. 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.	Being Complied. 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 existing steel plant of proponent.	Not Applicable. 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 manner that underground mining is proposed below forest land and opencast mining under Government waste land /agriculture land.	Being Complied. Mining is being done in such manner that underground mining is being done below forest land and opencast mining is being done under

	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.	Government waste land /agriculture land. Planation in the mine lease area is being carried out @2500 plant/ha. Total 111821 nos. local plants species have been planted till date in mine lease area including OB dump area. Plantation details are enclosed as <u>Annexure- 3.</u>
x	Kelo river and Bendra Nallah shall not be disturbed.	<p style="text-align: center;">Being Complied.</p> <p>Kelo river and Bendra Nallah shall not be disturbed. This condition is being complied by HIL as no activities is being done nearby to Kelo river & 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"> 1. Bendra Nala is situated at the distance of 600 mtr. on the southern side of Patch B. 2. Entire OB is being dumped internally in the de- coaled area on the north eastern side of the pit. 3. Garland drains have been provided at the toe of the benches which are regularly cleaned before the onset of monsoon every year. 4. Till March 2023 in Patch B (South pit), HIL has constructed Approx.4116 mtr. of Garland drain & 2288 mtr. of Toe drain & in Patch C (North Pit) Approx.964 mtr. of Garland drain & 1390 mtr. of Toe drain (Photograph attached as Annexure - 4). 4. Retaining wall where ever necessary is erected for stability of the dumps and prevent erosion. Till March 2023, HIL has constructed total 265 mtr. long gabion/retaining wall at the toe of permanent dump slope near Patch “C” in Banjikhoh, GP IV/4 Coal Mines. 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 (Photographs attached as Annexure - 5).

		<p>We would also like to inform you that we have taken gabion/retaining wall construction activity at the toe of the OB dump as a continuous process & ensure you that it will be carried out as & when required in future also at mine site. And the proposal for this year is to construct the gabion wall approx. 425 mtr. in the Patch C.</p> <p>a) HIL has constructed Settling Pond/sumps of size 30m X 10m X 1.5m (01Nos) at Banjikhhol (Photograph is attached as Annexure – 6).</p> <p>b) HIL has constructed 03 nos of Settling ponds of size 50m X 30m X 3m (each) with chemical dosing arrangement and sump with adequate capacity (for sedimentation) at Banjikhhol for the mine seepage water collection, settling & treatment before discharge for the agriculture purpose (Photograph is attached as Annexure – 7).</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 top soil erosion / Reduce the surface Run- off from OB dumps and same has been proposed to done in OB dump located at Bankheta (Photographs attached as Annexure - 8).</p> <p>3. Till March 2023 approx. 111821 nos of saplings have been planted covering an area of 39.6 hac. which also helps in preventing erosion of internal dumps. (Plantation report & 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 & CC, Raipur dated 09/05/2023.</p>
xi	External OB dump of 0.67 million cubic meters will be created as reported in closure	Being Complied.

	<p>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>	<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" data-bbox="841 409 1433 814"> <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> </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
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xii	<p>Biological reclamation of all external dumps will be done progressively after leveling these dumps. This will provide stability and prevent soil erosion from dumps. The total top soil generated (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>Being Complied.</p> <p>The Top soil conservation and use are successive and periodic activities during mining operation.</p> <p>In the FY 22 – 23 approx. 1328342 cubic meter of the top soil has been generated, of which approx. 1195508 cubic meter has been spread/used on OB Dumps (Banjikhoh & Bankheta) for reclamation, slope stabilization, green belt development & approx. 132834 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 111821 nos. local plants species have been planted up to September 2022 covering an area of 39.6 hac. in the mine area including OB dump species planted includes medicinal, Native & Fruit bearing Plants 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 & Saal etc. has been already done to stabilize internal dump at Banjikhoh & Bankheta in consultation with DFO.</p>																		

		<p>A report on Monitoring & 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 & CECB, Raipur Approval letter is already submitted and the same report was submitted to IRO – MoEF & 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;"><u>Complied.</u></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 be 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</p>	<p style="text-align: center;"><u>Complied.</u></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> <p>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.</p>

	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.	
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 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 authority 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 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.	Being Complied. 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.
xvii i	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 accommodation in it including top soil for afforestation. The height of dump achieved during 1st and 2nd year will be 6 m to 20 m respectively.	Being Complied. The over burden is maintained as per approved mining plan.

xix	<p>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 sand stone 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>	<p>Being Complied. 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. Since the takeover by HIL, no external dumping is being done OB generated annually is being backfilled in de-coaled area. Aprox. 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. (Photograph enclosed above).</p>
xx	<p>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>	<p>Being Complied. 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 & will be used for reclamation and development of green belt.</p>
xxi	<p>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 offices located at Bhubaneswar on yearly basis. The area of OB dump should be reduced. The grass turfing should be done on OB dumps.</p>	<p>Being Complied. Since the takeover by HIL no external dumping is being done OB generated annually is being backfilled in de-coaled area. Slope stability study has been carried out by CSIR, Central Institute of Mining & Fuel Research, Dhanbad on November 2020 – A copy of report is already submitted. 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. Now Raipur, Integrated Regional Office is looking after EC monitoring & compliances. Full co – operation has been extended to Regional Officer by furnishing requisite data information / monitoring reports.</p>
xxii	<p>Adequate numbers of sprinklers should be provided on both the side of road to minimize pollution.</p>	<p>Being Complied. Regular Water sprinkling on haul road is practiced through truck mounted water</p>

		<p>sprinklers to prevent the fugitive dust emission. Also installed the fixed type of water sprinklers to control the fugitive dust emission in the mine area.</p> <p>Photographs of truck mounted water sprinklers & fixed type of water sprinklers at GP IV/4 Coal Mines attached as <u>Annexure – 9</u></p> <p>The latest fugitive dust emission monitoring report for the month of March 2023 is attached as <u>Annexure – 9A.</u></p>
xxii i	<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 50 % safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site.</p> <p>Sump capacity should also provide adequate retention period to allow proper settling of silt material.</p>	<p style="text-align: center;">Being Complied.</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. (Compliance same as Specific Condition No. X)</p> <p>The store water is used for spraying / sprinkling on haul roads and also 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.</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 <u>Annexure – 10</u>)</p> <p>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 & Temperature (Photograph is attached as <u>Annexure – 10A</u>)</p>
xxi v	Dimension of retaining wall at the toe of the dumps and OB benches within the mine to	Being Complied.

	check run –off and siltation should be based on rain fall data.	<p>Till March 2023 we have constructed total 265 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 (Photographs enclosed above).</p> <p>We would also like to inform you that we have taken gabion/retaining wall construction activity at the toe of the OB dump as a continuous process & ensure you that it will be carried out as & when required in future also at mine site. And the proposal for this year is to construct the gabion wall approx. 425 mtr. in the Patch C.</p> <p>The progress report in this regard has been submitted to IRO – MoEF & CC Raipur dated 09/05/2022.</p>
xxv	Water sprinkling system (mist spray type) shall be provided to check fugitive emission from conveyor system, haulage roads and transfer points.	<p>Being Complied.</p> <p>Water sprinkling arrangement has been maintained at all haul roads, loading and unloading points to minimize the fugitive dust emission.</p> <p>The latest fugitive dust emission monitoring report for the month of March 2023 is enclosed above.</p>
xxv i	Fixed sprinkler shall be installed at pit top truck loading hoppers in all the three mines, 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>Being Complied.</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>
xxv ii	Drills should be wet operated only.	<p>Being Complied.</p> <p>In coal mining wet drilling is under practice.</p>
xxv iii	An action plan for mine closure with details of area, depth, voids and details of abandoned mine should be submitted to the Ministry.	<p>Complied.</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 of rocks and boulders should be implemented.	<p style="text-align: center;">Being Complied.</p> <p>Controlled blasting is practiced with use of delay detonators.</p> <p>Ground vibration generated due to the blasting is measured by vibrometer regularly.</p> <p>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 siding. Mechanically covered trucks should be provided for transportation of coal.	<p style="text-align: center;">Being Complied.</p> <p>Gare Palma IV/4 Coal Mine:</p> <p>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.</p> <p>b) Opencast part of the Coal Mine: Right now coal is being produced only from the Opencast mine and 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 & 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 & sealed with the use of plastic / wire seals to avoid uncovering of tarpaulin in the route. (Photographs attached as Annexure - 11)</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.
xxx i	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.	Being Complied. Planation in the mine area is being carried out @2500 plant/ha. Total 111821 nos. 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 & Saal etc. in consultation with DFO.
xxx ii	Extensive plantation should be done near agriculture area to avoid coal dust pollution which may affect the productivity of crop.	Being Complied. 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.
xxx iii	Mine discharge water shall be treated to meet the prescribed standards before discharge into the 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.	Being Complied. a) At Banjikhhol Mine (GP IV/4): 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 agriculture purpose. The treated water quality analysis report from October 2022 to March 2023 is enclosed as <u>Annexure No.- 12.</u> Photographs of Treatment Facility enclosed above. 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 (Photograph enclosed above)

		<p>At Bankheta Mine (GP IV/4): 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 (Photograph enclosed above) The treated water quality analysis reports are being periodically furnished to CECB & 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 & Temperature before discharge for the agriculture purpose (Photograph enclosed above).</p>
xxx iv	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 existing activities and from rainwater harvesting measures. The project authority shall meet water requirement of nearby village (s) in case the village wells go dry to dewatering of mine.	<p>Being Complied. 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) seasons and for quality including Arsenic and Fluoride during the month of May. Data thus collected should be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board /SPCB quarterly within one month of monitoring. Rain water harvesting shall be undertaken in	<p>Being Complied. 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 (from October 2022 to March 2023) and quality Monitoring report of Post Monsoon (November 2022) and Winter (January 2023) is attached as <u>Annexure – 13.</u></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 October 2022 to December 2022)</p>

	case monitoring of water table indicates a declining trend.	and (from January 2023 to March 2023) & GW Quality Monitoring for the month of Post Monsoon (November 2022) and Winter (January 2023) has been submitted to MoEF & CC, CPCB and CECB on quarterly within one month of monitoring basis. Attached as <u>Annexure – 13A.</u>
xxx vi	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 should be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures should be taken to avoid loss of life and material. Cracks should be effectively plugged with ballast and clayey soil/suitable material.	<p style="text-align: center;">Being Complied.</p> <p>In Gare Palma IV/4 coal mine: the method of underground coal mining is Bord & 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 & Fuel Research Dhanbad in March 2019 for GP IV/4 Coal mines.(Copy is already submitted)</p>
xxx vii	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 style="text-align: center;">Being Complied.</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	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	<p style="text-align: center;">Being Complied.</p> <p>High root density tree species will be selected and planted over areas likely to be affected by subsidence as required.</p>
xxx ix	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	<p style="text-align: center;">Being Complied.</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>

xli	Solid barriers shall be left below the village, roads falling within the blocks to avoid any damage to the roads.	Being Complied. Solid barriers is left below the village, roads falling within the blocks to avoid any damage to the roads as per statute.
xlii	No depillaring operation shall be carried out below the roads and habitation area found within the lease.	Being Complied. No depillaring operation will be carried out below the roads and habitation area found within the lease.
xliii	The proponent shall ensure to undertake and provide the costs incurred for taking up remedial measures in case of soil.	Being Complied. Cost incurred for taking remedial measures in case of soil will be borne by the company.
xliiii	Extensive plantation should be done near agriculture area to avoid coal dust pollution which may affect the productivity of crop.	Being Complied. 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 in to 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.	Being Complied. 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	Being Complied. 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.

	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 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 align="center">Being Complied.</p> <p>Escrow account has been opened for the reclamation of abandoned and degraded areas in the mine lease till date (March 2023) Rs 1421.06 lakhs has been deposited.</p> <p>Escrow account has been opened for the reclamation of abandoned and degraded areas in the mine lease till date (March 2022) Rs 1044.56 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 align="center">2015-16</td> <td align="center">1</td> <td align="center">151.50</td> <td align="center">Deposited</td> </tr> <tr> <td align="center">2016-17</td> <td align="center">2</td> <td align="center">159.08</td> <td align="center">Deposited</td> </tr> <tr> <td align="center">2017-18</td> <td align="center">3</td> <td align="center">167.05</td> <td align="center">Deposited</td> </tr> <tr> <td align="center">2018-19</td> <td align="center">4</td> <td align="center">0</td> <td align="center">Deposited</td> </tr> <tr> <td align="center">2019-20</td> <td align="center">5</td> <td align="center">19.19</td> <td align="center">Deposited</td> </tr> <tr> <td align="center">2020-21</td> <td align="center">6</td> <td align="center">267.19</td> <td align="center">Deposited</td> </tr> <tr> <td align="center">2021-22</td> <td align="center">7</td> <td align="center">280.55</td> <td align="center">Deposited</td> </tr> <tr> <td align="center">2022-23</td> <td align="center">8</td> <td align="center">376.50</td> <td align="center">Deposited</td> </tr> <tr> <td align="center">Total</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Attached a deposited copy as Annexure – 14.</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	Total			
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xlvi i	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	<p align="center">Complied.</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 11th Jan,2023.</p>																																												

	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.	
xlvi ii	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 five years before mine closure for approval. The species selected for habitat restoration for post mining and shall include a specific plan for development of agro forestry using a mix native species found in the study area.	Being Complied. 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 & forest five years before mine closure for approval. The mix species will be selected for habitat restoration as per the conditions set out herewith.
xlvi	A special corpus fund either at company level or in CIL/MOC be provided for reclamation of abandoned and degraded area.	Being Complied. 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.	Being Complied. 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 of ground water and surface water and occupational and other diseases due to the mining operation.	Being Complied. 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	Being Complied. 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

	<p>environmental of forest norms/conditions.</p> <p>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.</p> <p>To have proper checks and balances, the company shall have a well laid down system of reporting of no-compliances/ violations of environmental norms to the Board of Directors of the company and /or shareholders at large.</p>	<p>compliance / non compliances of the regulatory requirements to the Mines Head & Head office (Compliance Committee).</p> <p>A copy of Environment policy is attached as Annexure – 15 (already submitted to IRO – MoEF & CC, Raipur, dated 08/08/2022)</p>
General Conditions		
i	No change in mining technology and scope of working should be made without prior approval of the ministry of Environment & Forest.	Noted
ii	No change in the calendar plan for quantum of mineral coal and waste should be made.	Noted
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 ecologically sensitive targets in consultation with the state pollution Control Board. Monitoring heavy metals such as Hg, As Ni, Cd, Cr, etc. carried out at least once in six months.	<p>Being Complied.</p> <p>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.</p> <p>Reports are being periodically furnished to CECB.</p> <p>Copy of AAQ Monitoring Report from the period October 2022 to March 2023 is enclosed as <u>Annexure – 16.</u></p> <p>Also installed 01 nos of CAAQMS (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 <u>Annexure – 16A</u></p>
iv	Data on Ambient air quality (PM10, PM 2.5, SO2, NOX) monitoring location of the stations shall be decided based on the meteorological data, topographical features	<p>Being Complied.</p> <p>All AAQM stations are decided based on the meteorological data, topographical features and environmentally and ecologically sensitive</p>

	and environmentally and ecologically sensitive targets in consultation with the state Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr etc. carried out at least once in six months.	<p>targets in consultation with the state Pollution Control Board.</p> <p>Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr etc. carried out once in six months.</p> <p>Heavy metals Monitoring report for the month of March 2023 is attached as <u>Annexure – 17</u></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 should be provided with ear plugs/muffs.	<p>Being Complied.</p> <p>Ear muffs/plugs has been provided to the all workers engaged in blasting and drilling operations. The Noise monitoring report of period October 2022 to March 2023 is enclosed as <u>Annexure-18</u></p>
vi	Industrial wastewater (workshop and wastewater from the mine) should be properly collected treated so as to conform to the standards under prescribed GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.	<p>Being Complied.</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 & Greenbelt development.</p> <p>Photograph of Effluent Treatment Plat is attached as <u>Annexure – 19</u></p> <p>The treated water quality analysis reports are being periodically furnished to CECB.</p> <p>Copy of Analysis Report (Inlet & Outlet) for the month of from October 2022 to March 2023 is enclosed as <u>Annexure – 20</u></p>
vii	Vehicular emission should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.	<p>Being Complied.</p> <p>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 October 2022 to March 2023) is attached as <u>Annexure - 21</u>)</p>
viii	Monitoring of Environmental quality parameters shall be carried out through	Being Complied.

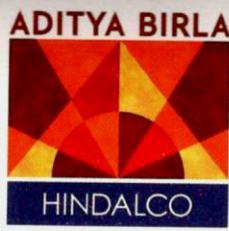
	establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the state pollution control board and data got analyzed through a laboratory recognized under EPA Rules,1986.	Environmental monitoring is being carried out through CECB & MoEF & CC approved & 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 <u>Annexure – 22</u>
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.	Being Complied. 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.	Being Complied. Occupational health surveillance is undertaken as per DGMS guidelines. Occupational health surveillance report is attached as Annexure – 23.
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.	Being Complied. A separate Environmental Management Department is functioning at Coal Mine under the direct control of a senior executive. EMD organization Chart is attached as Annexure – 24.
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 it's Regional Office at Bhubaneswar.	Being Complied. The funds earmarked for environmental protection measures has been budgeted separately and not been diverted for other purposes. Environmental Expenditure details from October 2022 to March 2023 is Enclosed as <u>Annexure – 25.</u> Now Raipur Regional Office 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 the project, one of which shall be in the vernacular language of the locality concerned within seven days of the	Complied.

	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 https://envfro.nic.in .	
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.	<p style="text-align: center;">Complied.</p> <p>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.</p> <p>The status of the environmental parameters is displayed at the main gate.</p>
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.	<p style="text-align: center;">Complied.</p> <p>A copy of Environmental Clearance has been circulated to Panchayat and SPCB, Regional office, District Industry Office and Collector Office/Tehsildar Office.</p>
xvi	The Clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall 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 NO2 (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	<p style="text-align: center;">Complied.</p> <p>Upload the EC Clearance letter & Half yearly compliance report on the company's website i.e. http://www .hindalco.com/sustainability/regulatory-compliances 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 NO2 at the entrance of the mine gate.</p>
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	<p style="text-align: center;">Complied.</p> <p>The last Half Yearly Compliance report for the period from April 2022 to September 2022 was</p>

	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.	submitted to IRO - MoEF & CC office, Raipur & Delhi, CECB Raigarh & Raipur, CPCB Bhopal & Delhi dated 24.11.2022.
xvii i	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.	Complied. Now Raipur, Integrated Regional Office is looking after EC monitoring & compliances full co – operation has been extended to Regional Officer 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 Officers of the MoEF & CC by E- mail	Complied. Submitted the Environmental Statement Report (In Form - V) for the FY 2021 -22 to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, dated 03.09.2022 and also uploaded in the company's website also E-mailed the EC Compliance report to IRO -MoEF & CC Raipur.
5	The Ministry or other competent authority may stipulated any further condition for environmental Protection.	Noted.
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	Noted.
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	Noted.

	occupational and other diseases due to the mining operations.	
8	The Environmental Clearance is subjected to the outcome of the case filed by Chhattisgarh Environmental Conservation Board, in the court of Chief Judicial Magistrate, Raigarh, which is pending.	Noted.

Annexure-1



Ref. No. HIL/GP-IV-4/CCO/2023-24/005

Dated: 03.04.2023

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 March-2023 of Gare Palma IV/4 Coal Mine.**

Sir,

Enclosed please find the Statistical Return for the month of March-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,


Mine Manager
Gare Palma-IV/4 Coal Mine
Banjikhoh, Raigarh (CG).




3/4/23
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 March-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. :- Deepak Prasad Lenka (Mines Manager), Mob.No.9111006023
- 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. 2022-23)		
	Opencast	Underground	Total	Opencast	Underground	Total
Coking	-	-	-	-	-	-
Non Coking	0.000	0.000	0.000	559.930	0.000	559.930
Total Raw Coal	0.000	0.000	0.000	559.930	0.000	559.930
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. 2022-23)	Rail	Road	Others	Total
Coking	-	-	-	-	-	-
Non Coking	9.89213	581.46318	0.00000	9.89213	-	9.89213
Total Raw Coal	9.89213	581.46318	0.00000	9.89213	-	9.89213
Clean Coal	-	-	-	-	-	-
Middlings	-	-	-	-	-	-
Rejects	-	-	-	-	-	-

* Domestic Consumption - Nil

Table 3 : Pit Head Closing Stock of 31.03.2023

Coal Type	Pit Head Closing Stock (In Thousand Tonnes)
	During Month
Coking	-
Non Coking	2.718870
Total Raw Coal	2.718870
Clean Coal	-
Middlings	-
Rejects	-

Handwritten signature and date: 3/4/23

Signature:

Handwritten signature

Designation: Owner/ Agent/ Manager

Date :- 03.04.2023



Annexure-2

CSR & Sustainability Expenditure Details
From October 2022 to March 2023
Hindalco Industries Ltd. Gare Palma IV/4

Sr. No.	Focused Area/ Project Activities	Summary Cost (In Lakhs)
1	Education	40.16
2	Health	3.54
3	Sustainable Livelihood under CSR	1.68
4	Infra - Structure	10.73
5	Social	13.32
6	Other (if any)	1.61
7	Under Sustainable Development	10.43
Total		81.45

Annexure-3

Plantation Details at Gare Palma IV/4 Coal Mine

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	45050	18	Saja,Siris, Shisham, Yellow flametree, Kassod , Satvan, Acacia Mangium, Ganga Emlil, Arjuna, Chirol, Gliricidia, Amla, Mango, guava, Kathal, Neem, Pipal, Ficus sp., Peltafarm, Nilgiri, Casia Samia, Gulmohar, Acacia Coliformis, Jamun, Kachnar, Baheda, Kachnar, Mahua & Saal etc.
2016		6500	90	5850	2.3	
2017		10000	87	8700	3.5	
2018		5000	87	4350	1.7	
2019		6600	90	5940	2.4	
2020		10200	94	9570	3.9	
2021		8521	95	8094	3.2	
2022		12000	95	11400	4.6	
Total		111821	88.49	98954	39.6	

Note : Gap filling of plants is a continuous process







Plantation Photographs in OB Dump Area at patch “B” for 2022-23









Plantation Photographs in OB Dump Area at patch "C" for 2022-23







Annexure-4

**Photographs of Garland Drain constructed at Patch “B” and Patch “C”
of Gare Palma IV-4 Coal Mines
(M/s Hindalco Industries Limited)**







Annexure-5

PHOTOGRAPHS OF GABION / RETAINING WALL CONSTRUCTED IN 4th QUARTER
(FEB'22 – APR'23) IN PATCH "C" AT GARE PALMA IV/4 COAL MINE



Total 55 m gabion/retaining wall constructed in this Quarter (Feb'23 – Apr'23) at Patch "C"
Banjikhohol.

PHOTOGRAPHS OF GABION / RETAINING WALL CONSTRUCTED IN 3rd QUARTER
(NOV'22 – JAN'23) IN PATCH "C" AT GARE PALMA IV/4 COAL MINE



Total 105 m gabion/retaining wall constructed in this Quarter (Nov'22 – Jan'23) at Patch "C"
Banjikhhol.

PHOTOGRAPHS OF GABION / RETAINING WALL CONSTRUCTED IN 2nd QUARTER (AUG'22 – OCT'22) IN PATCH "C" AT GARE PALMA IV/4 COAL MINE



Total 50 m gabion/retaining wall constructed in 2nd Quarter (Aug'22 – Oct'22) at Patch "C" Banjikhhol.

PHOTOGRAPHS OF GABION / RETAINING WALL CONSTRUCTED IN 1ST PHASE IN
PATCH "C" AT GARE PALMA IV/4 COAL MINE



In the 1st Phase HIL has constructed approx. 55 mtr. long gabion/retaining wall at the toe of permanent dump slope near Patch "C" in Banjikhhol, GP IV/4 Coal Mines.

TOTAL 265m GABION/RETAINING WALL HAS BEEN CONSTRUCTED TILL MARCH 2023 AT THE TOE OF PERMANENT DUMP in SOUTH, SOUTH-EAST & EAST DIRECTION NEAR PATCH "C", BANJIKHOL GP IV/4 COAL MINE.

Annexure-6

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-7

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-8

2. Vetiver grass plantation at OB dump near Patch "C" at Banjikhhol 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-9

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

Fixed type of water sprinklers





Truck mounted water sprinkler





Annexure-9A



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 TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO.	UES/TR/22-23/08851	
	LAB REF NO.	UES/22-23/FE/017187-017194	
	DATE OF SAMPLING	24/03/2023	
	DATE OF RECEIPT	25/03/2023	
	DATE OF REPORT	28/03/2023	
	DATE OF ANALYSIS	START:25/03/2023	END:28/03/2023
SAMPLE DETAILS			
MONITORING FOR	FUGITIVE EMISSION		
SAMPLING LOCATION	Gare Palma-IV/4 COAL MINE		
DURATION OF SAMPLING	8 HOURS		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	GMF FILTER PAPER (8 X 10 INCH) : 1X10 NO.		

TEST REPORT

Locations	Unit	Suspended Particulate Matter SPM	Moef& CC Notification (350-1)	Method Reference
Haul Road - Bankheta	$\mu\text{g}/\text{m}^3$	241	500	EPA Method IO-2.1
Haul Road - Banjhikhol	$\mu\text{g}/\text{m}^3$	304	500	
Coal Stoke Yard - Bankheta	$\mu\text{g}/\text{m}^3$	226	500	
Coal Stoke Yard - Banjhikhol	$\mu\text{g}/\text{m}^3$	274	500	
Near OB Dump - Bankheta	$\mu\text{g}/\text{m}^3$	236	500	
Near OB Dump - Banjhikhol	$\mu\text{g}/\text{m}^3$	268	500	
Working Face - Bankheta	$\mu\text{g}/\text{m}^3$	274	500	
Working Face - Banjhikhol	$\mu\text{g}/\text{m}^3$	246	500	

REMARKS:

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.

<p>(Pbholhan) 28/03/2023</p> <p>REVIEWED BY</p>		<p>For ULTIMATE ENVIROLYTICAL SOLUTIONS</p> <p><i>[Signature]</i> 28/03/23</p> <p>AUTHORIZED SIGNATORY</p>
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-----End of the test report-----

Annexure-10

Settling Pond at Patch "B" Bankheta at Gare Palma IV/4 **Coal mines**

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 Patch "B" Bankheta at Gare Palma IV/4 Coal mines before discharge for the agriculture purpose



Annexure-10A

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



Annexure-11

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



Annexure-12



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/22-23/03899	
TO,		LAB REF NO	UES/22-23/W/09540	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	17/10/2022	
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	19/10/2022	
VILLAGE - BANKHETA, POST MILUPARA,		DATE OF REPORT	02/11/2022	
DISTT. - RAIGARH (C.G.) 496107		DATE OF ANALYSIS	START:19/10/2022	END:28/10/2022
SAMPLE DETAILS				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P. O. 13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	ETP 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 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 23 rd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	7.02
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	69.0
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.18
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	0.16
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	118.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	19.8
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

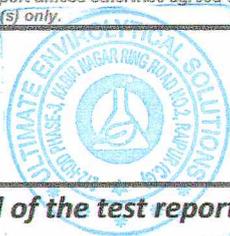
REMARKS: mg/ltr.: milligram per liter, N.D.: Not Detected.

Terms & conditions

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

Bella
02/11/22

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

Ranga

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 TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/22-23/04735	
	LAB REF NO	UES/22-23/W/010900	
	DATE OF SAMPLING	26/11/2022	
	DATE OF RECEIPT	28/11/2022	
	DATE OF REPORT	02/12/2022	
	DATE OF ANALYSIS	START:28/11/2022	END:02/12/2022

SAMPLE DETAILS

SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	ETP INLET BANJIKHOL 3 L X 1 NO. PVC CAN	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	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

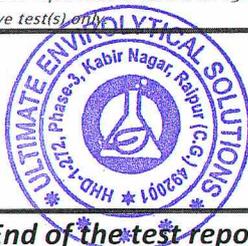
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 nd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	24.7
4	pH	-	APHA 23 nd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.05
5	Total Residual Chlorine	mg/L	APHA 23 nd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 nd Ed.2012,2540- D, 2-66	100	71.3
7	Dissolved Phosphate (as P)	mg/L	APHA 23 nd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 nd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.19
9	Lead (as Pb)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	5.0	0.18
11	Copper (as Cu)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 nd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 nd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 nd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 nd Ed.2012, 5520-B,5-17	250	124.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	20.7
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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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02/12/2022
REVIEWED BY



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AUTHORIZED SIGNATORY
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/22-23/06808	
TO,		LAB REF NO	UES/22-23/W/014363	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	23/01/2023	
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	25/01/2023	
VILLAGE - BANKHETA, POST MILUPARA,		DATE OF REPORT	29/01/2023	
DISTT. - RAIGARH (C.G.) 496107		DATE OF ANALYSIS	START: 25/01/2023	END: 29/01/2023
SAMPLE DETAILS				
SAMPLE TYPE	WASTE WATER		ORDER /REFERENCE:	P. O. 13552310211, DATED: 07.09.2022
CUSTOMER SAMPLE ID	ETP 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 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	24.2
4	pH	-	APHA 23 rd Ed. 2012, 4500-H'-B, 4-92	5.5 to 9.0	7.01
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed. 2012, 4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed. 2012, 2540-D, 2-66	100	64.2
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.18
9	Lead (as Pb)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	5.0	0.10
11	Copper (as Cu)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed. 2012, 5520-B, 5-17	250	112.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44): 1993, RA 2003	30	16.8
19	Oil & Grease	mg/L	IS 3025 (Part 39): 1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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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 29/01/23 REVIEWED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 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/22-23/08119
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/016249
		DATE OF SAMPLING	26/02/2023
		DATE OF RECEIPT	27/02/2023
		DATE OF REPORT	03/03/2023
		DATE OF ANALYSIS	START:27/02/2023 END:03/03/2023
SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P. O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	ETP 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):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 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	24.9
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.10
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	72.4
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.19
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	0.15
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	124.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	21.5
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43):1992,RA 2003	1.0	N.D.

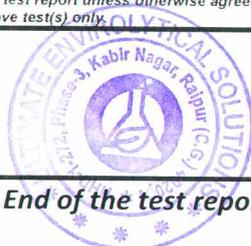
REMARKS: mg/lit.: milligram per liter, N.D.: Not Detected.

Terms & conditions

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

P. Bhouhan
03/03/2023

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

P. Bhouhan
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 TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/22-23/08854	
	LAB REF NO	UES/22-23/W/017213	
	DATE OF SAMPLING	22/03/2023	
	DATE OF RECEIPT	23/03/2023	
	DATE OF REPORT	28/03/2023	
	DATE OF ANALYSIS	START:23/03/2023	END:27/03/2023

SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	ETP 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 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.1
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.07
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	71.3
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.18
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	0.14
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	120.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	20.6
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

 28/03/2023 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 28/03/23 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

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/03900		
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/09541		
		DATE OF SAMPLING	17/10/2022		
		DATE OF RECEIPT	19/10/2022		
		DATE OF REPORT	02/11/2022		
		DATE OF ANALYSIS	START:19/10/2022	END:28/10/2022	
		SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022		
CUSTOMER SAMPLE ID	ETP 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 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 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 23 rd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	7.09
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	32.0
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	56.0
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,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

 02/11/22 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

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

Name & Address Of The Customer

TO,
HINDALCO INDUSTRIES LIMITED,
GARE PALMA - IV/4, COAL MINE,
VILLAGE - BANKHETA,
POST -MILUPARA,
DISTT. - RAIGARH (C.G.) 496107

REPORT NO	UES/TR/22-23/04736	
LAB REF NO	UES/22-23/W/010901	
DATE OF SAMPLING	26/11/2022	
DATE OF RECEIPT	28/11/2022	
DATE OF REPORT	02/12/2022	
DATE OF ANALYSIS	START:28/11/2022	END:02/12/2022

SAMPLE DETAILS

SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P. O. 13552310211, DATED: 07.09.2022
CUSTOMER SAMPLE ID	ETP 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 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 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 nd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	24.7
4	pH	-	APHA 23 nd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	7.11
5	Total Residual Chlorine	mg/L	APHA 23 nd Ed.2012,4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 nd Ed.2012,2540- D, 2-66	100	33.5
7	Dissolved Phosphate (as P)	mg/L	APHA 23 nd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 nd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 nd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 nd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 nd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 nd Ed.2012, 5520-B,5-17	250	60.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	12.4
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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 report.

[Signature]
02/12/2022

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

[Signature]

AUTHORIZED SIGNATORY

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

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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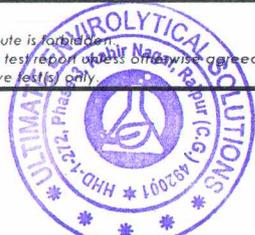
Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		REPORT NO	UES/TR/22-23/06114	
		LAB REF NO	UES/22-23/W/013008	
		DATE OF SAMPLING	28/12/2022	
		DATE OF RECEIPT	30/12/2022	
		DATE OF REPORT	03/01/2023	
		DATE OF ANALYSIS	START: 30/12/2022	END: 03/01/2023
SAMPLE DETAILS				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	ETP 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 I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

TEST REPORT					
S.R. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	24.5
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.16
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	34.2
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	56.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	14.6
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.
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 03/01/2023 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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/06809	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/014364	
		DATE OF SAMPLING	23/01/2023	
		DATE OF RECEIPT	25/01/2023	
		DATE OF REPORT	29/01/2023	
		DATE OF ANALYSIS	START : 25/01/2023	END : 29/01/2023
SAMPLE DETAILS				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O. 13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	ETP 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 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 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	24.0
4	pH	-	APHA 23 rd Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	7.08
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed. 2012, 4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed. 2012, 2540-D, 2-66	100	28.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed. 2012, 5520-B, 5-17	250	52.2
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44): 1993, RA 2003	30	12.4
19	Oil & Grease	mg/L	IS 3025 (Part 39): 1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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

 29/01/23 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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/08120	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/016250	
		DATE OF SAMPLING	26/02/2023	
		DATE OF RECEIPT	27/02/2023	
		DATE OF REPORT	03/03/2023	
		DATE OF ANALYSIS	START: 27/02/2023	END: 03/03/2023
SAMPLE DETAILS				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	ETP 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 I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

TEST REPORT

S.R. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	24.8
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.19
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	36.4
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	52.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	13.8
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

 03/03/2023 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/22-23/08855	
TO,		LAB REF NO	UES/22-23/W/017214	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	22/03/2023	
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	23/03/2023	
VILLAGE - BANKHETA,		DATE OF REPORT	28/03/2023	
POST -MILUPARA,		DATE OF ANALYSIS	START: 22/03/2023	END: 27/03/2023
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
SAMPLE TYPE	WASTE WATER		ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	ETP 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 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	RESULT
				[SCHEDULE-VI] PART-A INLAND SURFACE WATER	
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	24.9
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.23
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	37.3
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	56.0
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,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.

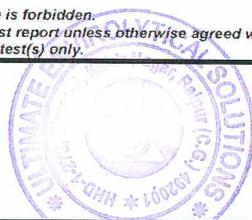
REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

Terms & conditions

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

(Signature)
28/03/2023

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

(Signature)
28/03/23

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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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/03901
TO,		LAB REF NO	UES/22-23/W/09542
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	17/10/2022
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	19/10/2022
VILLAGE - BANKHETA,		DATE OF REPORT	02/11/2022
POST MILUPARA,		DATE OF ANALYSIS	START:19/10/2022 END:28/10/2022
DISTT. - RAIGARH (C.G.) 496107			
SAMPLE DETAILS			
SAMPLE TYPE	EFFLUENT WATER	ORDER /REFERENCE :	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	SUMP WATER PATCH "B".	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	RESULT
1	Colour	Hazen	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	10.5
2	Odour	-	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 nd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.4
4	pH	-	APHA 23 nd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	7.43
5	Total Residual Chlorine	mg/L	APHA 23 nd Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 nd Ed.2012,2540- D, 2-66	100	47.8
7	Dissolved Phosphate (as P)	mg/L	APHA 23 nd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 nd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 nd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 nd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 nd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 nd Ed.2012, 5520-B,5-17	250	78.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	20.5
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

 02/11/22 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/22-23/04737	
TO,		LAB REF NO	UES/22-23/W/010902	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	26/11/2022	
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	28/11/2022	
VILLAGE - BANKHETA,		DATE OF REPORT	02/12/2022	
POST MILUPARA,		DATE OF ANALYSIS	START: 28/11/2022	END: 02/12/2022
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
SAMPLE TYPE	EFFLUENT WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	SUMP WATER PATCH "B"	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	RESULT
1	Colour	Hazen	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	10.3
2	Odour	-	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 nd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.1
4	pH	-	APHA 23 nd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	7.45
5	Total Residual Chlorine	mg/L	APHA 23 nd Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 nd Ed.2012,2540- D, 2-66	100	51.3
7	Dissolved Phosphate (as P)	mg/L	APHA 23 nd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 nd Ed.2012,4500-F-B&D, 4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 nd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 nd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 nd Ed.2012,3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 nd Ed.2012, 5520-B,5-17	250	84.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	22.10
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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 only.

Belle
02/12/2022

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

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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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		REPORT NO UES/TR/22-23/06115
		LAB REF NO UES/22-23/W/013009
		DATE OF SAMPLING 28/12/2022
		DATE OF RECEIPT 30/12/2022
		DATE OF REPORT 03/01/2023
		DATE OF ANALYSIS START:30/12/2022 END:03/01/2023
SAMPLE DETAILS		
SAMPLE TYPE EFFLUENT WATER	ORDER /REFERENCE: P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID SUMP WATER PATCH "B"	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	

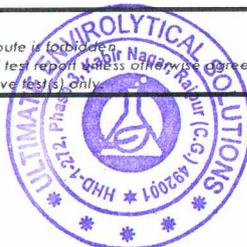
TEST REPORT					
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	9.8
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.0
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.48
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	51.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	76.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	19.8
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

03/01/2023
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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/22-23/06810
TO,		LAB REF NO	UES/22-23/W/014365
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	23/01/2023
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	25/01/2023
VILLAGE - BANKHETA,		DATE OF REPORT	29/01/2023
POST MILUPARA,		DATE OF ANALYSIS	START:25/01/2023 END:29/01/2023
DISTT. - RAIGARH (C.G.) 496107			
SAMPLE DETAILS			
SAMPLE TYPE	EFFLUENT WATER	ORDER /REFERENCE :	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	SUMP WATER PATCH "B"	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

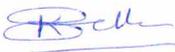
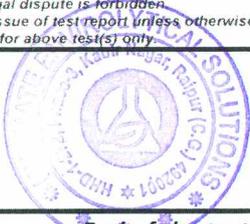
TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	8.0
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	24.6
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.40
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	48.3
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	72.6
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	18.0
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

 29/01/23 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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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/08121	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/016251	
		DATE OF SAMPLING	26/02/2023	
		DATE OF RECEIPT	27/02/2023	
		DATE OF REPORT	03/03/2023	
		DATE OF ANALYSIS	START: 27/02/2023	END: 03/03/2023
SAMPLE DETAILS				
SAMPLE TYPE	EFFLUENT WATER		ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022
CUSTOMER SAMPLE ID	SUMP WATER PATCH "B"		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

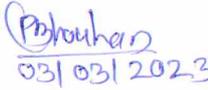
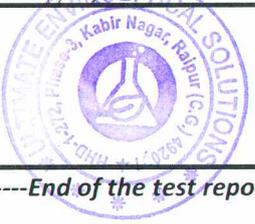
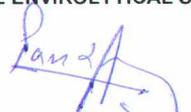
TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	9.8
2	Odour	-	APHA 23 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.0
4	pH	-	APHA 23 rd Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	7.48
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed. 2012, 4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed. 2012, 2540-D, 2-66	100	51.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed. 2012, 5520-B, 5-17	250	76.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44): 1993, RA 2003	30	19.8
19	Oil & Grease	mg/L	IS 3025 (Part 39): 1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

 03/03/2023 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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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/08856	
TO,		LAB REF NO	UES/22-23/W/017215	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	23/03/2023	
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	24/03/2023	
VILLAGE - BANKHETA,		DATE OF REPORT	28/03/2023	
POST MILUPARA,		DATE OF ANALYSIS	START: 24/03/2023	END: 28/03/2023
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
SAMPLE TYPE	EFFLUENT WATER		ORDER /REFERENCE :	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	SUMP WATER PATCH "B"		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	RESULT
				[SCHEDULE-VI] PART-A INLAND SURFACE WATER	
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	10.0
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.53
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	52.7
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	82.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	20.1
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

 28/03/2023 REVIEWED BY	 	 28/03/23 AUTHORIZED SIGNATORY For ULTIMATE ENVIROLYTICAL SOLUTIONS
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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 1986

Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/22-23/03902	
	LAB REF NO	UES/22-23/W/09543	
	DATE OF SAMPLING	17/10/2022	
	DATE OF RECEIPT	19/10/2022	
	DATE OF REPORT	02/11/2022	
	DATE OF ANALYSIS	START:19/10/2022	END:28/10/2022

SAMPLE DETAILS

SAMPLE TYPE	EFFLUENT WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	SUMP WATER PATCH "C"	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	RESULT
1	Colour	Hazen	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	5.5
2	Odour	-	APHA 23 nd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 nd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.3
4	pH	-	APHA 23 nd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	7.48
5	Total Residual Chlorine	mg/L	APHA 23 nd Ed.2012,4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 nd Ed.2012,2540- D, 2-66	100	52.0
7	Dissolved Phosphate (as P)	mg/L	APHA 23 nd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 nd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 nd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 nd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 nd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 nd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 nd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 nd Ed.2012, 5520-B,5-17	250	56.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	15.8
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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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 02/11/22 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/22-23/04738	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/010903	
		DATE OF SAMPLING	26/11/2022	
		DATE OF RECEIPT	28/11/2022	
		DATE OF REPORT	02/12/2022	
		DATE OF ANALYSIS	START:28/11/2022	END:02/12/2022
		SAMPLE DETAILS		
SAMPLE TYPE	EFFLUENT WATER		ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	SUMP WATER PATCH "C"		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 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	3.9
2	Odour	-	APHA 23 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 23 rd Ed. 2012, 4500-H ⁺ -B, 4-92	5.5 to 9.0	7.43
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed. 2012, 4500-Cl-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed. 2012, 2540-D, 2-66	100	48.7
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed. 2012, 5520-B, 5-17	250	38.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	8.4
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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.

 02/12/2022 REVIEWED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY
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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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/06116	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/013010	
		DATE OF SAMPLING	28/12/2022	
		DATE OF RECEIPT	30/12/2022	
		DATE OF REPORT	03/01/2023	
		DATE OF ANALYSIS	START: 30/12/2022	END: 03/01/2023
SAMPLE DETAILS				
SAMPLE TYPE	EFFLUENT WATER	ORDER /REFERENCE:	P.O.13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	SUMP WATER PATCH "C"	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	

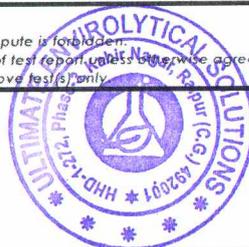
TEST REPORT					
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	4.2
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.1
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.46
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4-6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	49.6
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	38.6
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	8.8
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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(s) only.

[Signature]
03/01/2023
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk
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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/22-23/06811	
	LAB REF NO	UES/22-23/W/014366	
	DATE OF SAMPLING	23/01/2023	
	DATE OF RECEIPT	25/01/2023	
	DATE OF REPORT	29/01/2023	
	DATE OF ANALYSIS	START:25/01/2023	END:29/01/2023

SAMPLE DETAILS			
SAMPLE TYPE	EFFLUENT WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	SUMP WATER PATCH "C"	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	RESULT
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	3.5
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.0
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.28
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	46.8
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	34.9
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	7.8
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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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 29/01/23 REVIEWED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY
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-----End of the test report-----



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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/08122	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/016252	
		DATE OF SAMPLING	26/02/2023	
		DATE OF RECEIPT	27/02/2023	
		DATE OF REPORT	03/03/2023	
		DATE OF ANALYSIS	START : 27/02/2023	END : 03/03/2023
SAMPLE DETAILS				
SAMPLE TYPE	EFFLUENT WATER	ORDER /REFERENCE :	P. O. 13552310211, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	SUMP WATER PATCH "C"	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	RESULT
				[SCHEDULE-VI] PART-A INLAND SURFACE WATER	
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	4.2
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.43
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	48.7
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	36.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	8.4
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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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 03/03/2023 REVIEWED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY
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-----End of the test report-----



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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/08857	
TO,		LAB REF NO	UES/22-23/W/017216	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	22/03/2023	
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	23/03/2023	
VILLAGE - BANKHETA,		DATE OF REPORT	28/03/2023	
POST MILUPARA,		DATE OF ANALYSIS	START: 23/02/2023	END: 27/03/2023
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
SAMPLE TYPE	EFFLUENT WATER	ORDER /REFERENCE :	P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	SUMP WATER PATCH "C"	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	RESULT
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	5.0
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.1
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.46
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	46.9
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	44.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	9.6
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ 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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 28/03/2023 REVIEWED BY		 28/03/23 AUTHORIZED SIGNATORY
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-----End of the test report-----

Annexure-13

**Ground Water Level Monitoring Report in and around the Coal Mine Area
(From October 2022 to December 2022)**

Sr. No.	Location	Types of Structure	In Meters		
			Ground Water level (BGL) Oct 2022	Ground Water level (BGL) Nov 2022	Ground Water level (BGL) Dec 2022
1	Bankheta (Near HIL Office)	Borewell/ AWLR	6.65	10.22	11.24
2	Banjikhol (Near Office)	Borewell/ AWLR	25.71	25.62	25.82
3	Milupara (Near Office)	Borewell/ AWLR	8.48	9.50	10.38
4	HIL Staff Quarter	Borewell/ AWLR	4.07	4.58	5.40
5	Milupara Village (PHC-HIL)	Dugwell	2.08	3.32	4.68
6	Sakta Village (Near Primary School)	Dugwell	2.17	2.70	3.05
7	Sidarpara Village (Near Primary School)	Dugwell	4.21	7.89	8.90
8	Beljor Village	Dugwell	4.20	5.48	6.13



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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.	REPORT NO	UES/TR/22-23/04749	
	LAB REF NO	UES/22-23/W/010915	
	DATE OF SAMPLING	26/11/2022	
	DATE OF RECEIPT	28/11/2022	
	DATE OF REPORT	02/12/2022	
	DATE OF ANALYSIS	START:28/11/2022	END:02/12/2022
SAMPLE DETAILS			
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.04749

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.87
5	Turbidity	NTU	APHA 23 nd Ed.2012,2130-B,2-13	1	5	1.31
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	146.8
7	Residual Chlorine	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 nd Ed.2012,2540- B, 2-64	-	-	91.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	88.4
10	Total Suspended Solids	mg/Lit	APHA 23 nd Ed.2012,2540- D, 2-66	-	-	2.4
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	42.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,2340-C, 2-44,45	200	600	60.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	-	-	38.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	-	-	22.0
15	Calcium (as Ca)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	75	200	15.23
16	Magnesium (as Mg)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	30	100	5.34
17	Chloride (as Cl)	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-B, 4-72	250	1000	12.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 23 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	15.7
19	Nitrate (as NO ₃)	mg/Lit	APHA 23 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.33
20	Phosphate (as P)	mg/Lit	APHA 23 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 nd Ed.2012,3500-Na-B, 3-97	-	-	8.6

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Report No.04749

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 nd Ed.2012,3500-K-B, 3-87	-	-	0.45
23	Boron (as B)	mg/Lit	APHA 23 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.08
26	Manganese (as Mn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 23 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 nd 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.



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Report No.04749

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER 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

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.


02/12/2022

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



HDD-272, Phase III - Near JP Chowk
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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/04750	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/22-23/W/010916	
		DATE OF SAMPLING	26/11/2022	
		DATE OF RECEIPT	28/11/2022	
		DATE OF REPORT	02/12/2022	
		DATE OF ANALYSIS	START:28/11/2022	END:02/12/2022
		SAMPLE DETAILS		
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	NEAR MINE OFFICE - BANJIKHOL 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 22ND ED. 2012, 1060-B,1-39		QUANTITY RECEIVED	5 LTR

Report No.04750

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.18
5	Turbidity	NTU	APHA 23 nd Ed.2012,2130-B,2-13	1	5	1.3
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	174.9
7	Residual Chlorine	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 nd Ed.2012,2540- B, 2-64	-	-	107.9
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	105.6
10	Total Suspended Solids	mg/Lit	APHA 23 nd Ed.2012,2540- D, 2-66	-	-	2.3
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	52.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,2340-C, 2-44,45	200	600	78.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	-	-	44.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	-	-	34.0
15	Calcium (as Ca)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	75	200	17.63
16	Magnesium (as Mg)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	30	100	8.26
17	Chloride (as Cl)	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-B, 4-72	250	1000	19.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 23 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	25.8



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Report No.04750

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
19	Nitrate (as NO ₃)	mg/Lit	APHA 23 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	2.1
20	Phosphate (as P)	mg/Lit	APHA 23 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 nd Ed.2012,3500-Na-B, 3-97	-	-	8.4
22	Potassium (as K)	mg/Lit	APHA 23 nd Ed.2012,3500-K-B, 3-87	-	-	0.28
23	Boron (as B)	mg/Lit	APHA 23 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	N.D.
26	Manganese (as Mn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 23 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 nd 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.

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



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Report No.04750

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
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.

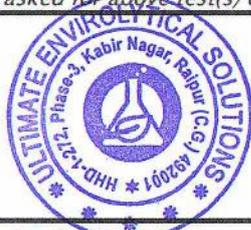
REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

[Signature]
02/12/2022

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



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/04788	
TO,		LAB REF NO	UES/22-23/W/010991	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	27/11/2022	
GARE PALMA - IV/5, MILUPARA		DATE OF RECEIPT	28/11/2022	
U/G COAL MINE, VILLAGE - MILUPARA,		DATE OF REPORT	02/12/2022	
BLOCK-TAMNAR,		DATE OF ANALYSIS	START: 28/11/2022	END: 02/12/2022
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
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. 04788

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.19
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	2.75
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	269.4
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G,4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	169.5
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	163.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	6.5
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	38.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	64.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	34.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	30.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	13.63
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	7.29
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	18.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	15.1
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	2.9

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REPORT NO. 04788

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
20	Phosphate (as P)	mg/Lit	APHA 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
20	Sodium (as Na)	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97	-	-	7.8
21	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.29
22	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.20
25	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd,3-105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd 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.
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.

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REPORT NO. 04788

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
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

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



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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04787	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/010990	
		DATE OF SAMPLING	27/11/2022	
		DATE OF RECEIPT	28/11/2022	
		DATE OF REPORT	02/12/2022	
		DATE OF ANALYSIS	START: 28/11/2022	END: 02/12/2022
		SAMPLE DETAILS		
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	P.O.13552310212, DATED: 07.09.2022	
CUSTOMER SAMPLE ID	STAFF QUARTER- MILUPARA 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. 04787

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.97
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.73
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	215.8
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	138.3
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	130.4
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	7.9
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	38.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	86.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	56.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	30.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	22.44
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	7.29
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	23.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	27.6
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	0.71
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.

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

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REPORT NO. 04787

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 22ndEd.2012,3500-Na-B, 3-97	-	-	5.4
22	Potassium (as K)	mg/Lit	APHA 22nd Ed.2012,3500-K-B, 3-87	-	-	2.9
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	0.18
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 ₆ H ₅ 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.
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.

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REPORT NO. 04787

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

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.

RBell
02/12/2022

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PandA

AUTHORIZED SIGNATORY

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



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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04789	
TO,		LAB REF NO	UES/22-23/W/010992	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	27/11/2022	
GARE PALMA - IV/5, MILUPARA		DATE OF RECEIPT	28/11/2022	
U/G COAL MINE, VILLAGE - MILUPARA,		DATE OF REPORT	02/12/2022	
BLOCK-TAMNAR,		DATE OF ANALYSIS	START: 28/11/2022	END: 02/12/2022
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	VERBAL COMMUNICATION.
CUSTOMER SAMPLE ID	MILUPARA VILLAGE NEAR PHC-HIL (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. 04789

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.49
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.76
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	234.8
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	149.7
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	141.6
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	8.1
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	44.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	102.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	48.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	54.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	19.24
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	13.12
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	37.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	22.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	2.4
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-	-	-	5.9



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REPORT NO. 04789

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			B, 3-97			
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.41
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.13
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.19
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd 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.



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REPORT NO. 04789

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

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.

R Bell
02/12/2022

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



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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04790	
TO,		LAB REF NO	UES/22-23/W/010993	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	27/11/2022	
GARE PALMA - IV/5, MILUPARA		DATE OF RECEIPT	28/11/2022	
U/G COAL MINE, VILLAGE - MILUPARA,		DATE OF REPORT	02/12/2022	
BLOCK-TAMNAR,		DATE OF ANALYSIS	START: 28/11/2022	END: 02/12/2022
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
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. 04790

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.42
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.17
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	304.6
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	188.7
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	184.4
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	4.3
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	56.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	90.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	54.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	36.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	21.64
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	8.75
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	20.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	27.6
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	4.1
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.

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REPORT NO. 04790

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	18.7
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.41
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	NoRelaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.15
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.09
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	NoRelaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	NoRelaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	NoRelaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	NoRelaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	NoRelaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd 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.



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REPORT NO. 04790

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
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

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.

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02/12/2022
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Rana
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-----End of the test report-----



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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04751	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/22-23/W/010917	
		DATE OF SAMPLING	26/11/2022	
		DATE OF RECEIPT	28/11/2022	
		DATE OF REPORT	02/12/2022	
		DATE OF ANALYSIS	START:28/11/2022	END:02/12/2022
		SAMPLE DETAILS		
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	NEAR PRIMARY SCHOOL - SIDARPARA 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 23RD ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

Report No.04751

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 rd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.34
5	Turbidity	NTU	APHA 23 rd Ed.2012,2130-B,2-13	1	5	0.66
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	271.1
7	Residual Chlorine	mg/Lit	APHA 23 rd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 rd Ed.2012,2540- B, 2- 64	-	-	165.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	162.4
10	Total Suspended Solids	mg/Lit	APHA 23 rd Ed.2012,2540- D, 2- 66	-	-	2.7
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	88.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 23 rd Ed.2012,2340-C, 2- 44,45	200	600	112.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 23 rd Ed.2012,3500-Ca-B, 3-67	-	-	76.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 23 rd Ed.2012,3500-Mg-B, 3-84	-	-	36.0
15	Calcium (as Ca)	mg/Lit	APHA 23 rd Ed.2012,3500-Ca-B, 3-67	75	200	30.46
16	Magnesium (as Mg)	mg/Lit	APHA 23 rd Ed.2012,3500-Mg-B, 3-84	30	100	8.75
17	Chloride (as Cl)	mg/Lit	APHA 23 rd Ed.2012,4500-Cl-B, 4-72	250	1000	18.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 23 rd Ed.2012,4500-SO ₄ -E, 4-190	200	400	20.7

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TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
19	Nitrate (as NO ₃)	mg/Lit	APHA 23 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.69
20	Phosphate (as P)	mg/Lit	APHA 23 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 nd Ed.2012,3500-Na-B, 3-97	-	-	12.9
22	Potassium (as K)	mg/Lit	APHA 23 nd Ed.2012,3500-K-B, 3-87	-	-	0.71
23	Boron (as B)	mg/Lit	APHA 23 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.13
26	Manganese (as Mn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 23 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 nd 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.

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TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
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	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.

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



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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04752	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/22-23/W/010918	
		DATE OF SAMPLING	26/11/2022	
		DATE OF RECEIPT	28/11/2022	
		DATE OF REPORT	02/12/2022	
		DATE OF ANALYSIS	START:28/11/2022	END:02/12/2022
SAMPLE DETAILS				
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.04752

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.32
5	Turbidity	NTU	APHA 23 nd Ed.2012,2130-B,2-13	1	5	0.57
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	276.3
7	Residual Chlorine	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 nd Ed.2012,2540- B, 2-64	-	-	168.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	165.6
10	Total Suspended Solids	mg/Lit	APHA 23 nd Ed.2012,2540- D, 2-66	-	-	2.5
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	98.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,2340-C, 2-44,45	200	600	114.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	-	-	72.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	-	-	42.0
15	Calcium (as Ca)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	75	200	28.86
16	Magnesium (as Mg)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	30	100	10.21
17	Chloride (as Cl)	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-B, 4-72	250	1000	21.9

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Report No.04752

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
18	Sulphate (as SO ₄)	mg/Lit	APHA 23 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	22.7
19	Nitrate (as NO ₃)	mg/Lit	APHA 23 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	1.23
20	Phosphate (as P)	mg/Lit	APHA 23 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 nd Ed.2012,3500-Na-B, 3-97	-	-	7.4
22	Potassium (as K)	mg/Lit	APHA 23 nd Ed.2012,3500-K-B, 3-87	-	-	0.58
23	Boron (as B)	mg/Lit	APHA 23 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.13
26	Manganese (as Mn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 23 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 nd 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.
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Report No.04752

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
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	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.

Bella
02/12/2022

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Panda

AUTHORIZED SIGNATORY

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

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

Sr. No.	Location	Types of Structure	In Meters		
			Ground Water level (BGL) Jan 2023	Ground Water level (BGL) Feb 2023	Ground Water level (BGL) Mar 2023
1	Bankheta (Near HIL Office)	Borewell/ AWLR	11.90	12.31	12.63
2	Banjikhol (Near Office)	Borewell/ AWLR	26.04	26.25	26.59
3	Milupara (Near Office)	Borewell/ AWLR	11.21	11.98	12.57
4	HIL Staff Quarter	Borewell/ AWLR	6.83	7.73	8.21
5	Milupara Village (PHC-HIL)	Dugwell	5.25	5.64	5.92
6	Sakta Village (Near Primary School)	Dugwell	3.24	3.40	3.40
7	Sidarpara Village (Near Primary School)	Dugwell	8.90	9.02	8.96
8	Beljor Village	Dugwell	6.47	6.69	6.86

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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		REPORT NO	UES/TR/22-23/06895	
		LAB REF NO	UES/22-23/W/014611	
		DATE OF SAMPLING	23/01/2023	
		DATE OF RECEIPT	25/01/2023	
		DATE OF REPORT	29/01/2023	
		DATE OF ANALYSIS	START: 25/01/2023	END: 29/01/2023
SAMPLE DETAILS				
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.06895

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 rd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.72
5	Turbidity	NTU	APHA 23 rd Ed.2012,2130-B,2-13	1	5	0.96
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	136.6
7	Residual Chlorine	mg/Lit	APHA 23 rd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 rd Ed.2012,2540- B, 2-64	-	-	84.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	82.0
10	Total Suspended Solids	mg/Lit	APHA 23 rd Ed.2012,2540- D, 2-66	-	-	2.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	38.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 23 rd Ed.2012,2340-C, 2-44,45	200	600	56.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 23 rd Ed.2012,3500-Ca-B, 3-67	-	-	36.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 23 rd Ed.2012,3500-Mg-B, 3-84	-	-	20.0
15	Calcium (as Ca)	mg/Lit	APHA 23 rd Ed.2012,3500-Ca-B, 3-67	75	200	14.42
16	Magnesium (as Mg)	mg/Lit	APHA 23 rd Ed.2012,3500-Mg-B, 3-84	30	100	4.86
17	Chloride (as Cl)	mg/Lit	APHA 23 rd Ed.2012,4500-Cl-B, 4-72	250	1000	10.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 23 rd Ed.2012,4500-SO ₄ -E, 4-190	200	400	9.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 23 rd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.30
20	Phosphate (as P)	mg/Lit	APHA 23 rd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 rd Ed.2012,3500-Na-B, 3-97	-	-	8.2

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Report No.06895

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 rd Ed.2012,3500-K-B, 3-87	-	-	0.40
23	Boron (as B)	mg/Lit	APHA 23 rd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 rd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 rd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.06
26	Manganese (as Mn)	mg/Lit	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 rd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 rd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 rd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 rd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 rd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 rd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 rd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 rd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 rd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 rd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 23 rd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 rd 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.

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Report No.06895

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER 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

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		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY
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-----End of the test report-----

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/06896
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/22-23/W/014612
		DATE OF SAMPLING	23/01/2023
		DATE OF RECEIPT	25/01/2023
		DATE OF REPORT	29/01/2023
		DATE OF ANALYSIS	START:25/01/2023 END:29/01/2023
		SAMPLE DETAILS	
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	NEAR MINE OFFICE - BANJIKHOL 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 SEALED 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

Report No.06896

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.06
5	Turbidity	NTU	APHA 23 nd Ed.2012,2130-B,2-13	1	5	0.98
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	170
7	Residual Chlorine	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 nd Ed.2012,2540- B, 2-64	-	-	103.8
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	102.0
10	Total Suspended Solids	mg/Lit	APHA 23 nd Ed.2012,2540- D, 2-66	-	-	1.8
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	48.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,2340-C, 2-44,45	200	600	70.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	-	-	48.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	-	-	22.0
15	Calcium (as Ca)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	75	200	19.23
16	Magnesium (as Mg)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	30	100	5.34
17	Chloride (as Cl)	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-B, 4-72	250	1000	12.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 23 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	11.6

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

Report No.06896

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
19	Nitrate (as NO ₃)	mg/Lit	APHA 23 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	1.8
20	Phosphate (as P)	mg/Lit	APHA 23 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 nd Ed.2012,3500-Na-B, 3-97	-	-	7.8
22	Potassium (as K)	mg/Lit	APHA 23 nd Ed.2012,3500-K-B, 3-87	-	-	0.24
23	Boron (as B)	mg/Lit	APHA 23 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	N.D.
26	Manganese (as Mn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 23 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 nd 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.

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

Report No.06896

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
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

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- > 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. Singh
29/10/2023

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

P. Singh

AUTHORIZED SIGNATORY

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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/06923	
TO,		LAB REF NO	UES/22-23/W/014641	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	24/01/2023	
GARE PALMA - IV/5, MILUPARA		DATE OF RECEIPT	25/01/2023	
U/G COAL MINE, VILLAGE - MILUPARA,		DATE OF REPORT	29/01/2023	
BLOCK-TAMNAR,		DATE OF ANALYSIS	START: 25/01/2023	END: 29/01/2023
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
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.06923

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.09
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	2.67
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	250
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G,4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	156.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	150.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	6.1
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	68.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	90.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	56.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	34.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	22.44
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	8.26
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	15.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	16.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	2.7
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
20	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,	-	-	7.4

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REPORT NO. 06923

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 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.25
22	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.16
25	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd,3-105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd 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.
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.

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REPORT NO. 06923

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
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

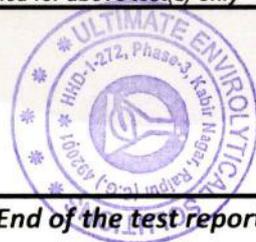
REMARKS: RESULTS ARE AS ABOVE

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

Review
25/01/2023

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

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AUTHORIZED SIGNATORY

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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/06922
TO,		LAB REF NO	UES/22-23/W/014640
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	24/01/2023
GARE PALMA - IV/5, MILUPARA		DATE OF RECEIPT	25/01/2023
U/G COAL MINE, VILLAGE - MILUPARA,		DATE OF REPORT	29/01/2023
BLOCK-TAMNAR,		DATE OF ANALYSIS	START: 25/01/2023 END: 29/01/2023
DISTT. - RAIGARH (C.G.) 496107			
SAMPLE DETAILS			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE :	P.O. 13552310212, DATED: 07.09.2022
CUSTOMER SAMPLE ID	STAFF QUARTER- MILUPARA 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	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. 06922

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.88
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.66
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	206.6
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	131.2
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	124
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	7.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	46.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	84.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	60.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	24.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	24.04
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	5.83
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	12.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	11.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	0.64
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	5.0
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	2.6

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REPORT NO. 06922

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
			87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.15
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd 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.
11	Beta-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.

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

REPORT NO. 06922

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.

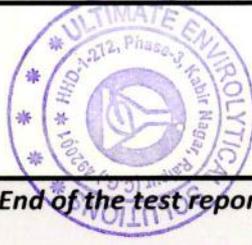
REMARKS: RESULTS ARE AS ABOVE

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.

Babu
29/04/2023

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

[Signature]

AUTHORIZED SIGNATORY

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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/06924
TO,		LAB REF NO	UES/22-23/W/014642
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	24/01/2023
GARE PALMA - IV/5, MILUPARA		DATE OF RECEIPT	25/01/2023
U/G COAL MINE, VILLAGE - MILUPARA,		DATE OF REPORT	29/01/2023
BLOCK-TAMNAR,		DATE OF ANALYSIS	START:25/01/2023 END:29/01/2023
DISTT. - RAIGARH (C.G.) 496107			
SAMPLE DETAILS			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	VERBAL COMMUNICATION.
CUSTOMER SAMPLE ID	MILUPARA VILLAGE NEAR PHC-HIL (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.06924

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.36
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.58
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	216.6
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	137.4
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	130
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	7.4
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	62.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	90.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	52.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	38.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	20.84
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	9.23
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	13.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	12.6
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	2.0
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	5.6
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.34

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REPORT NO. 06924

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 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.12
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.16
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd 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. 06924

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.

[Signature]
29/01/2023

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

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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/06925	
TO,		LAB REF NO	UES/22-23/W/014643	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	24/01/2023	
GARE PALMA - IV/5, MILUPARA		DATE OF RECEIPT	25/01/2023	
U/G COAL MINE,VILLAGE - MILUPARA,		DATE OF REPORT	29/01/2023	
BLOCK-TAMNAR,		DATE OF ANALYSIS	START: 25/01/2023	END: 29/01/2023
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
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. 06925

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	NoRelaxation	7.32
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.08
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	293.3
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	180.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	176
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	4.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	94.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	118.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	68.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	50.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	27.25
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	12.15
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	17.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	18.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	NoRelaxation	3.7
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	18.2
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.36

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REPORT NO. 06925

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 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	NoRelaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.13
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.08
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	NoRelaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	NoRelaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	NoRelaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	NoRelaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	NoRelaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd 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. 06925

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.

Bullu
29/01/2023

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AUTHORIZED SIGNATORY

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

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/06897
TO,		LAB REF NO	UES/22-23/W/014613
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	23/01/2023
GARE PALMA - IV/4, COAL MINE,VILLAGE -		DATE OF RECEIPT	25/01/2023
BANKHETA, POST -MILUPARA,		DATE OF REPORT	29/01/2023
DISTT. - RAIGARH (C.G.) 496107.		DATE OF ANALYSIS	START:25/01/2023 END:29/01/2023
SAMPLE DETAILS			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	NEAR PRIMARY SCHOOL - SIDARPARA 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	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.06897

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.27
5	Turbidity	NTU	APHA 23 nd Ed.2012,2130-B,2-13	1	5	0.60
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	260
7	Residual Chlorine	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 nd Ed.2012,2540- B, 2-64	-	-	158.2
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	156
10	Total Suspended Solids	mg/Lit	APHA 23 nd Ed.2012,2540- D, 2-66	-	-	2.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	90.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,2340-C, 2-44,45	200	600	110.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	-	-	74.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	-	-	36.0
15	Calcium (as Ca)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	75	200	29.65
16	Magnesium (as Mg)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	30	100	8.74
17	Chloride (as Cl)	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-B, 4-72	250	1000	15.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 23 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	16.6
19	Nitrate (as NO ₃)	mg/Lit	APHA 23 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.62

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Report No.06897

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
20	Phosphate (as P)	mg/Lit	APHA 23 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 nd Ed.2012,3500-Na-B, 3-97	-	-	12.0
22	Potassium (as K)	mg/Lit	APHA 23 nd Ed.2012,3500-K-B, 3-87	-	-	0.66
23	Boron (as B)	mg/Lit	APHA 23 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.11
26	Manganese (as Mn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 23 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 nd 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.

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Report No.06897

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
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.


29/01/2023

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS


AUTHORIZED SIGNATORY

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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/06898
TO,		LAB REF NO	UES/22-23/W/014614
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	23/01/2023
GARE PALMA - IV/4, COAL MINE,VILLAGE -		DATE OF RECEIPT	25/01/2023
BANKHETA, POST -MILUPARA,		DATE OF REPORT	29/01/2023
DISTT. - RAIGARH (C.G.) 496107.		DATE OF ANALYSIS	START:25/01/2023 END:29/01/2023
SAMPLE DETAILS			
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	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.06898

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 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.26
5	Turbidity	NTU	APHA 23 nd Ed.2012,2130-B,2-13	1	5	0.52
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	263.3
7	Residual Chlorine	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 23 nd Ed.2012,2540- B, 2-64	-	-	160.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	158.0
10	Total Suspended Solids	mg/Lit	APHA 23 nd Ed.2012,2540- D, 2-66	-	-	2.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	80.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,2340-C, 2-44,45	200	600	98.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	-	-	68.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	-	-	30.0
15	Calcium (as Ca)	mg/Lit	APHA 23 nd Ed.2012,3500-Ca-B, 3-67	75	200	27.25
16	Magnesium (as Mg)	mg/Lit	APHA 23 nd Ed.2012,3500-Mg-B, 3-84	30	100	7.29
17	Chloride (as Cl)	mg/Lit	APHA 23 nd Ed.2012,4500-Cl-B, 4-72	250	1000	15.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 23 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	16.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 23 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	1.20
20	Phosphate (as P)	mg/Lit	APHA 23 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 23 nd Ed.2012,3500-Na-B,	-	-	7.1

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

Report No. 06898

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			3-97			
22	Potassium (as K)	mg/Lit	APHA 23 nd Ed.2012,3500-K-B, 3-87	-	-	0.52
23	Boron (as B)	mg/Lit	APHA 23 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 23 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 23 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.11
26	Manganese (as Mn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 23 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 23 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 23 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 23 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 23 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 23 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 23 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 23 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 23 nd 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.

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

Report No.06898

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

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.

 29/10/2023 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY
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-----End of the test report-----

Annexure-13A



HIL/GP-IV/4/EC/GW/Q3/2022-23/470

03rd January, 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. 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 Oct'2022 to Dec'2022) & GW Quality for the month of November 2022 – Post 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,

LK
03/01/23

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: 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



o/c

Letter No. : HIL/EC/GP-IV/4 –Q4/2022-23/17

05TH April, 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.

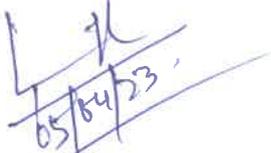
Ref.: Environment Clearance Letter no. – No. J-11015/183/2010-IA.II (M) dated 12 March, 2013.

Dear Sir,

With reference to above subject, we are submitting herewith the quarterly monitoring report of Ground Water Level (from Jan'2023 to Mar'2023) & GW Quality for the month of January 2022 – Winter Season of Gare Palma IV/4 Coal Mine, M/s Hindalco Industries Limited, Village – Bhanjikhola, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.

Thanking you,

Yours faithfully,


05/04/23

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: 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-14

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
01-04-2016	01-04-2016			8,796.00 Cr	1,51,58,796.00 Cr	Int: 9774.00 Tds: 978.00 []
31-03-2016	28-03-2016			1,51,50,000.00 Cr	1,51,50,000.00 Cr	FD BKD



To,

Date: 29th 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

Narayan
A. Maho
29/3/17



Hindalco Industries Limited

Gare Palma Mines (IV/4 & IV/5), Vill & Po: Milupara , Tehsil: Tamnar Dist: Raigarh- 496107 , Chhattisgarh , T: +91 7762 228212

o/c



To,
Manager of IDBI
Raigarh Branch

Date : 27th 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 02nd Jan'18 & CC/MCPS/Notice/2013-14/330/01 dated 02nd 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 16th December 2015, and
3. The Tripartite agreement among Hindalco Industries Ltd, IDBI Bank & CCO dated 5th 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 3rd 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: 8th 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 27th March 2019 an amount of 19.19 lakh rupees has been deposited on 31st 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: 30th March'2021

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

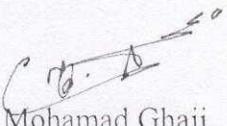
Ref: Tripartite Agreement executed among Hindalco Industries Ltd, IDBI Bank & CCO dated 27th March'2019.

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 30th 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 31st 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 27th 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 31st March 2022

Gare Palma Mines	GP-IV/4
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
RTGS UTR NO:	SBINR52022033175690923

Kindly acknowledge the receipt of the same.

Regards,

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





To,

Date 31st-Mar-2023

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

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

Dear Sir,

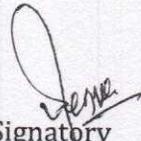
This is to inform you that please make RTGS of Rs. 3,76,50,000/- from our Cash Credit Account No. 39783378981 is as under:

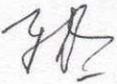
In Favour of	Bank	A/c No	IFSC Code	Amount
Escrow	IDBI Bank, Raigarh	0429102000003186	IBKL0000429	3,76,50,000.00
				3,76,50,000.00

SBINR 52023033141103271

For
Hindalco Industries Limited


Authorized Signatory


Authorized Signatory





Annexure-15

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

19th November 2016

Annexure-16



**HDD-272, PHASE III- NEAR JP CHOWK,
RING ROAD NO - 2, KABIR NAGAR, RAIPUR, C.G. -492099
PH - 0771 - 4027777 /email - ultimatenviro@gmail.com**

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/03895	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/09508-09515	
		DATE OF SAMPLING	03/10/2022 to 29/10/2022	
		DATE OF RECEIPT	04/10/2022 to 31/10/2022	
		DATE OF REPORT	02/11/2022	
		DATE OF ANALYSIS	START: 04/10/2022	END: 31/10/2022
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.10.2022	54	26	16	28	0.8	N.D.
07.10.2022	62	28	14	25	0.7	N.D.
10.10.2022	58	29	18	29	0.8	N.D.
14.10.2022	53	24	13	24	0.5	N.D.
17.10.2022	65	27	17	26	0.7	N.D.
21.10.2022	56	22	12	28	0.6	N.D.
26.10.2022	52	28	12	23	0.4	N.D.
29.10.2022	63	23	15	29	0.9	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.

 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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04728	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/010839-010846	
		DATE OF SAMPLING	04/11/2022 to 28/11/2022	
		DATE OF RECEIPT	05/11/2022 to 29/11/2022	
		DATE OF REPORT	02/12/2022	
		DATE OF ANALYSIS	START: 05/11/2022	END: 02/12/2022
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
04.11.2022	48	22	14	24	0.6	N.D.
07.11.2022	50	25	13	21	0.5	N.D.
11.11.2022	49	27	16	28	0.7	N.D.
14.11.2022	46	24	12	26	0.4	N.D.
18.11.2022	52	25	15	23	0.7	N.D.
21.11.2022	51	22	11	27	0.8	N.D.
25.11.2022	47	28	10	22	0.5	N.D.
28.11.2022	50	22	14	25	0.9	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).

R. Bell
02/12/2022
REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Panda
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/22-23/06106	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/012947-012954	
		DATE OF SAMPLING	02/12/2022 to 26/12/2022	
		DATE OF RECEIPT	03/12/2022 to 27/12/2022	
		DATE OF REPORT	31/12/2022	
		DATE OF ANALYSIS	START: 03/12/2022	END: 31/12/2022
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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	--

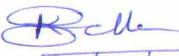
TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.12.2022	49	23	15	25	0.4	N.D.
05.12.2022	48	24	14	23	0.6	N.D.
09.12.2022	46	26	15	26	0.8	N.D.
12.12.2022	50	22	13	27	0.5	N.D.
16.12.2022	47	26	12	24	0.6	N.D.
19.12.2022	50	24	14	25	0.9	N.D.
23.12.2022	48	25	12	24	0.7	N.D.
26.12.2022	51	22	11	22	0.6	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.

 31/12/2022 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/22-23/06801	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/014303-014310	
		DATE OF SAMPLING	02/01/2023 to 27/01/2023	
		DATE OF RECEIPT	03/01/2023 to 28/01/2023	
		DATE OF REPORT	31/01/2023	
		DATE OF ANALYSIS	START:03/01/2023	END:31/01/2023
		SAMPLE DETAILS		
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.01.2023	50	24	14	24	0.5	N.D.
06.01.2023	49	25	15	22	0.7	N.D.
09.01.2023	47	23	13	25	0.9	N.D.
13.01.2023	51	21	14	26	0.6	N.D.
16.01.2023	46	24	11	23	0.5	N.D.
20.01.2023	49	25	13	24	0.8	N.D.
23.01.2023	47	26	11	25	0.6	N.D.
27.01.2023	50	23	10	23	0.4	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

 31/01/23 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/22-23/08112
TO,		LAB REF NO	UES/22-23/AAQM/016189-016196
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	03/02/2023 to 27/02/2023
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	04/02/2023 to 28/02/2023
VILLAGE - BANKHETA,		DATE OF REPORT	03/03/2023
POST -MILUPARA,		DATE OF ANALYSIS	START: 04/02/2023 END: 02/03/2023
DISTT. - RAIGARH (C.G.) 496107			
SAMPLE DETAILS			
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.02.2023	50	24	14	26	0.5	N.D.
06.02.2023	49	26	13	24	0.7	N.D.
10.02.2023	47	25	16	25	0.9	N.D.
13.02.2023	48	23	14	26	0.4	N.D.
17.02.2023	46	25	13	23	0.5	N.D.
20.02.2023	49	22	15	27	0.8	N.D.
24.02.2023	47	26	11	22	0.6	N.D.
27.02.2023	50	23	12	23	0.7	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.

 03/03/2023 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**

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/03896
TO,		LAB REF NO	UES/22-23/AAQM/09516-09523
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	03/10/2022 to 29/10/2022
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	04/10/2022 to 31/10/2022
VILLAGE - BANKHETA,		DATE OF REPORT	02/11/2022
POST -MILUPARA,		DATE OF ANALYSIS	START:04/10/2022 END:31/10/2022
DISTT. - RAIGARH (C.G.) 496107			
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.10.2022	56	28	15	26	0.6	N.D.
07.10.2022	52	25	14	22	0.4	N.D.
10.10.2022	49	27	19	23	0.7	N.D.
14.10.2022	57	23	18	28	0.5	N.D.
17.10.2022	62	28	12	29	0.8	N.D.
21.10.2022	65	29	16	24	0.9	N.D.
26.10.2022	58	26	09	25	0.6	N.D.
29.10.2022	63	22	13	27	0.3	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.

 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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04729
TO,		LAB REF NO	UES/22-23/AAQM/010847-010854
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	04/11/2022 to 28/11/2022
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	05/11/2022 to 29/11/2022
VILLAGE - BANKHETA,		DATE OF REPORT	02/12/2022
POST -MILUPARA,		DATE OF ANALYSIS	START: 05/11/2022 END: 02/12/2022
DISTT. - RAIGARH (C.G.) 496107			
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
04.11.2022	49	25	13	25	0.5	N.D.
07.11.2022	46	24	12	20	0.3	N.D.
11.11.2022	47	20	18	22	0.6	N.D.
14.11.2022	51	22	17	27	0.2	N.D.
18.11.2022	52	24	10	28	0.7	N.D.
21.11.2022	50	27	14	21	0.8	N.D.
25.11.2022	48	25	08	23	0.7	N.D.
28.11.2022	51	21	12	26	0.4	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.

 02/12/2022 REVIEWED BY	 ULTIMATE ENVIROLYTICAL SOLUTIONS HDD-272, Phase-3, Kabir Nagar, Raipur (C.G.) Ph: 0771-4027777	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/22-23/06107	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/012955-012962	
		DATE OF SAMPLING	02/12/2022 to 26/12/2022	
		DATE OF RECEIPT	03/12/2022 to 27/12/2022	
		DATE OF REPORT	31/12/2022	
		DATE OF ANALYSIS	START:03/12/2022	END:31/12/2022
		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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.12.2022	51	22	15	24	0.6	N.D.
05.12.2022	48	25	14	22	0.4	N.D.
09.12.2022	50	24	17	23	0.7	N.D.
12.12.2022	49	23	18	26	0.5	N.D.
16.12.2022	47	26	12	27	0.6	N.D.
19.12.2022	48	25	13	22	0.4	N.D.
23.12.2022	50	28	10	20	0.7	N.D.
26.12.2022	46	27	09	21	0.5	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.

 31/12/2022 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/22-23/06802	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/014311-014318	
		DATE OF SAMPLING	02/01/2023 to 27/01/2023	
		DATE OF RECEIPT	03/01/2023 to 28/01/2023	
		DATE OF REPORT	31/01/2023	
		DATE OF ANALYSIS	START:03/01/2023	END:31/01/2023
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.01.2023	50	21	14	23	0.5	N.D.
06.01.2023	47	24	13	21	0.3	N.D.
09.01.2023	48	23	16	22	0.6	N.D.
13.01.2023	48	22	15	25	0.4	N.D.
16.01.2023	46	25	13	26	0.7	N.D.
20.01.2023	49	26	14	23	0.5	N.D.
23.01.2023	51	23	11	21	0.8	N.D.
27.01.2023	45	25	10	22	0.4	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.

 31/01/23 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/22-23/08113	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/016197-016204	
		DATE OF SAMPLING	03/02/2023 to 27/02/2023	
		DATE OF RECEIPT	04/02/2023 to 28/02/2023	
		DATE OF REPORT	03/03/2023	
		DATE OF ANALYSIS	START:04/02/2023	END:02/03/2023
		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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.02.2023	50	23	16	23	0.7	N.D.
06.02.2023	49	26	15	21	0.5	N.D.
10.02.2023	51	25	18	22	0.6	N.D.
13.02.2023	48	24	17	25	0.4	N.D.
17.02.2023	46	25	14	26	0.5	N.D.
20.02.2023	47	26	15	24	0.6	N.D.
24.02.2023	51	27	11	21	0.8	N.D.
27.02.2023	47	28	12	23	0.6	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.

<p><i>P. Bhouhar</i> 03/03/2023</p> <p>REVIEWED BY</p>		<p>For ULTIMATE ENVIROLYTICAL SOLUTIONS</p> <p><i>PandA</i></p> <p>AUTHORIZED SIGNATORY</p>
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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 & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/08844	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/017180	
		DATE OF SAMPLING	03/03/2023 to 27/03/2023	
		DATE OF RECEIPT	04/03/2023 to 28/03/2023	
		DATE OF REPORT	30/03/2023	
		DATE OF ANALYSIS	START:04/03/2023	END:30/03/2023
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.03.2023	51	24	15	24	0.8	N.D.
06.03.2023	50	27	16	22	0.6	N.D.
10.03.2023	48	26	17	23	0.7	N.D.
13.03.2023	49	25	18	26	0.5	N.D.
17.03.2023	47	24	15	24	0.4	N.D.
20.03.2023	46	25	16	23	0.5	N.D.
24.03.2023	50	26	12	22	0.6	N.D.
27.03.2023	48	27	11	21	0.5	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.

<p><i>P. Chouhan</i> 30/03/2023</p> <p>REVIEWED BY</p>		<p>For ULTIMATE ENVIROLYTICAL SOLUTIONS</p> <p><i>R. K. Mehta</i> 30/03/23</p> <p>AUTHORIZED SIGNATORY</p>
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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**

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/03897	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/09524-09531	
		DATE OF SAMPLING	03/10/2022 to 29/10/2022	
		DATE OF RECEIPT	04/10/2022 to 31/10/2022	
		DATE OF REPORT	02/11/2022	
		DATE OF ANALYSIS	START: 04/10/2022	END: 31/10/2022
		SAMPLE DETAILS		
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.10.2022	55	25	14	29	0.6	N.D.
07.10.2022	62	27	18	24	0.4	N.D.
10.10.2022	59	22	19	26	0.9	N.D.
14.10.2022	52	23	10	28	0.8	N.D.
17.10.2022	56	26	15	24	0.4	N.D.
21.10.2022	54	28	12	25	0.5	N.D.
26.10.2022	51	25	13	27	0.9	N.D.
29.10.2022	58	28	17	23	0.7	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.

 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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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04730
TO,		LAB REF NO	UES/22-23/AAQM/010855-010862
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	04/11/2022 to 28/11/2022
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	05/11/2022 to 29/11/2022
VILLAGE - BANKHETA,		DATE OF REPORT	02/12/2022
POST -MILUPARA,		DATE OF ANALYSIS	START:05/11/2022 END:02/12/2022
DISTT. - RAIGARH (C.G.) 496107			
SAMPLE DETAILS			
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
04.11.2022	46	22	13	28	0.5	N.D.
07.11.2022	50	26	16	23	0.3	N.D.
11.11.2022	52	20	18	24	0.8	N.D.
14.11.2022	47	21	10	27	0.9	N.D.
18.11.2022	51	22	14	22	0.2	N.D.
21.11.2022	48	26	12	24	0.4	N.D.
25.11.2022	46	23	11	26	0.7	N.D.
28.11.2022	47	27	17	21	0.6	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.

 02/12/2022 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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/06108	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/012963-012970	
		DATE OF SAMPLING	02/12/2022 to 26/12/2022	
		DATE OF RECEIPT	03/12/2022 to 27/12/2022	
		DATE OF REPORT	31/12/2022	
		DATE OF ANALYSIS	START: 03/12/2022	END: 31/12/2022
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.12.2022	48	24	15	26	0.7	N.D.
05.12.2022	47	27	14	24	0.4	N.D.
09.12.2022	51	22	17	22	0.5	N.D.
12.12.2022	50	24	12	25	0.8	N.D.
16.12.2022	52	26	13	21	0.3	N.D.
19.12.2022	46	22	14	25	0.6	N.D.
23.12.2022	48	24	16	24	0.8	N.D.
26.12.2022	50	25	15	22	0.7	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 for guidance.
- 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.

 31/12/2022 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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/06803	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/014319-014326	
		DATE OF SAMPLING	02/01/2023 to 27/01/2023	
		DATE OF RECEIPT	03/01/2023 to 28/01/2023	
		DATE OF REPORT	31/01/2023	
		DATE OF ANALYSIS	START:03/01/2023	END:31/01/2023
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.01.2023	49	23	16	24	0.6	N.D.
06.01.2023	48	26	15	23	0.3	N.D.
09.01.2023	50	24	18	20	0.4	N.D.
13.01.2023	49	22	13	24	0.7	N.D.
16.01.2023	51	25	12	22	0.4	N.D.
20.01.2023	47	23	11	25	0.5	N.D.
23.01.2023	50	26	15	26	0.7	N.D.
27.01.2023	48	22	14	23	0.8	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, or Not.

 31/01/23 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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/08114
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/016205-016212
		DATE OF SAMPLING	03/02/2023 to 27/02/2023
		DATE OF RECEIPT	04/02/2023 to 28/02/2023
		DATE OF REPORT	03/03/2023
		DATE OF ANALYSIS	START: 04/02/2023 END: 02/03/2023
		SAMPLE DETAILS	
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.02.2023	49	25	16	24	0.6	N.D.
06.02.2023	48	26	15	25	0.5	N.D.
10.02.2023	50	23	14	23	0.4	N.D.
13.02.2023	51	25	13	26	0.9	N.D.
17.02.2023	53	27	15	22	0.5	N.D.
20.02.2023	47	21	17	26	0.7	N.D.
24.02.2023	49	23	15	25	0.9	N.D.
27.02.2023	51	26	14	23	0.8	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.

(P. Bhouhan) 03/03/2023 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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/08845	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/017181	
		DATE OF SAMPLING	03/03/2023 to 27/03/2023	
		DATE OF RECEIPT	04/03/2023 to 28/03/2023	
		DATE OF REPORT	30/03/2023	
		DATE OF ANALYSIS	START:04/03/2023	END:30/03/2023
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.03.2023	51	26	17	25	0.7	N.D.
06.03.2023	48	25	16	23	0.6	N.D.
10.03.2023	49	24	15	24	0.5	N.D.
13.03.2023	50	23	14	25	0.8	N.D.
17.03.2023	52	26	13	23	0.6	N.D.
20.03.2023	48	22	16	25	0.5	N.D.
24.03.2023	50	24	14	26	0.7	N.D.
27.03.2023	53	25	13	22	0.9	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.

REVIEWED BY 30/03/2023	 For ULTIMATE ENVIROLYTICAL SOLUTIONS 30/03/23 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**

Name & Address Of The Customer

**TO,
HINDALCO INDUSTRIES LIMITED,
GARE PALMA - IV/4, COAL MINE,
VILLAGE - BANKHETA,
POST -MILUPARA,
DISTT. - RAIGARH (C.G.) 496107**

REPORT NO	UES/TR/22-23/03898	
LAB REF NO	UES/22-23/AAQM/09532-09539	
DATE OF SAMPLING	03/10/2022 to 29/10/2022	
DATE OF RECEIPT	04/10/2022 to 31/10/2022	
DATE OF REPORT	02/11/2022	
DATE OF ANALYSIS	START: 04/10/2022	END: 31/10/2022

SAMPLE DETAILS

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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.10.2022	60	24	16	26	0.8	N.D.
07.10.2022	54	29	14	25	1.0	N.D.
10.10.2022	57	23	19	29	0.4	N.D.
14.10.2022	56	27	18	24	0.9	N.D.
17.10.2022	66	24	10	27	0.6	N.D.
21.10.2022	67	26	13	22	0.7	N.D.
26.10.2022	58	23	12	30	0.3	N.D.
29.10.2022	64	30	20	23	0.9	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.

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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/04731	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/010863-010870	
		DATE OF SAMPLING	04/11/2022 to 28/11/2022	
		DATE OF RECEIPT	05/11/2022 to 29/11/2022	
		DATE OF REPORT	02/12/2022	
		DATE OF ANALYSIS	START: 05/11/2022	END: 02/12/2022
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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

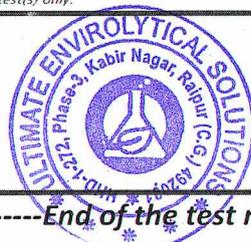
Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
04.11.2022	51	22	14	24	0.6	N.D.
07.11.2022	52	25	13	23	0.8	N.D.
11.11.2022	49	21	17	28	0.2	N.D.
14.11.2022	48	24	16	22	0.7	N.D.
18.11.2022	50	22	09	26	0.4	N.D.
21.11.2022	47	23	12	20	0.5	N.D.
25.11.2022	46	21	11	28	0.2	N.D.
28.11.2022	50	26	28	22	0.7	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.

02/12/2022
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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/22-23/06109
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/012971-012978
		DATE OF SAMPLING	02/12/2022 to 26/12/2022
		DATE OF RECEIPT	03/12/2022 to 27/12/2022
		DATE OF REPORT	31/12/2022
		DATE OF ANALYSIS	START: 03/12/2022 END: 31/12/2022
		SAMPLE DETAILS	
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.12.2022	50	23	12	22	0.5	N.D.
05.12.2022	51	24	14	20	0.7	N.D.
09.12.2022	48	22	15	25	0.4	N.D.
12.12.2022	47	26	13	24	0.8	N.D.
16.12.2022	51	21	10	28	0.6	N.D.
19.12.2022	48	22	11	22	0.4	N.D.
23.12.2022	45	23	09	27	0.3	N.D.
26.12.2022	49	24	12	21	0.6	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.

 31/12/2022 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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/06804	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/014327-014334p	
		DATE OF SAMPLING	02/01/2023 to 27/01/2023	
		DATE OF RECEIPT	03/01/2023 to 28/01/2023	
		DATE OF REPORT	31/01/2023	
		DATE OF ANALYSIS	START:03/01/2023	END:31/01/2023
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.01.2023	49	22	11	23	0.4	N.D.
06.01.2023	50	23	13	21	0.6	N.D.
09.01.2023	46	20	14	26	0.3	N.D.
13.01.2023	45	24	12	25	0.7	N.D.
16.01.2023	50	22	11	27	0.5	N.D.
20.01.2023	49	23	12	20	0.6	N.D.
23.01.2023	46	24	10	25	0.4	N.D.
27.01.2023	51	21	13	22	0.8	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.

 31/01/23 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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/08115
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/016213-016220
		DATE OF SAMPLING	03/02/2023 to 27/02/2023
		DATE OF RECEIPT	04/02/2023 to 28/02/2023
		DATE OF REPORT	03/03/2023
		DATE OF ANALYSIS	START: 04/02/2023 END: 02/03/2023
		SAMPLE DETAILS	
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.02.2023	51	24	14	23	0.6	N.D.
06.02.2023	52	22	15	21	0.8	N.D.
10.02.2023	49	23	13	26	0.5	N.D.
13.02.2023	48	25	14	25	0.7	N.D.
17.02.2023	50	22	12	27	0.5	N.D.
20.02.2023	49	23	10	23	0.3	N.D.
24.02.2023	46	26	11	28	0.4	N.D.
27.02.2023	50	25	12	22	0.7	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.

 03/03/2023 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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/08846	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/017182	
		DATE OF SAMPLING	03/03/2023 to 27/03/2023	
		DATE OF RECEIPT	04/03/2023 to 28/03/2023	
		DATE OF REPORT	30/03/2023	
		DATE OF ANALYSIS	START: 04/03/2023	END: 30/03/2023
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	IS 5182 (Part 24): 2019CPCBGuidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	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 ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
03.03.2023	52	25	12	24	0.5	N.D.
06.03.2023	50	23	13	22	0.7	N.D.
10.03.2023	48	24	15	27	0.6	N.D.
13.03.2023	47	26	11	26	0.8	N.D.
17.03.2023	51	23	10	25	0.4	N.D.
20.03.2023	50	24	12	23	0.5	N.D.
24.03.2023	47	27	14	26	0.3	N.D.
27.03.2023	49	22	13	23	0.6	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.

 30/03/2023 REVIEWED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 30/03/23 AUTHORIZED SIGNATORY
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-----End of the test report-----

Annexure-16A

CONTINUOUS AMBIENT AIR QUALITY MONITORING SYSTEM (CAAQMS - 01 Nos.) AT GARE PALMA IV/4 COAL MINE, BANJIKHOL, RAIGARH



Latitude: 22.166559
Longitude: 83.554262
Elevation: 274.56±16 m
Accuracy: 13.8 m
Time: 19-01-2023 12:05
Note: CAAQMS Banjikhola GP 4/4



Latitude: 22.166587
Longitude: 83.554345
Elevation: 259.33±12 m
Accuracy: 18.5 m
Time: 19-01-2023 12:16
Note: CAAQMS Banjikhola GP 4/4

Annexure-17



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 & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/08847	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/017183	
		DATE OF SAMPLING	23/03/2023	
		DATE OF RECEIPT	24/03/2023	
		DATE OF REPORT	28/03/2023	
		DATE OF ANALYSIS	START: 24/03/2023	END: 28/03/2023
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

TEST REPORT

S.R. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m ³	0.5	6.0	CPCB Guidelines (AAS Method)
2	Nickel (as Ni)	ng/m ³	0.7	20	CPCB Guidelines (AAS Method)
3	Lead (as Pb)	µg/m ³	0.04	1.0	IS 5182 (Part 22):2004
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m ³	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5
7	Ozone (O ₃) *	µg/m ³	9.2	180	CPCB Guidelines Vol-I
8	Ammonia (NH ₃)	µg/m ³	14.8	400	CPCB Guidelines Vol-I
9	Benzene (C ₆ H ₆)	µg/m ³	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo (a) Pyrene	ng/m ³	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

- 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.

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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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Name & Address Of The Customer		REPORT NO	UES/TR/22-23/08848	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/017184	
		DATE OF SAMPLING	22/03/2023	
		DATE OF RECEIPT	23/03/2023	
		DATE OF REPORT	28/03/2023	
		DATE OF ANALYSIS	START:23/03/2023	END:27/03/2023
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

TEST REPORT

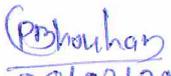
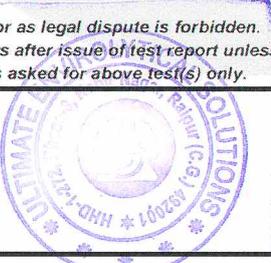
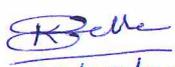
SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m ³	0.5	6.0	CPCB Guidelines (AAS Method)
2	Nickel (as Ni)	ng/m ³	1.0	20	CPCB Guidelines (AAS Method)
3	Lead (as Pb)	µg/m ³	0.03	1.0	IS 5182 (Part 22):2004
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m ³	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5
7	Ozone (O ₃) *	µg/m ³	8.8	180	CPCB Guidelines Vol-I
8	Ammonia (NH ₃)	µg/m ³	17.4	400	CPCB Guidelines Vol-I
9	Benzene (C ₆ H ₆)	µg/m ³	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo (a) Pyrene	ng/m ³	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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- This is for information as the party has asked for above test(s) only.

 28/03/2023 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  28/03/23 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

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

Name & Address Of The Customer		REPORT NO	UES/TR/22-23/08849	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/017185	
		DATE OF SAMPLING	22/03/2023	
		DATE OF RECEIPT	23/03/2023	
		DATE OF REPORT	28/03/2023	
		DATE OF ANALYSIS	START:23/03/2023	END:28/03/2023
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ³	0.5	6.0	CPCB Guidelines (AAS Method)
2	Nickel (as Ni)	ng/m ³	1.2	20	CPCB Guidelines (AAS Method)
3	Lead (as Pb)	µg/m ³	0.06	1.0	IS 5182 (Part 22):2004
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m ³	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5
7	Ozone (O ₃)*	µg/m ³	9.2	180	CPCB Guidelines Vol-I
8	Ammonia (NH ₃)	µg/m ³	18.4	400	CPCB Guidelines Vol-I
9	Benzene (C ₆ H ₆)	µg/m ³	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo (a) Pyrene	ng/m ³	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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- This is for information as the party has asked for above test(s) only.

<p><i>(Signature)</i> 28/03/2023</p> <p>REVIEWED BY</p>		<p>For ULTIMATE ENVIROLYTICAL SOLUTIONS</p> <p><i>(Signature)</i> 28/03/23</p> <p>AUTHORIZED SIGNATORY</p>
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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/22-23/08850	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/AAQM/017186	
		DATE OF SAMPLING	23/03/2023	
		DATE OF RECEIPT	24/03/2023	
		DATE OF REPORT	28/03/2023	
		DATE OF ANALYSIS	START: 24/03/2023	END: 28/03/2023
SAMPLE DETAILS				
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 ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 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 ³	0.4	6.0	CPCB Guidelines (AAS Method)
2	Nickel (as Ni)	ng/m ³	1.1	20	CPCB Guidelines (AAS Method)
3	Lead (as Pb)	µg/m ³	0.03	1.0	IS 5182 (Part 22):2004
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m ³	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5
7	Ozone (O ₃) *	µg/m ³	8.6	180	CPCB Guidelines Vol-I
8	Ammonia (NH ₃)	µg/m ³	18.0	400	CPCB Guidelines Vol-I
9	Benzene (C ₆ H ₆)	µg/m ³	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo (a) Pyrene	ng/m ³	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

- 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.

<p><i>P. Chauhan</i> 28/03/2023</p> <p>REVIEWED BY</p>		<p>For ULTIMATE ENVIROLYTICAL SOLUTIONS</p> <p><i>R. Bell</i> 28/03/23</p> <p>AUTHORIZED SIGNATORY</p>
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-----End of the test report-----

Annexure-18



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 1986

<i>Name & Address of The Customer</i>		REPORT NO.	UES/TR/22-23/03908
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO.	UES/22-23/N/09558-09567
		DATE OF REPORT	02/11/2022
		DATE OF SAMPLING	17/10/2022 to 18/10/2022
		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)	53	53	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	59	58		
DG SET AREA BANKHETA	dB(A)	56	41		
DG SET AREA, BANJIKHOL	dB(A)	59	49		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	58	43		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	64	51		
OFFICE AREA, BANKHETA	dB(A)	60	45		
WEIGHBRIGE AREA, BANKHETA	dB(A)	66	49		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	50	44	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	52	41		

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.

 02/11/22 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

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

Name & Address of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO.	UES/TR/22-23/04734
	LAB REF NO.	UES/22-23/N/010889-010896
	DATE OF REPORT	02/12/2022
	DATE OF SAMPLING	26/11/2022 to 27/11/2022

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)	51	49	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	56	45		
DG SET AREA BANKHETA	dB(A)	55	47		
DG SET AREA, BANJIKHOL	dB(A)	58	49		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	56	44		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	60	50		
OFFICE AREA, BANKHETA	dB(A)	59	48		
WEIGHBRIGE AREA, BANKHETA	dB(A)	62	50		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	49	42	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	51	41		

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.

 02/12/2022 REVIEWED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY
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AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY

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 & Address of The Customer</i>		REPORT NO.	UES/TR/22-23/06112
TO,		LAB REF NO.	UES/22-23/N/012997-013006
HINDALCO INDUSTRIES LIMITED,		DATE OF REPORT	03/01/2023
GARE PALMA - IV/4, COAL MINE,		DATE OF SAMPLING	28/12/2022 to 30/12/2022
VILLAGE - BANKHETA,			
POST - MILUPARA,			
DISTT. - RAIGARH (C.G.) 496107			
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)	52	47	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	58	44		
DG SET AREA BANKHETA	dB(A)	54	45		
DG SET AREA, BANJIKHOL	dB(A)	60	51		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	57	46		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	59	49		
OFFICE AREA, BANKHETA	dB(A)	56	45		
WEIGHBRIGE AREA, BANKHETA	dB(A)	61	52		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	48	40	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	50	42		

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.

 03/01/2023 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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<i>Name & Address of The Customer</i>		REPORT NO.	UES/TR/22-23/06807
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO.	UES/22-23/N/014353-014362
		DATE OF REPORT	31/01/2023
		DATE OF SAMPLING	23/01/2023 to 25/01/2023
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	46	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	59	45		
DG SET AREA BANKHETA	dB(A)	55	43		
DG SET AREA, BANJIKHOL	dB(A)	61	52		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	58	48		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	60	50		
OFFICE AREA, BANKHETA	dB(A)	57	47		
WEIGHBRIGE AREA, BANKHETA	dB(A)	59	53		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	50	41	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	51	43		

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.

 31/01/23 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY
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-----End of the test report-----



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<i>Name & Address of The Customer</i>		REPORT NO.	UES/TR/22-23/08118
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO.	UES/22-23/N/016239-016248
		DATE OF REPORT	02/03/2023
		DATE OF SAMPLING	25/02/2023 to 27/02/2023
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	47	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	58	46		
DG SET AREA BANKHETA	dB(A)	56	45		
DG SET AREA, BANJIKHOL	dB(A)	60	50		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	57	49		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	62	51		
OFFICE AREA, BANKHETA	dB(A)	58	47		
WEIGHBRIGE AREA, BANKHETA	dB(A)	61	54		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	50	40	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	52	42		

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.

<p><i>Prabhakar</i> 02/03/2023</p> <p>REVIEWED BY</p>		<p>For ULTIMATE ENVIROLYTICAL SOLUTIONS</p> <p><i>Pandey</i></p> <p>AUTHORIZED SIGNATORY</p>
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-----End of the test report-----



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<i>Name & Address of The Customer</i>		REPORT NO.	UES/TR/22-23/08853
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO.	UES/22-23/N/017205-017212
		DATE OF REPORT	28/03/2023
		DATE OF SAMPLING	24/03/2023 to 28/03/2023
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)	53	44	75	70
DECO WORK SHOP BANJIKHOL	dB(A)	57	47		
DG SET AREA BANKHETA	dB(A)	54	44		
DG SET AREA, BANJIKHOL	dB(A)	61	51		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	58	47		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	60	50		
OFFICE AREA, BANKHETA	dB(A)	59	48		
WEIGHBRIGE AREA, BANKHETA	dB(A)	60	52		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	51	41	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	53	40		

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.

 28/03/2023 REVIEWED BY	 	For ULTIMATE ENVIROLYTICAL SOLUTIONS 28/03/23 AUTHORIZED SIGNATORY
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-----End of the test report-----

Annexure-19

ETP of capacity 50 m³/day at Bankheta–GP IV/4 Coal Mine



Effluent Treatment Plant – 50 KLD - Bankheta

Annexure-20



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/03903
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/09544
		DATE OF SAMPLING	17/10/2022
		DATE OF RECEIPT	19/10/2022
		DATE OF REPORT	02/11/2022
		DATE OF ANALYSIS	START:19/10/2022 END:28/10/2022
SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	ETP INLET & 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	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. 03903

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	10.5	<1.0
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.4	25.4
4	pH	-	APHA 23 rd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	7.02	7.56
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-Cl-G, 4 - 6	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	145.0	25.0
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	0.65	0.12
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.21	0.15
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	0.31	0.18
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.	N.D.



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Report No. 03903

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B, 5-17	250	92.0	38.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993, RA 2003	30	26.3	10.6
19	Oil & Grease	mg/L	IS 3025(Part 39):1991, RA 2003,	10	N.D.	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025(Part 43):1992, RA 2003	1.0	N.D.	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.

[Signature]
02/11/22

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

[Signature]

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



HDD-272, Phase III - Near JP Chowk
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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		REPORT NO		UES/TR/22-23/04739	
		LAB REF NO		UES/22-23/W/010904	
		DATE OF SAMPLING		26/11/2022	
		DATE OF RECEIPT		28/11/2022	
		DATE OF REPORT		02/12/2022	
		DATE OF ANALYSIS		START:28/11/2022	END:02/12/2022
SAMPLE DETAILS					
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE :		P.O.13552310211, DATED:07.09.2022	
CUSTOMER SAMPLE ID	ETP INLET & 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	

Report No.03903

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	10.3	<1.0
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.3	25.3
4	pH	-	APHA 23 rd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	6.99	7.45
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	151.0	26.3
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	0.71	0.14
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.22	0.16
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	0.34	0.20
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.	N.D.
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B, 3-69	2.0	N.D.	N.D.

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



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Report No. 03903

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B, 5-17	250	96.0	44.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993, RA 2003	30	27.4	11.5
19	Oil & Grease	mg/L	IS 3025(Part 39):1991, RA 2003,	10	N.D.	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025(Part 43):1992, RA 2003	1.0	N.D.	N.D.

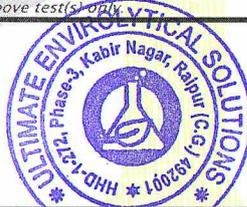
REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

Terms & conditions

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

Bella
02/12/2022

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

Panaj

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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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/06117
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/013011
		DATE OF SAMPLING	28/12/2022
		DATE OF RECEIPT	30/12/2022
		DATE OF REPORT	03/01/2023
		DATE OF ANALYSIS	START:30/12/2022 END:03/01/2023
		SAMPLE DETAILS	
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022
CUSTOMER SAMPLE ID	ETP INLET & OUTLET, BANKHETA	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN SEALED 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

Report No.06117

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	9.9	<1.0
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.0	25.0
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	6.96	7.43
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	150.0	28.4
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	0.74	0.18
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.24	0.19
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	0.37	0.26
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.	N.D.



HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
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Report No.06117

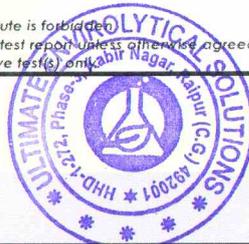
TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012, 3112-B, 3-23	0.01	N.D.	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012, 3114-C, 3-38	0.2	N.D.	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012, 3114-C, 3-38	0.05	N.D.	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012, 3500-Cr-B, 3-69	2.0	N.D.	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B, 5-17	250	92.0	46.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025(Part 44):1993,RA 2003	30	22.16	12.14
19	Oil & Grease	mg/L	IS 3025(Part 39):1991,RA 2003,	10	N.D.	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025(Part 43):1992,RA 2003	1.0	N.D.	N.D.

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

Terms & conditions

- The report for publication, arbitration or as legal dispute is for bidder.
- 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.


03/01/2023
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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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/22-23/06812		
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/014367		
		DATE OF SAMPLING	23/01/2023		
		DATE OF RECEIPT	25/01/2023		
		DATE OF REPORT	29/01/2023		
		DATE OF ANALYSIS	START:25/01/2023	END:29/01/2023	
		SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	P.O.13552310211, DATED:07.09.2022		
CUSTOMER SAMPLE ID	ETP INLET & 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	SEAAED	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.06812

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	9.0	<1.0
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	24.6	24.8
4	pH	-	APHA 23 rd Ed.2012,4500-H'-B,4-92	5.5 to 9.0	6.90	7.39
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G, 4 - 6	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	144.0	26.2
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C, 4-153	5.0	0.68	0.14
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.20	0.16
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	0.31	0.22
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.	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 1996

Report No.06812

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012,3112-B, 3-23	0.01	N.D.	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.2	N.D.	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012,3114-C, 3-38	0.05	N.D.	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012,3500-Cr-B,3-69	2.0	N.D.	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B,5-17	250	86.0	41.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993,RA 2003	30	22.08	12.04
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991,RA 2003,	10	N.D.	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43):1992,RA 2003	1.0	N.D.	N.D.

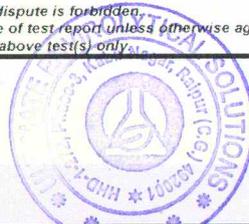
REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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.

Belh
29/01/23

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Panda

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/22-23/08123	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/22-23/W/016253	
		DATE OF SAMPLING	26/02/2023	
		DATE OF RECEIPT	27/02/2023	
		DATE OF REPORT	03/03/2023	
		DATE OF ANALYSIS	START : 27/02/2023	END : 03/03/2023
SAMPLE DETAILS				
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE :	P. O. 13552310211, DATED : 07.09.2022	
CUSTOMER SAMPLE ID	ETP INLET & 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	

Report No. 08123

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-1	9.7	<1.0
2	Odour	-	APHA 23 rd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-1	Agreeable	Agreeable
3	Temperature	°C	APHA 23 rd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.1	25.1
4	pH	-	APHA 23 rd Ed. 2012, 4500-H'-B, 4-92	5.5 to 9.0	6.91	7.39
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed. 2012, 4500-C1-G, 4 - 6	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed. 2012, 2540- D, 2-66	100	152.0	28.9
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed. 2012, 4500-P-C, 4-153	5.0	0.77	0.19
8	Fluoride (as F)	mg/L	APHA 23 rd Ed. 2012, 4500-F-B&D, 4-84 & 8	2.0	0.26	0.21
9	Lead (as Pb)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	0.1	N.D.	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	5.0	0.35	0.24
11	Copper (as Cu)	mg/L	APHA 23 rd Ed. 2012, 3111-B, 3-18	3.0	N.D.	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.	N.D.



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Report No. 08123

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012, 3112-B, 3-23	0.01	N.D.	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012, 3114-C, 3-38	0.2	N.D.	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012, 3114-C, 3-38	0.05	N.D.	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012, 3500-Cr-B, 3-69	2.0	N.D.	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B, 5-17	250	96.0	44.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	22.9	11.3
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10	N.D.	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.	N.D.

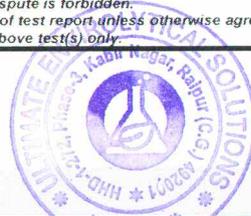
REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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.

Pohouhad
03/03/2023

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Panda

AUTHORIZED SIGNATORY

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



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

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<i>Name & Address Of The Customer</i>		<i>REPORT NO</i>	UES/TR/22-23/08858	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST MILUPARA, DISTT. - RAIGARH (C.G.) 496107		<i>LAB REF NO</i>	UES/22-23/W/017217	
		<i>DATE OF SAMPLING</i>	23/03/2023	
		<i>DATE OF RECEIPT</i>	24/03/2023	
		<i>DATE OF REPORT</i>	28/03/2023	
		<i>DATE OF ANALYSIS</i>	START : 24/03/2023	END : 28/03/2023
SAMPLE DETAILS				
<i>SAMPLE TYPE</i>	WASTE WATER		<i>ORDER /REFERENCE:</i>	P.O.13552310211, DATED:07.09.2022
<i>CUSTOMER SAMPLE ID</i>	ETP INLET & OUTLET, BANKHETA		<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. 08858

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
1	Colour	Hazen	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	10.0	<1.0
2	Odour	-	APHA 23 rd Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable	Agreeable
3	Temperature	°C	APHA 23 rd Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.3	25.2
4	pH	-	APHA 23 rd Ed.2012,4500-H ⁺ -B,4-92	5.5 to 9.0	6.87	7.32
5	Total Residual Chlorine	mg/L	APHA 23 rd Ed.2012,4500-C1-G,4-6	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/L	APHA 23 rd Ed.2012,2540- D, 2-66	100	149.0	32.2
7	Dissolved Phosphate (as P)	mg/L	APHA 23 rd Ed.2012,4500-P-C,4-153	5.0	0.75	0.21
8	Fluoride (as F)	mg/L	APHA 23 rd Ed.2012,4500-F-B&D,4-84 & 8	2.0	0.25	0.22
9	Lead (as Pb)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	0.1	N.D.	N.D.
10	Zinc (as Zn)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	5.0	0.33	0.25
11	Copper (as Cu)	mg/L	APHA 23 rd Ed.2012,3111-B, 3-18	3.0	N.D.	N.D.
12	Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2012,3500-Cd, 3-105	2.0	N.D.	N.D.



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Report No. 08858

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	BHANKETA ETP INLET	BANKHETA ETP OUTLET
13	Mercury (as Hg)	mg/L	APHA 23 rd Ed.2012, 3112-B, 3-23	0.01	N.D.	N.D.
14	Arsenic (as As)	mg/L	APHA 23 rd Ed.2012, 3114-C, 3-38	0.2	N.D.	N.D.
15	Selenium (as Se)	mg/L	APHA 23 rd Ed.2012, 3114-C, 3-38	0.05	N.D.	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2012, 3500-Cr-B, 3-69	2.0	N.D.	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 23 rd Ed.2012, 5520-B, 5-17	250	92.0	40.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44) :1993, RA 2003	30	21.4	10.7
19	Oil & Grease	mg/L	IS 3025 (Part 39) :1991, RA 2003,	10	N.D.	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43) :1992, RA 2003	1.0	N.D.	N.D.

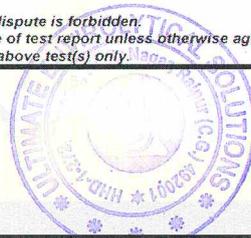
REMARKS: mg/lit.: milligram per liter, N.D.-Not Detected.

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.

P. Bhouhan
28/03/2023

REVIEWED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

R. Belle
28/03/23

AUTHORIZED SIGNATORY

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

Annexure-21

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Odisha

Date : 09/01/2023
Time : 14:15:54 PM
Validity upto : 08/01/2024



Certificate SL. No. : OR01600090002710
Registration No. : OD16F1035
Date of Registration : 23/Feb/2019
Month & Year of Manufacturing : September-2018
Valid Mobile Number : *****3050
Emission Norms : BHARAT STAGE IV
Fuel : DIESEL
C Code : OR0160009
GSTIN : 21APRPC0385A1ZH
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	1.62	0.89

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

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[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Odisha

Date : **09/01/2023**
Time : **14:03:31 PM**
Validity upto : **08/01/2024**



Certificate SL. No. : OR01600090002707
Registration No. : OD16F0241
Date of Registration : 04/Feb/2019
Month & Year of Manufacturing : October-2018
Valid Mobile Number : *****3050
Emission Norms : BHARAT STAGE IV
Fuel : DIESEL
JC Code : OR0160009
GSTIN : 21APRPC0385A1ZH
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	1.62	0.85

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

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[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Odisha

Date : **09/01/2023**
Time : **14:19:13 PM**
Validity upto : **08/01/2024**



Certificate SL. No. : OR01600090002712
Registration No. : OD16F1037
Date of Registration : 23/Feb/2019
Month & Year of Manufacturing : November-2018
Valid Mobile Number : *****3050
Emission Norms : BHARAT STAGE IV
Fuel : DIESEL
PUC Code : OR0160009
GSTIN : 21APRPC0385A1ZH
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	1.62	1.3

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

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Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

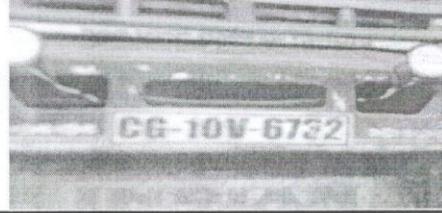
Authorised By :
Government of Odisha

Date : **05/12/2022**
Time : **09:10:11 AM**
Validity upto : **04/06/2023**



Certificate SL. No. : OR01500340000601
Registration No. : CG10V6732
Date of Registration : 04/Nov/2014
Month & Year of Manufacturing : August-2014
Valid Mobile Number : *****5585
Emission Norms : BHARAT STAGE III
Fuel : DIESEL
PUC Code : OR0150034
GSTIN : 21DEPPP3659C2ZE
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	2.45	1.24

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

2834
170123

[See rules 115 (2)]

Pollution Under Control CertificateAuthorised By :
Government of OdishaDate : 09/01/2023
Time : 13:57:29 PM
Validity upto : 08/01/2024Certificate SL. No. : OR01600090002706
Registration No. : OD16F0240
Date of Registration : 04/Feb/2019
Month & Year of Manufacturing : October-2018
Valid Mobile Number : *****3050
Emission Norms : BHARAT STAGE IV
Fuel : DIESEL
PUC Code : OR0160009
GSTIN : 21APRPC0385A1ZH
Fees : Rs.177.0
MIL observation : NoVehicle 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	1.39

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 mm2860
20/12/23
h

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

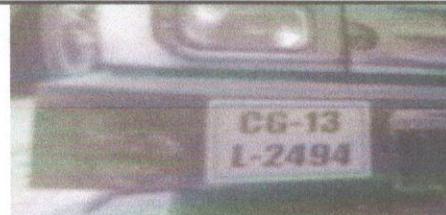
Authorised By :
Government of Chhattisgarh

Date : **10/02/2023**
Time : **19:40:38 PM**
Validity upto : **09/08/2023**



Certificate SL. No. : CG00700840000080
Registration No. : CG13L2494
Date of Registration : 12/Mar/2012
Month & Year of Manufacturing : February-2012
Valid Mobile Number : *****6812
Emission Norms : BHARAT STAGE III
Fuel : DIESEL
JC Code : CG0070084
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	2.45	1.31

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

28 77

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Odisha

Date : 15/12/2022
Time : 14:27:43 PM
Validity upto : 14/12/2023



Certificate SL. No. : OR01400350011456
Registration No. : OD16E9351
Date of Registration : 05/Jan/2019
Month & Year of Manufacturing : October-2018
Valid Mobile Number : *****2221
Emission Norms : BHARAT STAGE IV
Fuel : DIESEL
PUC Code : OR0140035
GSTIN : 21APMPB9392M1ZH
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	1.62	1.19

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

28/12/22

Annexure-22



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)

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

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.

---:OO:---

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.)



F. No. LB/99/7/2021-INST LAB-HO-CPCB-HO/ Pvt/ 4564 Dated: 28th 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) (Organo-chlorine 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 (NO₂), Sulphur Dioxide (SO₂), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter (PM₁₀), Ammonia, Carbon Monoxide, Chlorine, Fluoride, Lead, Ozone, and PM_{2.5}.
- 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-23

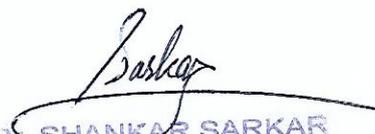
IME PME REPORT OF FROM JANUARY 2021 TO MARCH 2023

IME & PME REPORT FOR CY 2021							
Month	IME-IV/4 2021				PME IV/4 2021		
	DEPARTMENT	DEPARTMENT	GET/TRAINEE	CONTRACT	DEPARTMENT	DEPARTMENT	CONTRACT
	STAFF	ASSOCIATE		WORKMAN	ASSOCIATE	STAFF	WORKMAN
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
TOTAL	0	0	10	167	45	24	52

IME & PME REPORT FOR CY 2022							
Month	IME-IV/4 2022				PME IV/4 2022		
	DEPARTMENT	DEPARTMENT	GET/TRAINEE	CONTRACT	DEPARTMENT	DEPARTMENT	CONTRACT
	STAFF	ASSOCIATE		WORKMAN	ASSOCIATE	STAFF	WORKMAN
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
TOTAL	0	0	20	289	19	22	78

IME & PME REPORT FOR CY 2023 (UPTO MARCH)							
Month	IME-IV/4 2023				PME IV/4 2023		
	DEPARTMENT	DEPARTMENT	GET/TRAINEE	CONTRACT	DEPARTMENT	DEPARTMENT	CONTRACT
	STAFF	ASSOCIATE		WORKMAN	ASSOCIATE	STAFF	WORKMAN
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
TOTAL	3	0	5	47	26	51	0

SUB TOTAL	3	0	35	503	90	97	130
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DR. SHANKAR SARKAR
 Medical Officer
 Hindalco Industries Limited
 Gare-Palma Mines
 Milupara, Tamnar
 Dist. Raigarh (C.G.)

(IME)

DECO

FORM O

[See Rule 29 F(2) and 29 L]

Report of Medical Examination under Rule 29 B

:(To be issued in triplicate)

Pre-Employment

Certificate No: 6046144468/006/046/604666/MMCP/09032023150244/5952 Aadhaar Number: 376029191351

Certified that shri/~~Shrimati~~* Mr. BASANT GUPTA employed as EXCAVATOR OPRATOR, in HIL GP COAL MINES IV/4 Mine, Form B No : has been examined for an initial/~~periodical~~* medical examination. He/~~She~~ appears to be 21 years of age. The findings of the examining authority are given in the attached sheet. It is considered that Shri/~~Shrimati~~* Mr. BASANT GUPTA

***(a) is medically fit for any employment in mines**

***(b) is suffering from and is Medically unfit for**

- (i) Any employment in mine
- (ii) Any employment below ground; or
- (iii) Any employment or work

***(c) is suffering from and should get this disability* and should be again examined within a period of months. He/She will appear from re-examination with the result of test of ** and the opinion of specialist from . He/She* may be to carry on his/her* duties during this period.**

Blood Group: O⁺ve



Sp

Signature of the Examining Authority

Dr. (Mrs) Pratima Sarkar

Sr. Medical Officer

Registration No: MP8454

Medical Officer

IV/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)

Place: Garepalma Mines- IV /4

Date: 09-Mar-2023

* Delete whatever not applicable.

REPORT OF THE EXAMINING AUTHORITY

(To be filled for every medical examination whether initial or ~~periodical~~ or re-examination or after cure/control of disability)

Annexure to Certificate No. 5952 as a result of

Medical examination on 09/02/23

Identification of mark: BLACK MOLE ON LEFT WRIST

Left Thumb impression of candidate



1. General development: Good
2. Height: 155.00 Cms. 3. Weight: 52.00 Kgs.
4. Eyes: (i) Visual acuity - Distant vision Without glasses
Right eye: 6/6 Left eye: 6/6
(ii) any organic disease of eye: No
*(iii) night blindness: No
*(iv) colour blindness: No
*(v) Squint: No
(* to be tested in special cases)
5. Ears: (i) Hearing- Right ear: Normal Left ear: Normal
(ii) any organic disease: No
6. Respiratory system: Chest measurement: (i) after full inspiration 84.00 Cms.
(ii) after full expiration 79.00 Cms.
7. Circulatory system: Blood pressure: 130 / 70 (mmHg) Pulse 84 /Min
8. Abdomen : Tenderness: No Liver: Not Palpable
Spleen: Not Palpable Tumour: NO
9. Nervous system: History of fits or epilepsy: No
Paralysis: No
Mental health: Clinically NAD
10. Locomotors system: Clinically NAD
11. Skin: Normal
12. Hernia: Absent
13. Hydrocele: Absent
14. Any other abnormality: No
15. Urine : Reaction: Acidic
Albumin: Nil
Sugar: Nil
16. Skiagram of chest: Normal
17. Any other 'c' test considered necessary by examining authority: No
18. Any opinion of specialist considered necessary: No

Signature of the Examining Authority
Medical Officer
IV/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)

Medical Officer
IV/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)

Report of Medical Examination as per the recommendations of
National Safety Conferences in Mines
(To be used in continuation with Form O)

Certificate No. 6046144468/006/046/604666/MMCP/09032023150244 **15952**

Name: Mr. BASANT GUPTA

Identification of mark: BLACK MOLE ON LEFT WRIST

1. Cardiology Assessment

S1: PRESENT

S2: PRESENT

Additional Sound: No

Electrocardiograph (12 leads) findings: Normal Sinus Rhythm

2. Neurological Assessment

Superficial Reflexes : Clinically Normal

Deep Reflexes : Clinically Normal

Peripheral Circulation : Clinically Normal

Vibration Syndromes : Clinically Normal

3. ILO Classification Chest Radiograph

Profusion of Pneumoconiotic opacities	Grades	Types
Absent	X	X

Signature of the Examining Authority
Medical Officer
IV/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)

4. Audiometry Findings

Conduction Type	Left Ear	Right Ear
Air Conduction	Normal	Normal
Bone Conduction		

5. Pathological Microbiological Investigations

Test	Findings
1. Blood Tc, Dc, Hb, ESR, Platelets	WNL
2. Blood Sugar - Fasting & PP	WNL
3. Lipid Profile	WNL
4. Blood Urea, Creatinine	WNL
5. Urine Routine	WNL
6. Stool Routine	

6. Special Tests for Mn exposure

Behavioural Disturbances: Not Present

Neurological Disturbances

Special Defect: Not Present

Tremor: Not Present

Adia Docokinesia: Not Present

Emotional Changes: Not Present

Any Other Special Test Required : No

Signature of the Examining Authority

Dr. (Mrs) Pratima Sarkar

Sr. Medical Officer

Registration No: MP8454

Medical Officer

IV/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)

Place: Garepalma Mines- IV /4

Date: 09-Mar-2023

राज्य स्वास्थ्य विभाग
राज्य स्वास्थ्य विभाग
राज्य स्वास्थ्य विभाग

ID: 460641

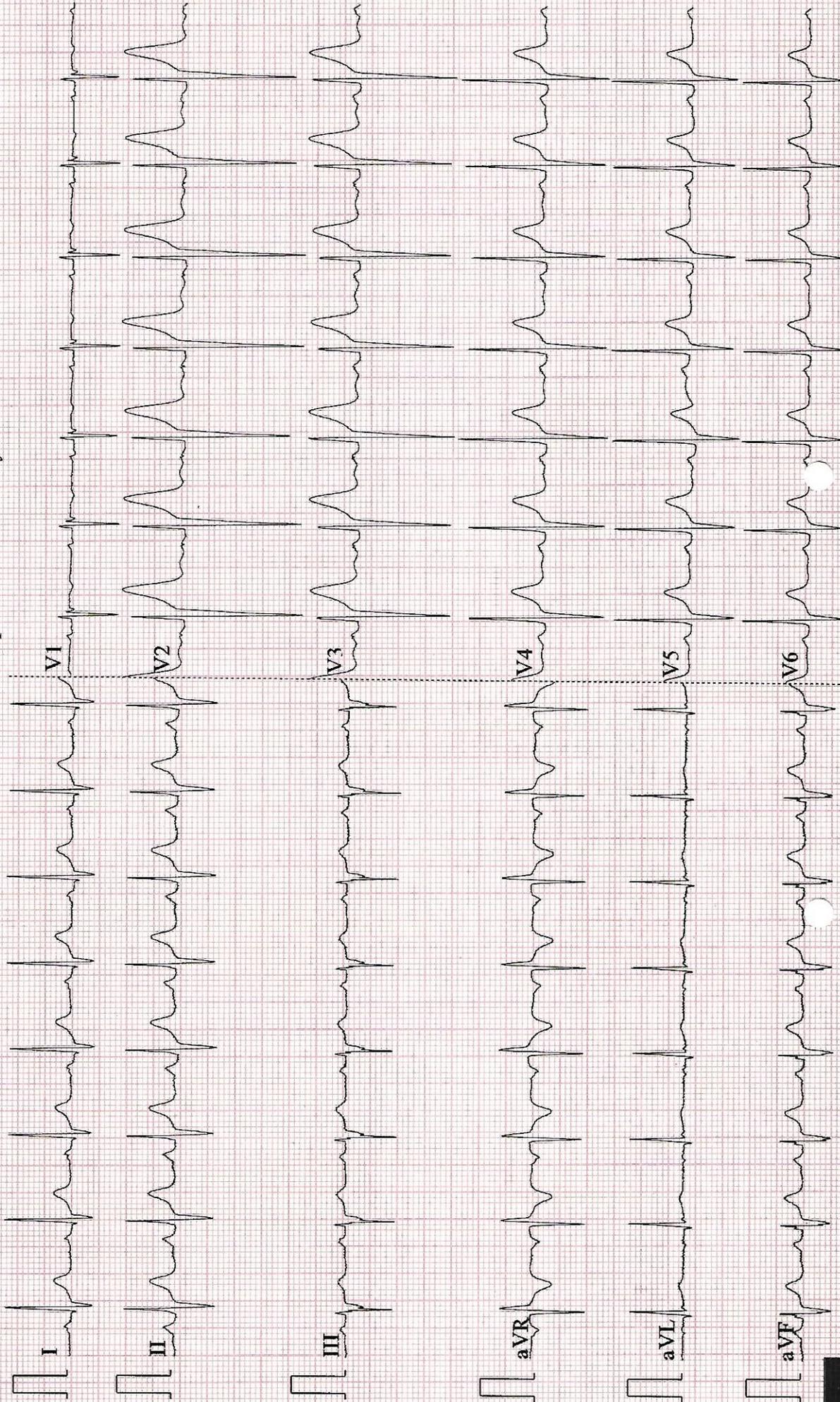
basant gupta
Male 21Years

09-03-2023 12:07:19
HR : 92 bpm
P : 90 ms
PR : 153 ms
QRS : 88 ms
QT/QTc : 315/390 ms
P/QRS/T : 63/-26/49 °
RV5/SV1 : 1.438/0.829 mV

Diagnosis Information:
Sinus Rhythm
Normal ECG

Dr. -

Report Confirmed by:



Audiometric Evaluation Report

Patient:

Basant Gupta
Male
21 Years 2 Months

Session Date : 09-03-2023 11:42:11

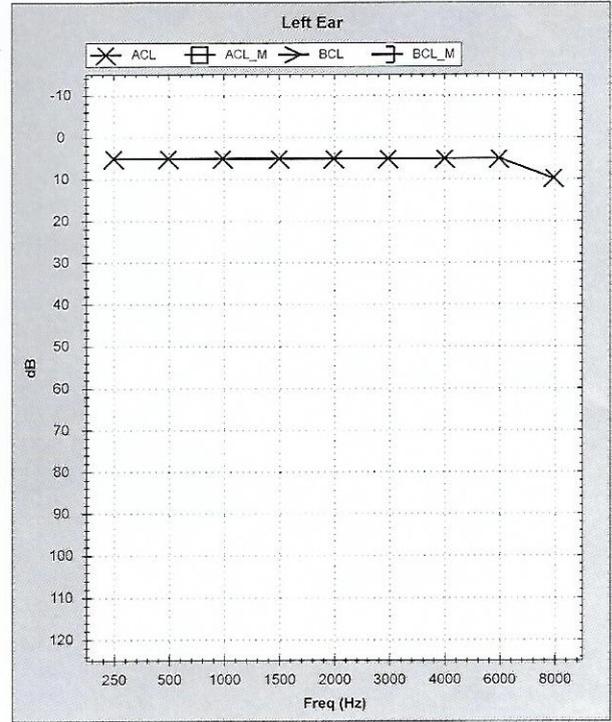
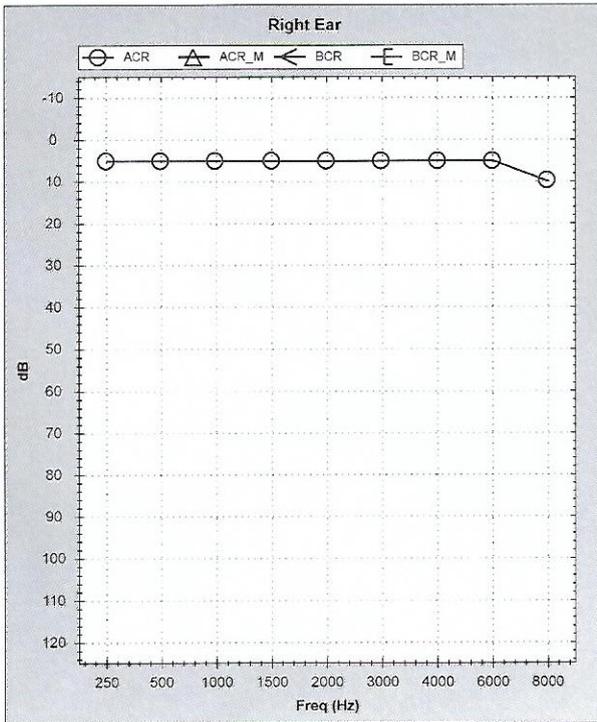
Audiometry conducted by:

Comments:

WNL



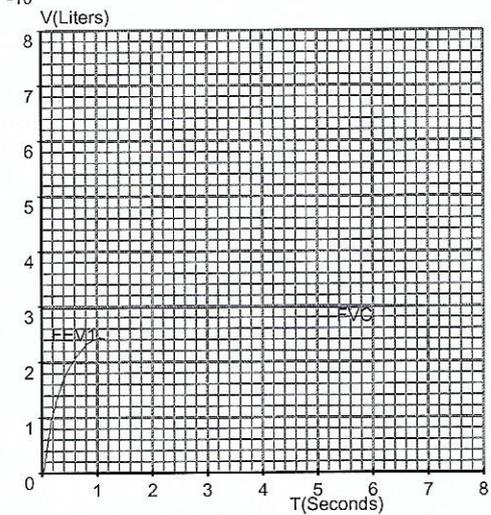
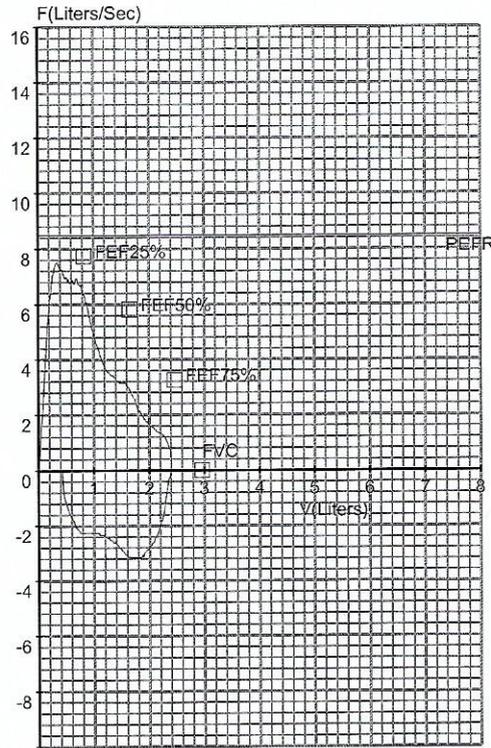
Authorized Signatory
Medical Officer
IV/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)



V460641 - BASANT GUPTA
21 Years / Male / Ht 155 Cms / 52 Kgs / Non-Smoker

FVC TEST
Date: 09-03-2023 (T3)

Pred Eqn : CLARITY Eth.Corr : 100 Temp : 0°C
Ref By : NONE



Parameter	Pred	Pre	Pre%	Post	Post%	Imp%
FVC	[L]	2.97	2.41	81	--	--
FEV1	[L]	2.63	2.40	91	--	--
FEV.5	[L]	--	1.97	--	--	--
FEV3	[L]	2.88	--	--	--	--
FEV6	[L]	--	--	--	--	--
PEFR	[L/s]	8.45	7.55	89	--	--
FEF25-75	[L/s]	4.51	4.30	95	--	--
FEF75-85	[L/s]	--	1.86	--	--	--
FEF.2-1.2	[L/s]	7.42	5.92	80	--	--
FEF25%	[L/s]	7.74	8.38	108	--	--
FEF50%	[L/s]	5.80	4.06	70	--	--
FEF75%	[L/s]	3.29	2.06	63	--	--
FEV.5/FVC	[%]	--	81.57	--	--	--
FEV1/FVC	[%]	88.64	99.35	112	--	--
FEV3/FVC	[%]	97.00	--	--	--	--
FEV6/FVC	[%]	--	--	--	--	--
FEV1/FEV6	[%]	--	--	--	--	--
FET	[S]	--	1.10	--	--	--
ExpiTime	[S]	--	0.07	--	--	--
LungAge	[Y]	21.00	23.00	110	--	--
FIVC	[L]	--	1.97	--	--	--
PIFR	[L/s]	--	3.18	--	--	--
FIF25%	[L/s]	--	7.52	--	--	--
FIF50%	[L/s]	--	6.12	--	--	--
FIF75%	[L/s]	--	3.82	--	--	--
FIV.5	[L]	--	0.28	--	--	--
FIV1	[L]	--	1.60	--	--	--
FIV3	[L]	--	--	--	--	--
FIV.5/FIVC	[%]	--	14.13	--	--	--
FIV1/FIVC	[%]	--	81.21	--	--	--

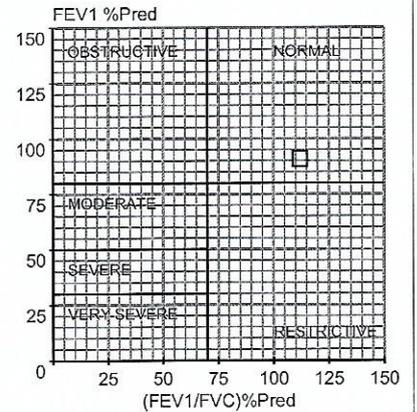
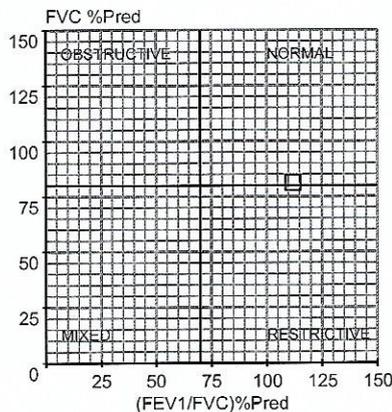
- Pre Medication Report :

Spirometry within Normal range as FVC% >= 80 And FEV1/FVC% > 70

- Pre COPD Severity Report:

COPD Severity within Normal range

- Doctor's Comments : NAD



EXAMINING AUTHORITY



Name	Age	Gender	Employee ID	Patient ID
Mr. BASANT GUPTA	21 Y, 2 M	Male		V460641

Date : 09-Mar-2023

Hematology

NAME OF TEST	RESULT	UNIT	NORMAL RANGE
Haemoglobin	14.0	gm%	F-11-16 M-12-17 C-13-18
Total W.B.C count	6700	per Cumm	4000-11000
Total R.B.C count	5.29	Million/Cumm	M-4.5-5.5 F-3.8-4.8
Total Platelet Count	2.11	Lakh/Cumm	1.5-3.5
DIFFERENTIAL COUNT			
Neutrophil	60	%	(55-65)
Lymphocytes	31	%	(30-40)
Eosinophils	06	%	(0-6)
Basophils	00	%	(0-1)
Monocytes	03	%	(2-8)
ESR	16	mm fall in 1st Hrs. mm fall in 2nd Hrs.	(0-5)
BLOOD GROUPING	O+		

A. Gupta

Mr. Ajay Gupta
Laboratory Technician

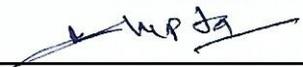


Name	Age	Gender	Employee ID	Patient ID
Mr. BASANT GUPTA	21 Y, 2 M	Male		V460641

Date : 09-Mar-2023

Biochemistry

DIABETIC PROFILE	RESULT	UNIT	NORMAL RANGE
FBS	104	mg/dl	60-110 mg/dl
PPBS/PGBS (1st Hr)	145	mg/dl	70-140 mg/dl
RENAL FUNCTION TEST	RESULT	UNIT	NORMAL RANGE
Serum Urea	26	mg/dl	14-50 mg/dl
Serum Creatinine	0.51	mg/dl	0.6-1.4 mg/dl
LIPID PROFILE	RESULT	UNIT	NORMAL RANGE
Total Cholesterol	184	mg/dl	150-200 mg/dl
Triglycerides	139	mg/dl	80-175 mg/dl
HDL Cholesterol	32	mg/dl	mg/dl
LDL Cholesterol	125	mg/dl	< 150 mg/dl
VLDL Cholesterol	27	mg/dl	< 35 mg/dl
Total Cholesterol:HDL Ratio	5.75		


Mr. Ajay Gupta
Laboratory Technician



Name	Age	Gender	Employee ID	Patient ID
Mr. BASANT GUPTA	21 Y, 2 M	Male		V460641

Date : 09-Mar-2023

Urine Examination

PHYSICAL

COLOUR	Straw Yellow
TRANSPARENCY	Clear
SEDIMENT	Clear
SP. GRAVITY	1
QUANTITY	10

CHEMICAL

REACTION	Acidic
ALBUMIN	Nil
SUGAR	Nil
PHOSPHATE	Nil
BILE SALT	Nil

BILE PIGMENT	Nil
KETONE BODIES	Nil

MICROSCOPICAL

EP. CELLS	1-2
PUS CELLS	1-2
R.B.C	Nil
CASTS	Nil
CRYSTALS	Nil
BACTERIALS	Nil
PARASITES	Nil
SPERMATOZOA	Nil
YEAST	Nil

Mr. Ajay Gupta
Laboratory Technician



OHC MILUPARA
ATPOST-MILUPARA, BLOCK-TAMNAR, DIST.-RAIGARH C.G., PIN-496107
hind-hkd.ohcgp@adityabirla.com | 9111003019

Name	Age	Gender	Patient ID
Mr. BASANT GUPTA	21 Years 2 Months	Male	V460641

Date : 09-Mar-2023

X Ray - Chest PA View

Description

Bony rib cage and soft tissue shadow appears normal
B/L Lung field & parenchyma appears normal.
Trachea visualized centrally.
B/L C.P. Angle appears clear.
C/T ratio is within normal limit.

IMPRESSION: No remarkable abnormality seen

Interpretation

Normal


Mr. Dilip Khamari
Radiology Technician

FORM O

[See Rule 29 F(2) and 29 L]

Report of Medical Examination under Rule 29 B

:(To be issued in triplicate)

Periodic Medical Check Up

Certificate No: 6046152451/006/046/604666/MMCP/20032023171120/23/158 Aadhaar Number: 622414910330

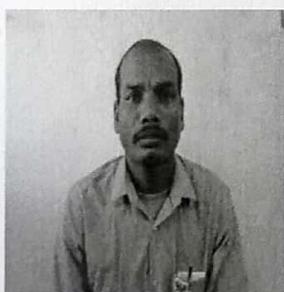
Certified that shri/Shrimati* Mr. SUBARAN BHAGAT employed as JUNIOR OFFICER, in HIL GP COAL MINES IV/4 Mine, Form B No : 25 has been examined for an ~~initial~~/periodical* medical examination. He/She appears to be 40 years of age. The findings of the examining authority are given in the attached sheet. It is considered that Shri/Shrimati* Mr. SUBARAN BHAGAT

***(a) is medically fit for any employment in mines**

***(b) is suffering from and is Medically unfit for**

- (i) Any employment in mine
- (ii) Any employment below ground; or
- (iii) Any employment or work

***(c) is suffering from and should get this disability* and should be again examined within a period of months. He/She will appear from re-examination with the result of test of ** and the opinion of specialist from . He/She* may be to carry on his/her* duties during this period.**



Signature of the Examining Authority

Dr. (Mrs) Pratima Sarkar

Sr. Medical Officer

Registration No: MP8454

Medical Officer

IV/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)

Place: Garepalma Mines- IV /4

Date: 20-Mar-2023

* Delete whatever not applicable.

** One copy of the certificate shall be handed over the person concerned and another copy shall be sent to Manager of the mine concerned by registered post; and the third copy shall be retained by the examining authority.

REPORT OF THE EXAMINING AUHTORITY

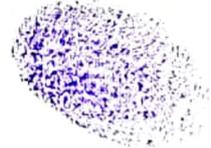
(To be filled for every medical examination whether initial or periodical or re-examination or after cure/control of disability)

Annexure to Certificate No. 23158 as a result of

Medical examination on 20-03-23

Identification of mark: BLACK MOLE ON NECK RIGHT SIDE

Left Thumb impression of candidate



1. General development: Good
2. Height: 170.00 Cms.
3. Weight: 63.00 Kgs.
4. Eyes: (i) Visual acuity - Distant vision Without glasses
Right eye: 6/6 Left eye: 6/6
(ii) any organic disease of eye: No
*(iii) night blindness: No
*(iv) colour blindness: No
*(v) Squint: No
(* to be tested in special cases)
5. Ears: (i) Hearing- Right ear: Normal Left ear: Normal
(ii) any organic disease: No
6. Respiratory system: Chest measurement: (i) after full inspiration 92.00 Cms.
(ii) after full expiration 86.00 Cms.
7. Circulatory system: Blood pressure: 130 / 84 (mmHg) Pulse 78 /Min
8. Abdomen : Tenderness: No Liver: Not Palpable
Spleen: Not Palpable Tumour: NO
9. Nervous system: History of fits or epilepsy: No
Paralysis: No
Mental health: Clinically NAD
10. Locomotors system: Clinically NAD
11. Skin: Normal
12. Hernia: Absent
13. Hydrocele: Absent
14. Any other abnormality: No
15. Urine : Reaction: Acidic
Albumin: Nil
Sugar: Nil
16. Skiagram of chest: Normal
17. Any other 'c' test considered necessary by examining authority: No
18. Any opinion of specialist considered necessary: No

Signature of the Examining Authority

Medical Officer
1/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)

Report of Medical Examination as per the recommendations of
National Safety Conferences in Mines
(To be used in continuation with Form O)

Certificate No. 6046152451/006/046/604666/MMCP/20032023171120/23/58

Name: Mr. SUBARAN BHAGAT

Identification of mark: BLACK MOLE ON NECK RIGHT SIDE

1. Cardiology Assessment

S1: PRESENT

S2: PRESENT

Additional Sound: No

Electrocardiograph (12 leads) findings: Normal Sinus Rhythm

2. Neurological Assessment

Superficial Reflexes : Clinically Normal

Deep Reflexes : Clinically Normal

Peripheral Circulation : Clinically Normal

Vibration Syndromes : Clinically Normal

3. ILO Classification Chest Radiograph

Profusion of Pneumoconiotic opacities	Grades	Types
Absent	x	x



Signature of the Examining Authority
Medical Officer
IV/5, Gare Palma, U/G. Coal Mine
Milupara, Raigarh (C.G.)

4. Audiometry Findings

Conduction Type	Left Ear	Right Ear
Air Conduction	Normal	Normal
Bone Conduction		

5. Pathological Microbiological Investigations

Test	Findings
1. Blood Tc, Dc, Hb, ESR, Platelets	WNL
2. Blood Sugar - Fasting & PP	WNL
3. Lipid Profile	WNL
4. Blood Urea, Creatinine	WNL
5. Urine Routine	WNL
6. Stool Routine	

6. Special Tests for Mn exposure

Behavioural Disturbances: Not Present

Neurological Disturbances

Special Defect: Not Present

Tremor: Not Present

Adia Docokinesia: Not Present

Emotional Changes: Not Present

Any Other Special Test Required : No

Place: Garepalma Mines- IV /4

Date: 20-Mar-2023

मिठुपारा राईगर (च.ग.)
कोयला खानेचे उद्योग
गरेपालमा खानेचे उद्योग

Signature of the Examining Authority
Dr. (Mrs) Pratima Sarkar
Sr. Medical Officer
Registration No: MP8454
Medical Officer
IV/5, Gare Palma, U/G. Coal Mine
Mitupara, Raigarh (C.G.)

ID: 29570700
subran kumar bhagat
Male 41Years

20-03-2023 11:29:20
HR : 72 bpm
P : 98 ms
PR : 150 ms
QRS : 94 ms
QT/QTc : 362/396 ms
P/QRS/T : 61/81/53 °
RV5/SV1 : 1.88/1.0.776 mV

Diagnosis Information:
Sinus Rhythm
Normal ECG

Report Confirmed by:



0.67-100Hz AC50 25mm/s 10mm/mV 2*5.0s 72 V2.2 SEMIP V1.81 HHC GP IV 5 MILUPARA



HINDALCO HEALTH CLINIC

HINDALCO INDUSTRIES LTD G.P MINES MILUPARA TAMNAR RAIGARH

Patient ID : 0031

Name : SUBRAN KUMAR BHAGAT

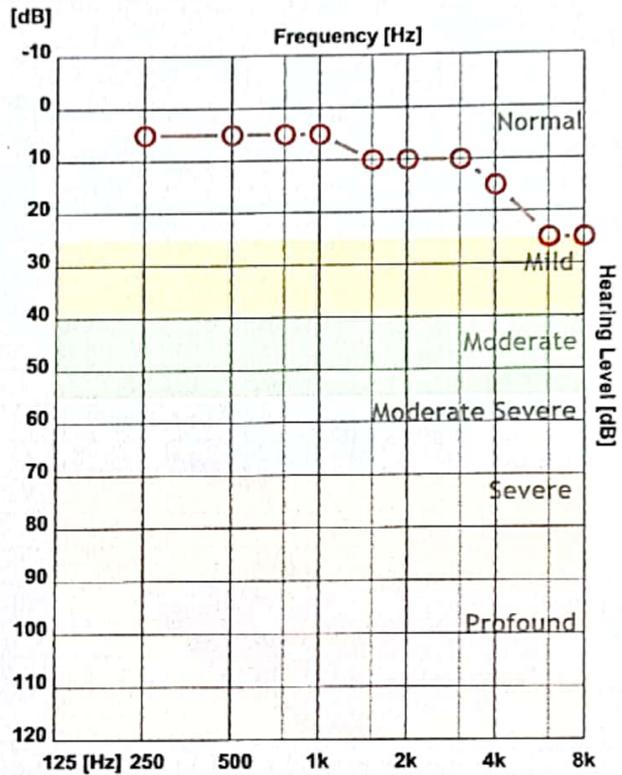
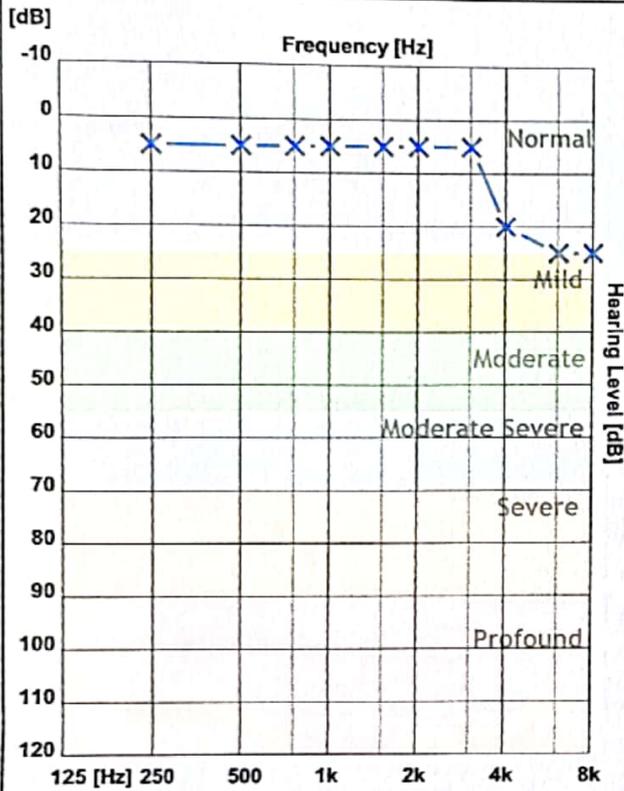
CR Number : 20230320102532

Registration Date : 20-Mar-2023

Age : 41

Gender : Male

Operator : HINDALCO HEALTH CLINIC



	125 Hz	250 Hz	500 Hz	750 Hz	1000 Hz	1500 Hz	2000 Hz	3000 Hz	4000 Hz	6000 Hz	8000 Hz
X - Air Left		5	5	5	5	5	5	5	20	25	25
O - Air Right		5	5	5	5	10	10	10	15	25	25
> - Bone Left											
< - Bone Right											

	Average	High	Mid	Low
AIR Left	N.A	18.75 dB	05.00 dB	N.A
AIR Right	N.A	18.75 dB	08.33 dB	N.A

Clinical Notes :

Not Found
 NAD

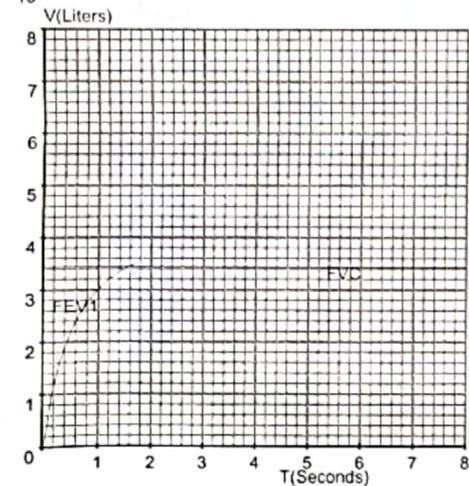
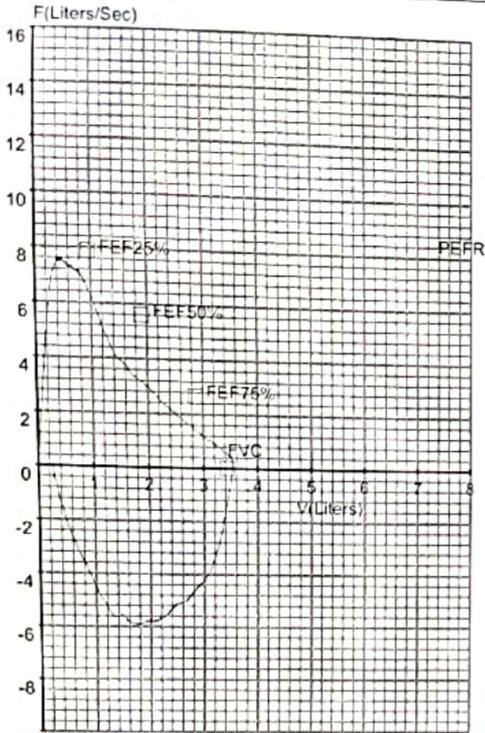
 Medical Officer

IV/5, Gare Palma, U/G- Goal Mine
 Milupara, Raigarh (C.G.)

29570700 - SUBRAN KUMAR BHAGAT
 41 Years / Male / Ht 170 Cms /63 Kgs / Non-Smoker

FVC TEST
 Date: 20-03-2023 (T2)

Pred Eqn : CLARITY Eth.Corr: 100 Temp : 0°C
 Ref By : NONE



Parameter	Pred	Pre	Pre%	Post	Post%	Imp%
FVC	[L] 3.44	3.52	102	--	--	--
FEV1	[L] 2.81	3.05	109	--	--	--
FEV.5	[L] --	2.27	--	--	--	--
FEV3	[L] 3.33	--	--	--	--	--
FEV6	[L] --	--	--	--	--	--
PEFR	[L/s] 8.82	7.61	86	--	--	--
FEF25-75	[L/s] 3.90	3.74	96	--	--	--
FEF75-85	[L/s] --	1.52	--	--	--	--
FEF.2-1.2	[L/s] 6.82	6.51	95	--	--	--
FEF25%	[L/s] 7.86	7.33	93	--	--	--
FEF50%	[L/s] 5.59	3.81	68	--	--	--
FEF75%	[L/s] 2.68	1.75	65	--	--	--
FEV.5/FVC	[%] --	64.41	--	--	--	--
FEV1/FVC	[%] 81.75	86.79	106	--	--	--
FEV3/FVC	[%] 97.00	--	--	--	--	--
FEV6/FVC	[%] --	--	--	--	--	--
FEV1/FEV6	[%] --	--	--	--	--	--
FET	[S] --	1.68	--	--	--	--
ExpTime	[S] --	0.08	--	--	--	--
LungAge	[Y] 41.00	37.00	90	--	--	--
FIVC	[L] --	3.27	--	--	--	--
PIFR	[L/s] --	5.95	--	--	--	--
FIF25%	[L/s] --	7.69	--	--	--	--
FIF50%	[L/s] --	4.10	--	--	--	--
FIF75%	[L/s] --	2.66	--	--	--	--
FIV.5	[L] --	2.01	--	--	--	--
FIV1	[L] --	3.25	--	--	--	--
FIV3	[L] --	--	--	--	--	--
FIV.5/FIVC	[%] --	61.47	--	--	--	--
FIV1/FIVC	[%] --	99.52	--	--	--	--

- Pre Medication Report :

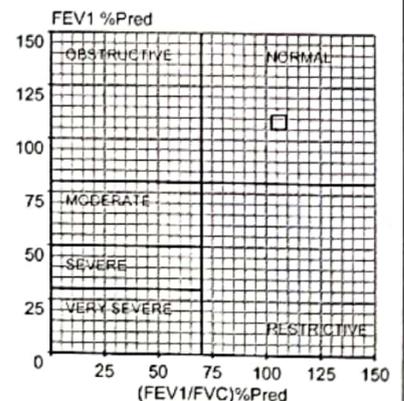
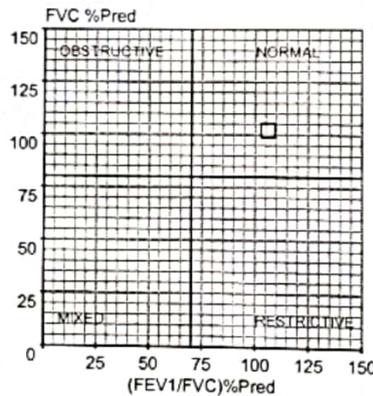
Spirometry within Normal range as FVC% >= 80 And FEV1/FVC% > 70

- Pre COPD Severity Report:

COPD Severity within Normal range

- Doctor's Comments :

NAD



Note: The results may be clinically correlated.

EXAMINING AUTHORITY
 Medical Officer

IV/5, Gare Palma, U/G. Coal Mine
 Milupara, Raigarh (C.G.)



OHC MILUPARA
ATPOST-MILUPARA, BLOCK-TAMNAR, DIST.-RAIGARH C.G., PIN-496107
hind-hkd.ohcgp@adityabirla.com | 9111003019

Name: Mr. SUBARAN BHAGAT
Age: 40 Y, 8 M Gender: Male Employee ID: 295707 Patient ID: 29570700

Date : 20-Mar-2023

NAME OF TEST	RESULT	UNIT	NORMAL RANGE
Haemoglobin	13.8	gm%	F-11-16 M-12-17 C-13-18
Total W.B.C count	5100	per Cumm	4000-11000
Total R.B.C count	5.83	Million/Cumm	M-4.5-5.5 F-3.8-4.8
Total Platelet Count	1.63	Lakh/Cumm	1.5-3.5
DIFFERENTIAL COUNT			
Neutrophil	67	%	(55-65)
Lymphocytes	26	%	(30-40)
Eosinophils	04	%	(0-6)
Basophils	00	%	(0-1)
Monocytes	03	%	(2-8)
ESR	15	mm fall in 1st Hrs. mm fall in 2nd Hrs.	(0-5)
BLOOD GROUPING	A+		

Mr. Ajay Gupta
Laboratory Technician



Name	Age	Gender	Employee ID	Patient ID
Mr. SUBARAN BHAGAT	40 Y, 8 M	Male	295707	29570700

Date : 20-Mar-2023

Biochemistry

DIABETIC PROFILE

	RESULT	UNIT	NORMAL RANGE
FBS	78	mg/dl	60-110 mg/dl
PPBS/PGBS (1st Hr)	106	mg/dl	70-140 mg/dl

RENAL FUNCTION TEST

	RESULT	UNIT	NORMAL RANGE
Serum Urea	18	mg/dl	14-50 mg/dl
Serum Creatinine	0.82	mg/dl	0.6-1.4 mg/dl

LIPID PROFILE

	RESULT	UNIT	NORMAL RANGE
Total Cholesterol	155	mg/dl	150-200 mg/dl
Triglycerides	128	mg/dl	80-175 mg/dl
HDL Cholesterol	29	mg/dl	mg/dl
LDL Cholesterol	101	mg/dl	< 150 mg/dl
VLDL Cholesterol	25	mg/dl	< 35 mg/dl
Total Cholesterol:HDL Ratio	5.34		

Mr. Ajay Gupta
Laboratory Technician



OHC MILUPARA
ATPOST-MILUPARA, BLOCK-TAMNAR, DIST.-RAIGARH C.G., PIN-496107
hind-hkd.ohcgp@adityabirla.com | 9111003019

Name	Age	Gender	Employee ID	Patient ID
Mr. SUBARAN BHAGAT	40 Y, 8 M	Male	295707	29570700

Date : 20-Mar-2023

Urine Examination

PHYSICAL

COLOUR	Straw Yellow
TRANSPARENCY	Clear
SEDIMENT	Clear
SP. GRAVITY	1
QUANTITY	10

CHEMICAL

REACTION	Acidic
ALBUMIN	Nil
SUGAR	Nil
PHOSPHATE	Nil
BILE SALT	Nil
BILE PIGMENT	Nil
KETONE BODIES	Nil

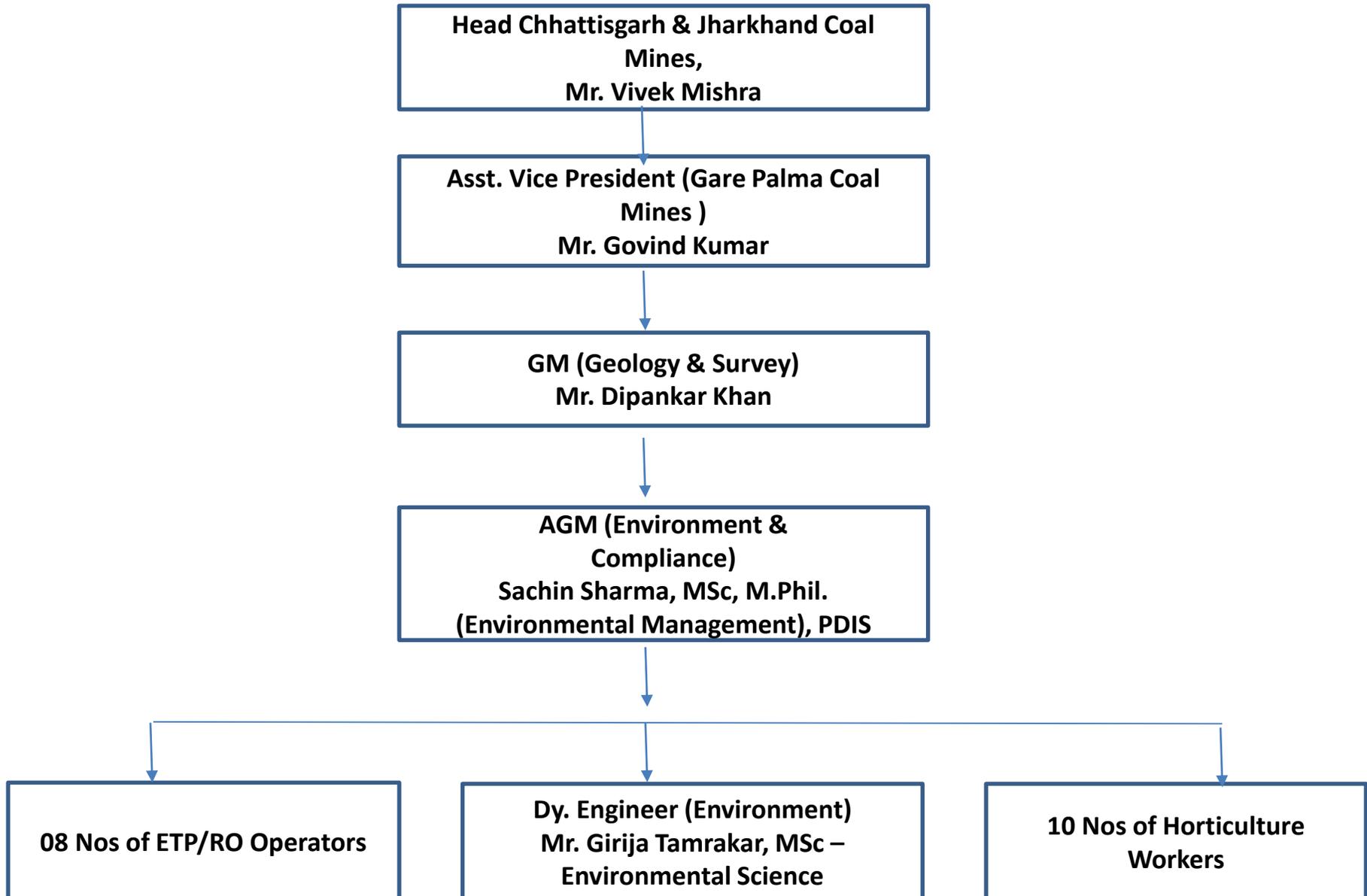
MICROSCOPICAL

EP. CELLS	2-4
PUS CELLS	1-2
R.B.C	Nil
CASTS	Nil
CRYSTALS	Nil
BACTERIALS	Nil
PARASITES	Nil
SPERMATOZOA	Nil
YEAST	Nil

Mr. Ajay Gupta
Laboratory Technician

Annexure-24

Organisation Chart of Environment Management Cell (GP IV/4 Coal Mines)



Annexure-25

Environmental Expenditure Details for FY 2022-23
(April 2022 to March 2023)

M/s Hindalco Industries Limited, Gare Palma Mines IV/4

Particulars	Amount (Lakh)
Water Quality Management	20.72
Air Quality Management	16.53
Plantation, Green Belt Development	13.47
Others	59.73
Total	110.45