

Letter No.: HIL/EC/GP- IV/5/II/2021-22 / 121
$20^{\text {th }}$ May, 2022

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

## Subject: Half Yearly EC Compliance Report for 1 MTPA Under Ground Captive Coal Mine, Gare Palma IV/5 Coal Mines of Hindalco Industries Limited, Village - Milupara, Tehsil - Tamnar, District - Raigarh, Chhattisgarh.

## Respected Sir,

This has reference to the Environment Clearance Letter no. - J-11015/8/1998-IA -II. (M) dated 16.04.2015 (Transferred in favour of HIL). We are submitting herewith the Half Yearly EC Compliance Report along with Environmental Monitoring Report (Hard \& Soft) for the period from October 2021 to March 2022 for your kind perusal please.

The receipt of the report may kindly be acknowledged.

Yours faithfully,
For Hindalco Industries Limited,


Govind Kumar
(Mine Agent- GP IV/5 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

Compliance Report on conditions of Environment Clearance for Gare-Palma IV/5 coal mining project Transfer by Ministry of Environment, Forests \& Climate Change vide letter no. J-11015/ 8/1998-IA. II (M) Dated: - $\mathbf{1 6}^{\text {th }}$ April 2015 for Under Ground Mining 1.0 Million Ton/Annum Production Capacity.

| Sr. <br> No. | Conditions | Status |
| :---: | :--- | :--- |
| 1 | Any change in scope of work will attract the <br> provisions of Environment Protection Act (EPA), <br> 1986 and Environment Impact Assessment <br> Notification, 2006 in conjunction with the <br> subsequent amendments/circulars. | Noted. |
| 2 | All conditions stipulated in the EC letter No.J- <br> 11015/8/1998-IA.II (M) dated 31 ${ }^{\text {st }}$ August, 2000 <br> shall remain unchanged. | Noted. |
| 3 | The successful bidder shall be liable, if any, for any <br> act of violation of the EPA 1986/EIA Notification <br> 2006/subsequent amendments and circulars which <br> it has inherited during the transfer. | Noted. |
| 4 | Successful bidder shall be liable for compliance of all <br> court directions, if any. | Noted. |

Compliance Report on conditions of Environment Clearance for Gare-Palma IV/5 coal mining project given by Ministry of Environment, Forests \& Climate Change vide letter no. J-11015/ 8/1998-IA. II (M) Dated: - 31 ${ }^{\text {st }}$ August 2000 for Under Ground Mining 1.0 Million Ton/Annum Production Capacity

| Sr. No. | Conditions | Status |
| :---: | :---: | :---: |
| A. Specific Conditions |  |  |
| i | Regular Monitoring of subsidence movement on the surface over working areas and impact on water bodies/ vegetation/ structures/ surroundings should be continued till movement ceases completely. In case of observation of any high rates of subsidence movement, appropriate measures should be taken to avoid loss of life and materials. Cracks should be effectively plugged with ballast and clayey soil/ suitable material. | The method of mining at Gare Palma IV/5 coal mine 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. During the observation no subsidence movement has been observed. In future, if any subsidence movement is found, 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 if observed. <br> The subsidence study was already carried out for working panel by CSIR - Central Institute of Mining \& Fuel Research Dhanbad in May 2019 for GP IV/5 Coal mines. |
| :---: | :---: | :---: |
| ii | Adequate underground barrier should be left in consultation with the Director General of Mines \& Safety (DGMS). Depillaring should also be carried out after taking approval from DGMS. | Adequate underground barrier as required are being maintained between the working face and the river in consultation with DGMS and also at other places whenever required. Depillaring operation was not carried out during last six months. |
| iii | Garland drains should be constructed around the waste rock and ore stockpiles to prevent surface run-off. | Garland drain have been constructed around the coal stock yard to prevent the surface run-off. |
| iv | A Green Belt of adequate width should be raised by planting the local species along the mine boundary, Waste rock dumps, ore stockpile, ventilation fan road and selected open areas in consultation with local DFO/ Agriculture Department. Density of tree should be at least 2500 plants per ha. | Plantation in mines area is being done. At present 49604 nos. of trees have been planted within the Mine boundary and other places. Trees species planted are Neem, Mahua,Jamun, Mango, Guava, Imli,. Drumstick, Teak, Shivan / Ghamar, Sisham, Sirus, Bamboo, Peltafarm, Nilgiri, Amla, Saptaparni,Kathal,kassod tree, Arjuna \& Kachnar etc. in consultation with DFO. Plantation has been carried out @ 2500 per hectare and will also be ensure in future. Plantation details enclosed as Annexure -1. |
| v | Compensation to the 14 land losers from whom private land will be acquired should be paid as per the state government norms. | Compensation to the 14 land losers has been paid by the company. |
| vi | The project authority should conduct a subsidence estimation study and submit the report to the Ministry within six months. | Subsidence estimation study report has been submitted to the Ministry by Prior allottee. |
| vii | The project proponent will construct "Check dams "at the sites proposed by the State Ground water Department in their report. While undertaking the proposed | As per requirement the check dam site will be constructed in consultation with state forest department and Ground water |


|  | mining, the construction of the check dams should be carried out in with Ground water survey department, Government of MP (presently Chhattisgarh) and should have necessary financial provision and technical expertise. This should be communicated to the MoEF and CGWB. | survey department, Government of Chhattisgarh and will be communicated to MOEF\& CC and CGWA. |
| :---: | :---: | :---: |
| viii | Regular monitoring of the Ground water level and quality should be carried out by establishing a network of existing wells and constructing new Piezometer during the mining operations. The interval of monitoring should be four times a year- Pre monsoon (April to May), Monsoon (August), Post Monsoon (November) and winter (January). The data thus collected may be sent regularly to MoEF and CGWB for information. | Being Complied. Regular $\begin{aligned} & \text { monitoring }\end{aligned}$ 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 2021 to March 2022) and quality Monitoring report of Postmonsoon (November 2021) and winter (January 2022) is attached as Annexure No.-2. <br> Quarterly monitoring report of Ground Water Level (from October 2021 to December 2021) and (from January 2022 to March 2022) \& GW Quality Monitoring for the month of Post- monsoon (November 2021) and winter (January 2022) has been submitted to MoEF \& CC, CPCB and CECB on quarterly within one month of monitoring basis. Attached as Annexure No. - 3. |
| ix | Digital processing of the entire lease using remote sensing technique should be regularly once in three years for monitoring land use pattern and report submitted to MoEF and its regional officer. | Report on Assessment of Land Use / Land Cover using High Resolution Satellite Imagery for the GP Mine IV/5 Coal Mine was carried out by IndiGEO Consultants, Bangalore in the month of December 2019 and the report was submitted to your office dated 27 May 2020. |
| x | A detailed mine decommissioning plan should be submitted to the MoEF, five years in advance for approval. | Detailed mine decommissioning plan will be submitted to the Ministry of Environment and forests, five years in advance for approval as applicable. |
| B. General Conditions |  |  |


| i | $\begin{array}{l}\text { No change in mining technology and scope } \\ \text { of working should be made without prior } \\ \text { approval of the MoEF. }\end{array}$ | Noted and being complied. |
| :---: | :--- | :--- |
| ii | $\begin{array}{l}\text { No change in the calendar plan including } \\ \text { excavation quantum of mineral coal and } \\ \text { waste should be made. }\end{array}$ | Noted. |
| iii | $\begin{array}{l}\text { Four ambient air quality stations should be } \\ \text { established in the core zone as well as the } \\ \text { buffer zone for RPM, SPM, SO2, NOx \& CO } \\ \text { Monitoring. Location of stations should be } \\ \text { decided based on the meteorology data, }\end{array}$ | $\begin{array}{l}\text { Four ambient air quality } \\ \text { monitoring stations (Core Zone) \& } \\ \text { tombient air quality } \\ \text { topographical features and environmental } \\ \text { and ecologically sensitive targets in } \\ \text { consultation with the State Pollution } \\ \text { have been established and regular } \\ \text { Control Board. }\end{array}$ |
| $\begin{array}{ll}\text { monitoring is being carried out. } \\ \text { Reports are being periodically } \\ \text { furnished to CECB. }\end{array}$ |  |  |
| iv | $\begin{array}{l}\text { Copy of AAQ Monitoring Report }\end{array}$ |  |
| from the period October 2021 to |  |  |$\}$

\(\left.$$
\begin{array}{|l|l|l|}\hline & \begin{array}{l}\text { properly collected and treated so as to } \\
\text { conform on the standards prescribed } \\
\text { under GSR 422 dated 19.05.1993 and } \\
31.12 .1993 \text { or as amended from time to } \\
\text { time. Oil and grease trap should be } \\
\text { installed before discharge of workshop } \\
\text { effluents in to the pond. }\end{array} & \begin{array}{l}\text { (Capacity } 200 \mathrm{m3} / \mathrm{Hr} \text { Each) along } \\
\text { with Lamella clarifier with chemical } \\
\text { dosing arrangement for the } \\
\text { treatment of mine seepage water, } \\
\text { the treated water is being used for } \\
\text { spraying / sprinkling on mines } \\
\text { roads and also for greenbelt } \\
\text { development inside the mine }\end{array}
$$ <br>
premises \& remaining treated <br>
water from ETP is being distributed <br>
to the nearby villagers for irrigation <br>
\& agriculture purpose (other than <br>
drinking). <br>

Copy of Analysis Report (ETP Inlet\end{array}\right\}\)| \& Outlet) for the period from |
| :--- |
| October 2021 to March 2022 is |
| attached as Annexure-6 |
| Photographs of Treatment Facility |
| at |


|  | equipment in consultation with the State Pollution Control Board | Raipur to carried out the mine environmental parameters monitoring. <br> Approval letter of Monitoring Agency from CECB Raipur, MoEF\&CC \& NABL accredited Laboratory certificate is attached as Annexure No. - 7 |
| :---: | :---: | :---: |
| xi | Personnel working in dust area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance of the workers should be undertaken periodically to observe any contractions due to exposure to coal dust and take corrective measures if needed. | Personnel working in dusty areas are wearing protective respiratory devices and they have also been provided with adequate training and information on safety and health aspect. Occupational health surveillance program of the workers is being undertaken periodically to observe any contraction due to exposure to coal dust and corrective measures will been taken accordingly. |
| xii | A separate environmental management cell with suitable qualified personnel should be set up under the control of a senior executive who will report directly to the Head of the Organization. | A separate Environmental Management Department is functioning at Coal Mine under the direct control of a senior executive. |
| xiii | The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to Ministry. | The funds earmarked for environmental protection measures has been budgeted separately and not been diverted for other purposes. Environmental Expenditure details from October 2021 to March 2022 is enclosed as Annexure - 8 |
| xiv | The Regional Officer of the ministry located at Bhopal (currently Raipur) shall monitor compliance of the stipulated conditions. The project authorities should extent full co-operation to the officer (s) of the Regional Officer by furnishing requisite data information / monitoring reports | Agreed and cooperation will be extended on time to time. |
| xv | A copy of the clearance letter will be marked to concerned Panchayat/ local NGO if any from whom suggestion / representation has been received while processing the proposal | Complied by Prior Allottee. |


| xvi | State Pollution Control Board should <br> display a copy of the clearance letter at the <br> Regional Office, District Industry Centre <br> and Collector's Office/ Tehsildar's office for <br> 30 days | Complied by Prior Allottee. |
| :---: | :--- | :--- |
| xvii | The project authorities should advertise at <br> least two local newspapers widely <br> circulated around the project one of which <br> shall be in vernacular language of the <br> locality concerned informing that the <br> project has been accorded environmental <br> clearance and the copy of the clearance <br> letter is available with the State Pollution <br> Control Board and may also be seen at web <br> site of the MoEF at http:/envfor.nic.in | Complied by Prior Allottee. |

Annexure-1

Hindalco Industries Limited Green Belt Development Status

| Year wise plantation detail of Gare Palma IV/5 Coal Mine |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Location | No. of Tree Planted (Approx.) | Survival Rate (\%) | Number of Plant Survived | Area Covered in <br> Plantation (hectare) | Sapling Details |
| Upto 2015 | Coal mine lease area | 30000 | 82.00 | 24600 | 9.84 | Neem, Mahua, , Jamun, Mango, Guava, Imli, Drumstick, Teak, Shivan / Ghamar, Sisham, Sirus, Bamboo, Peltafarm, Nilgiri, Amla, Saptaparni,Kathal,kassod tree, Arjuna \& Kachnar etc |
| 2016 |  | 2000 | 85.00 | 1700 | 0.68 |  |
| 2017 |  | 5000 | 80.00 | 4000 | 1.60 |  |
| 2018 |  | 5000 | 85.00 | 4250 | 1.70 |  |
| 2019 |  | 5000 | 90.00 | 4500 | 1.80 |  |
| 2020 |  | 1100 | 100.00 | 1100 | 0.44 |  |
| 2021 |  | 1504 | 98.00 | 1474 | 0.59 |  |
| Total |  | 49604 | 83.91 | 41624 | 16.6 |  |
| : Gap filling of | is a continous | process |  |  |  |  |

Green Belt Development Photographs




Annexure-2

Ground Water Level Monitoring Report in and around the Coal Mine Area
(From Oct 2021 to Dec 2021)

| Sr. | Location | Types of <br> No. |  |  | In Meters |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Ground <br> Water level <br> (BGL) Oct <br> $\mathbf{2 0 2 1}$ | Ground <br> Water level <br> (BGL) Nov <br> $\mathbf{2 0 2 1}$ | Ground <br> Water level <br> (BGL) Dec <br> $\mathbf{2 0 2 1}$ |  |
| 1 | Bankheta (Near HIL Office) | Borewell/ <br> AWLR | 7.10 | 9.82 | 10.65 |  |
| 2 | Banjikhol (Near Office) | Borewell/ <br> AWLR | 24.33 | 24.29 | 24.35 |  |
| 3 | Milupara (Near Office) | Borewell/ <br> AWLR | 9.12 | 9.70 | 10.42 |  |
| 4 | HIL Staff Quarter | Borewell/ <br> AWLR | 4.40 | 4.72 | 5.65 |  |
| 5 | Milupara Village (PHC-HIL) | Dugwell | 1.66 | 2.70 | 2.74 |  |
| 6 | Sakta Village (Near Primary |  |  |  |  |  |
| 7 | Sugwell | 2.30 | 2.70 | 2.97 |  |  |
| 8 | Sidarpara Village (Near Primary |  |  |  |  |  |
| School) | Dugwell | 7.13 | 7.90 | 8.50 |  |  |
| Beljor Village | Dugwell | 5.16 | 5.80 | 5.70 |  |  |

## HDD-272, Phase III - Near JP Chowk

Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph:0771-4027777 I Email : ultimatenviro@gmail.com

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

| Name \& Address of The Customer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107. |  |  |  |  | REPORT NO | UES/TR/21-22/04189 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | LAB ref No | UES/21-22/W/07511 |  |  |
|  |  |  |  |  | DATE OF SAMPLING | 23/11/2021 |  |  |
|  |  |  |  |  | DATE OF RECEIPT | 24/11/2021 |  |  |
|  |  |  |  |  | DATE OF REPORT | 01/12/2021 |  |  |
|  |  |  |  |  | date of analysis | START:24/11/ | 021 END:27/11/ | 2021 |
| SAMPLE DETAILS |  |  |  |  |  |  |  |  |
| SAMPLE TYPE |  | GROUNDWATER |  |  | ORDER /REFERENCE: | N/PO/SRV/2122/0045, DTD. 24-JULY-2021 |  |  |
| CUSTM | R SAMPLE ID | BANKHETA <br> MINE (PIEZOMETER) AWLR |  |  | SAMPLE CONDITION AT RECEIPT | OK |  |  |
| PACKI | vg of Sample | $\left.\begin{array}{llll} 3 & I & X & 1 \end{array}\right) \text { No. PVC CAN }$ |  | smaikd | SAMPle Collected by | CHEMIST |  |  |
| SAMPI | Ing procedure | IS: 3025 (PART I) : 1987 RA 2003; APHA 22ND ED. 2012, $1060-B, 1-39$ |  |  | QUANTITY RECEIVED | 5 LTR |  |  |
| Report No. 04189 |  |  |  |  |  |  |  |  |
| 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 |  | - | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{H}^{+}-\mathrm{B} \text {, } \\ & 4-92 \end{aligned}$ |  | 6.5-8.5 | $\underset{\mathrm{n}}{\mathrm{NoRelaxatio}}$ | 7.93 |
| 5 | Turbidity |  | NTU | APHA 22 ${ }^{\text {nd }}$ Ed. $2012,2130-B, 2-13$ |  | 1 | 5 | 1.12 |
| 6 | Electrical Conductivity |  | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 |  | - | - | 162.0 |
| 7 | Residual Chlorine |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ |  | 0.2 | 1 | N.D. |
| 8 | Total Solid |  | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,2540-B, 2-$ 64 |  | - | - | 100.2 |
| 9 | Total Dissolved Solids |  | $\mathrm{mg} / \mathrm{Lit}$ | IS 3025(part-16):1984, RA 2006 |  | 500 | 2000 | 98.2 |
| 10 | Total Suspended Solids |  | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed.2012,2540- D, 266 |  | - | - | 2.0 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) |  | mg/Lit | IS 3025(part-23):1986, RA 2003 |  | 200 | 600 | 34.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) |  | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,2340-C, 244,45 |  | 200 | 600 | 48.0 |
| 13 | $\begin{aligned} & \text { Calcium Hardness (as } \\ & \mathrm{CaCO}_{3} \text { ) } \end{aligned}$ |  | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Ca-B, } \\ & 3-67 \end{aligned}$ |  | - | - | 26.0 |
| 14 | Magnesium Hardness$\left(\mathrm{as}_{\mathrm{CaCO}}^{3}\right. \text { ) }$ |  | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Mg-B, } \\ & 3-84 \end{aligned}$ |  | - | - | 22.0 |
| 15 | Calcium (as Ca) |  | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Ca-B, } \\ & 3-67 \end{aligned}$ |  | 75 | 200 | 10.4 |
| 16 | Magnesium (as Mg) |  | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \end{aligned}$ |  | 30 | 100 | 5.34 |
| 17 | Chloride (as Cl) |  | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,4500-Cl-B, 4-72 |  | 250 | 1000 | 15.9 |
| 18 | Sulphate ( ${\mathrm{as} \mathrm{SO}_{4} \text { ) }}^{\text {a }}$ |  | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed. $2012,4500-\mathrm{SO}_{4}-\mathrm{E}$, 4-190 |  | 200 | 400 | 11.4 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) |  | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{NO}_{3}-\text { B, } \end{aligned}$ |  | 45 | NoRelaxatio n | 0.21 |
| 20 | Phosphate (as P) |  | mg/Lit | APHA 22nd Ed.2012,4500-P-C, 4-153 |  | - | - | N.D. |

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | Acceptable Limit | Permissible limit |  |
| 21 | Sodium (as Na) | mg/Lit | APHA 22nd Ed.2012,3500-Na-B, 3-97 | - | - | 16.4 |
| 22 | Potassium (as K) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,3500-K-B, 3-$ 87 | - | - | 1.18 |
| 23 | Boron (as B) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-B-B, 4- \\ & 25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,3111-B,3-18 | 0.3 | NoRelaxatio <br> n | N.D. |
| 25 | Fluoride (as F) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,4500-F-B$ \&D, 4-84 \& 87 | 1 | 1.5 | 0.10 |
| 26 | Manganese (as Mn) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. 2012,3111-B, 3-18 | 0.1 | 0.3 | N.D. |
| 27 | Lead (as Pb) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.01 | NoRelaxatio <br> n | N.D. |
| 28 | Nickel (as Ni) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ni}, 3- \\ & 108 \end{aligned}$ | 0.02 | No Relaxation | N.D. |
| 29 | Zinc (as Zn ) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. 2012,3111-B, 3-18 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3- \\ & 105 \end{aligned}$ | 0.003 | NoRelaxatio n | N.D. |
| 32 | Mercury (as Hg) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed.2012,3112-B, 3-23 | 0.001 | NoRelaxatio <br> n | N.D. |
| 33 | Arsenic (as As) | mg/Lit | APHA 22 ${ }^{\text {nd }}$ Ed. 2012,3114-C, 3-38 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. $2012,3114-C, 3-38$ | 0.01 | NoRelaxatio n | N.D. |
| 35 | Chromium (as Cr ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B} \text {, } \\ & 3-69 \end{aligned}$ | 0.05 | NoRelaxatio <br> n | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. $2012,5540-C, 5-53$ | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound (as $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,5540-\text { B \& C, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} /$ Lit | APHA 22 ${ }^{\text {nd }}$ Ed. 2012,6440-6-93 | 0.0001 | NoRelaxatio n | N.D. |
| 39 | Mineral Oil | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | No Relaxation | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be any 100 | detectable in ll sample | Absent |
| 2 | Faecal Coliform | MPN/ 100 ml | IS:1622:1981: RA:2019 | Shall not be any 100 | detectable in l sample | Absent |
| 3 | E. Coli | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981:RA:2019 | Shall not be any 100 | detectable in I sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

HDD-272, Phase III - Near JP Chowk
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| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | Acceptable Limit | Permissible limit |  |
| 7 | Alpha-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.01 |  | N.D. |
| 8 | Beta-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.04 |  | N.D. |
| 9 | Delta HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.04 |  | N.D. |
| 10 | Alpha-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 |  | N.D. |
| 11 | Beta-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 |  | N.D. |
| 12 | Endosulfansulphate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 |  | N.D. |
| 13 | Monocrotophos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 1 |  | N.D. |
| 14 | Ethion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 3 |  | N.D. |
| 15 | Chloropyrifos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 30 |  | N.D. |
| 16 | Phorate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 2 |  | N.D. |
| 17 | Phoratesulphoxide | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 18 | Phoratesulphone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 19 | 2,4-D | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 515.1-1995 | 30 |  | N.D. |
| 20 | Alachlor | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 20 |  | N.D. |
| 21 | Atrazine | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 532-2000 | 2 |  | N.D. |
| 22 | Methyl parathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 0.3 |  | N.D. |
| 23 | Methyl paraxone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 24 | Malathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 190 |  | N.D. |
| 25 | Malaoxon | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 26 | Aldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.03 |  | N.D. |
| 27 | Dieldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.03 |  | N.D. |

## 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.


End of the test report

HDD-272, Phase III - Near JP Chowk
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Report No. 04190

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | 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 | - | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{H}^{+}-B \text {, } \\ & 4-92 \end{aligned}$ | 6.5-8.5 | NoRelaxation | 6.84 |
| 5 | Turbidity | NTU | APHA $22^{\text {nd }}$ Ed. 2012,2130-B,2-13 | 1 | 5 | 2.3 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025 (part-14):1984, RA 2013 | - | - | 169.4 |
| 7 | Residual Chlorine | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,2540- B, 264 | - | - | 104.2 |
| 9 | Total Dissolved Solids | mg/Lit | IS 3025(part-16):1984, RA 2006 | 500 | 2000 | 102.4 |
| 10 | Total Suspended Solids | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed.2012,2540- D, 2- } \\ & 66 \end{aligned}$ | - | - | 1.8 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | IS 3025(part-23):1986, RA 2003 | 200 | 600 | 44.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,2340-\mathrm{C}, 2 \text { - } \\ & 44,45 \end{aligned}$ | 200 | 600 | 78.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B}, \\ & 3-67 \end{aligned}$ | - | - | 38.0 |
| 14 | Magnesium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | - | - | 40.0 |
| 15 | Calcium (as Ca) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,3500-Ca-B, 3-67 | 75 | 200 | 15.2 |
| 16 | Magnesium (as Mg) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | 30 | 100 | 9.72 |
| 17 | Chloride (as Cl ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B} \text {, } \\ & 4-72 \end{aligned}$ | 250 | 1000 | 14.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \mathrm{Ed} .2012,4500-\mathrm{SO}_{4}-\mathrm{E}_{\text {, }} \\ & 4-190 \end{aligned}$ | 200 | 400 | 11.3 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,4500-\mathrm{NO}_{3}-$ B,4-122 | 45 | NoRelaxation | 2.1 |
| 20 | Phosphate (as P) | mg/Lit | APHA 22nd Ed.2012,4500-P-C, 4-153 | - | - | 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 |  |
| 21 | Sodium (as Na ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA 22nd Ed.2012,3500-Na-B, } \\ & 3-97 \end{aligned}$ | - | - | 8.2 |
| 22 | Potassium (as K) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-K-B, } \\ & 3-87 \end{aligned}$ | - | - | 0.21 |
| 23 | Boron (as B) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-B-B \text {, } \\ & 4-25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe ) | $\mathrm{mg} /$ Lit | APHA 22 ${ }^{\text {nd }}$ Ed. 2012,3111-B,3-18 | 0.3 | NoRelaxation | N.D. |
| 25 | Fluoride (as F) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed. $2012,4500-F-B$ \&D, 4-84 \& 87 | 1 | 1.5 | N.D. |
| 26 | Manganese (as Mn) | $\mathrm{mg} /$ Lit | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.1 | 0.3 | N.D. |
| 27 | Lead (as Pb) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,3111-$ B, 3-18 | 0.01 | NoRelaxation | N.D. |
| 28 | Nickel (as Ni) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed.2012,3500-Ni, 3- } \\ & 108 \end{aligned}$ | 0.02 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | $\mathrm{mg} /$ Lit | APHA 22 ${ }^{\text {nd }}$ Ed. $2012,3111-$ B, 3-18 | 5 | 15 | N.D. |
| 30 | Copper (as Cu ) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3- \\ & 105 \end{aligned}$ | 0.003 | NoRelaxation | N.D. |
| 32 | Mercury (as Hg) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3112-B, 3-23 | 0.001 | NoRelaxation | N.D. |
| 33 | Arsenic (as As) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed.2012,3114-C, 3-38 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed. $2012,3114-\mathrm{C}, 3-38$ | 0.01 | NoRelaxation | N.D. |
| 35 | Chromium (as Cr ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B} \text {, } \\ & 3-69 \end{aligned}$ | 0.05 | NoRelaxation | N.D. |
| 36 | Anionic Detergent (as MBAS) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22{ }^{\text {nd }}$ Ed.2012,5540-C, 5-53 | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound (as $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}$ ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,5540-\text { B \& C, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} / \mathrm{Lit}$ | APHA $22{ }^{\text {nd }}$ Ed.2012,6440-6-93 | 0.0001 | NoRelaxation | N.D. |
| 39 | Mineral Oil | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003, \end{aligned}$ | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be 100 m | tectable in any sample | Absent |
| 2 | Faecal Coliform | MPN/ 100 ml | IS:1622:1981: RA:2019 | Shall not be 100 | tectable in any sample | Absent |
| 3 | E. Coli | MPN/ 100 ml | IS:1622:1981:RA:2019 | Shall not be 100 m | tectable in any sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 7 | Alpha-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

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|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
|  |  |  |  | Acceptable Limit | Permissible limit |  |
| 8 | Beta- HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 9 | Delta HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 10 | Alpha-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 11 | Beta-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 12 | Endosulfansulphate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 13 | Monocrotophos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 14 | Ethion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 15 | Chloropyrifos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 16 | Phorate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 17 | Phoratesulphoxide | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 18 | Phoratesulphone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 19 | 2,4-D | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 515.1-1995 |  |  | N.D. |
| 20 | Alachlor | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 21 | Atrazine | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 532-2000 |  |  | N.D. |
| 22 | Methyl parathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 23 | Methyl paraxone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 24 | Malathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 25 | Malaoxon | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 26 | Aldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 27 | Dieldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

Note: $\quad \mathrm{mg} /$ 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 aboveltest(s) only.


End of the test report


| Nanne \& Addross of The Customer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | REPORT NO |  | UES/TR/21-22/04225 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab ref no |  | UES/21-22/W/07585 |  |  |
|  |  |  | date of Sampling |  | 24/11/2021 |  |  |
|  |  |  | DATE OF RECEIPT |  | 25/11/2021 |  |  |
|  |  |  | DATE OF REPORT |  | 01/12/2021 |  |  |
|  |  |  | DATE OF ANALYSIS |  | START: 25/11/2021 |  | END: |
| SAMPLE DETAILS |  |  |  |  |  |  |  |
| SAMPLE TYPE | GROUND WATER |  |  | ORDER /REFERENCE: |  | M/PO/SRV/2122/0049, DTD. 24-JULY-2021 |  |
| CUSTMER SAMPLE ID | NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR |  |  | SAMPLE CONDITION AT RECEIPT |  | ок |  |
| PACKING OF SAMPLE | 3 I X 1 NO. PVC CAN 1 LXINO. 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. - 04225

| 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 | - | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{H}^{+}-\mathrm{B} \text {, } \\ & 4-92 \end{aligned}$ | 6.5-8.5 | NoRelaxation | 6.54 |
| 5 | Turbidity | NTU | APHA 22 ${ }^{\text {nd }}$ Ed. $2012,2130-\mathrm{B}, 2-13$ | 1 | 5 | 2.0 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 | - | - | 188.6 |
| 7 | Residual Chlorine | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,2540-B,264 | - | - | 120.2 |
| 9 | Total Dissolved Solids | mg/Lit | IS 3025(part-16):1984, RA 2006 | 500 | 2000 | 114.6 |
| 10 | Total Suspended Solids | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,2540- D, 266 | - | - | 5.6 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | IS 3025(part-23):1986, RA 2003 | 200 | 600 | 26.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,2340-C, 2- \\ & 44,45 \end{aligned}$ | 200 | 600 | 58.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B}, \\ & 3-67 \end{aligned}$ | - | - | 32.0 |
| 14 | Magnesium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \end{aligned}$ | - | - | 26.0 |
| 15 | Calcium (as Ca) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B} \text {, } \\ & 3-67 \end{aligned}$ | 75 | 200 | 12.8 |
| 16 | $\begin{aligned} & \text { Magnesium (as } \\ & \mathrm{Mg} \text { ) } \end{aligned}$ | $\mathrm{mg} / \mathrm{Lit}$ |  | 30 | 100 | 6.3 |
| 17 | Chloride (as Cl ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B} \text {, } \\ & 4-72 \end{aligned}$ | 250 | 1000 | 15.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,4500-\mathrm{SO}_{4}$ -E,4-190 | 200 | 400 | 11.3 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{NO}_{3}-\mathrm{B} \text {, } \\ & 4-122 \end{aligned}$ | 45 | NoRelaxation | 2.2 |



| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
|  |  |  |  | Acceptable Limit | Permissible limit |  |
| 20 | Phosphate (as P) | mg/Lit | $\begin{aligned} & \text { APHA 22nd Ed.2012,4500-P-C, } \\ & 4-153 \end{aligned}$ | - | - | N.D. |
| 20 | Sodium (as Na ) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA 22ndEd. 2012,3500-Na-B, } \\ & 3-97 \end{aligned}$ | - | - | 7.2 |
| 21 | Potassium (as K) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed. $2012,3500-K-B, 3-$ 87 | - | - | 0.39 |
| 22 | Boron (as B) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,4500-B-B, 425 | 0.5 | 1.0 | N.D. |
| 23 | Iron (as Fe) | mg/Lit | APHA 22 ${ }^{\text {nd }}$ Ed. 2012,3111-B,3-18 | 0.3 | NoRelaxation | N.D. |
| 24 | Fluoride (as F) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,4500-F-B \&D, 4-84 \& 87 | 1 | 1.5 | 0.09 |
| 25 | $\begin{array}{\|l\|} \hline \text { Manganese (as } \\ \text { Mn) } \end{array}$ | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.1 | 0.3 | N.D. |
| 26 | Lead (as Pb) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.01 | NoRelaxation | N.D. |
| 27 | Nickel (as Ni) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,3500-\mathrm{Ni}, 3-$ 108 | 0.02 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 28 | Zinc (as Zn ) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 5 | 15 | N.D. |
| 29 | Copper (as Cu) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed. 2012,3111-B, 3-18 | 0.05 | 1.5 | N.D. |
| 30 | Cadmium (as Cd) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3- \\ & 105 \end{aligned}$ | 0.003 | NoRelaxation | N.D. |
| 31 | Mercury (as Hg ) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed. 2012,3112-B, 3-23 | 0.001 | NoRelaxation | N.D. |
| 32 | Arsenic (as As) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed. 2012,3114-C, 3-38 | 0.01 | 0.05 | N.D. |
| 33 | Selenium (as Se ) | $\mathrm{mg} /$ Lit | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3114-C, 3-38 | 0.01 | NoRelaxation | N.D. |
| 34 | Chromium (as Cr ) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B} \text {, } \\ & 3-69 \end{aligned}$ | 0.05 | NoRelaxation | N.D. |
| 35 | Anionic Detergent (as MBAS) | mg/Lit | APHA 22 ${ }^{\text {nd }}$ Ed.2012,5540-C, 5-53 | 0.2 | 1.0 | N.D. |
| 36 | Phenolic Compound (as $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}$ ) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,5540-B \& C, 5-47 | 0.001 | 0.002 | N.D. |
| 37 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} / \mathrm{Lit}$ | APHA $22{ }^{\text {nd }}$ Ed.2012,6440-6-93 | 0.0001 | NoRelaxation | N.D. |
| 38 | Mineral Oil | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 39 | Oil \& Grease | mg/Lit | IS 3025 (Part 39):1991, RA 2003 | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \mathrm{ML} \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be 100 | tectable in any sample | Absent |
| 2 | Faecal coliform | MPN/ <br> 100 ml | IS:1622:1981: RA:2019 | $\begin{array}{r} \text { Shall not be } \\ 100 \\ \hline \end{array}$ | tectable in any sample | Absent |
| 3 | E. Coli | MPN/ <br> 100 ml | IS:1622:1981:RA:2019 | Shall not be 100 | tectable in any sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p, p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 1 | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 1 | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 1 | N.D. |
| 4 | p, p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 1 | N.D. |

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 I Email : ultimatenviro@gmail.com

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

| Name A Address of The Cusfonser <br> то, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPORT NO |  | UES/TR/21-22/04224 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | lab ref no |  | UES/21-22/W/07584 |  |  |
|  |  | DATE Of SAMPLING |  | 24/11/2021 |  |  |
|  |  | DATE OF RECEIPT |  | 25/11/2021 |  |  |
|  |  | DATE OF REPORT |  | 01/12/2021 |  |  |
|  |  | date of analysis |  | START: 25/11/2021 |  | END: |
| SAMPLE DETAILS |  |  |  |  |  |  |
| SAMPLE TYPE | GROUND WATER |  | ORDER /REFERENCE: |  | $\begin{aligned} & \text { M/PO/SRV/2122/0049, } \\ & D T D .24-J U L Y-2021, \end{aligned}$ |  |
| CUSTMER SAMPLE ID | STAFF QUARTER-BANJIKHOLPIEZOMETER (AWLR) |  | SAMPle Condition at receipt |  | OK |  |
| PACKING OF SAMPLE | 3 I X 1 NO. PVC CAN 1 I X 1 No. pVC CAN 1 L X 1 No. GLASS bottle | SEALED | SAMPLE COLL | D BY | CHEM | IST |
| SAMPLING PROCEDURE | IS: 3025 (PART I) : 1987 RA 2003; APHA 22ND ED. 2012, $1060-B, 1-39$ |  | QUANTITY RECEIVED |  | 5 LT |  |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | ACCEPTABLE LIMIT FORDRINKING 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 | - | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{H}^{+}-\mathrm{B} \text {, } \\ & 4-92 \end{aligned}$ | 6.5-8.5 | NoRelaxati on | 6.85 |
| 5 | Turbidity | NTU | APHA 22 ${ }^{\text {nd }}$ Ed. $2012,2130-\mathrm{B}, 2-13$ | 1 | 5 | 1.20 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 | - | - | 226.0 |
| 7 | Residual Chlorine | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,2540-B, 264 | - | - | 146.6 |
| 9 | Total Dissolved Solids | mg/Lit | IS 3025(part-16):1984, RA 2006 | 500 | 2000 | 134.8 |
| 10 | Total Suspended Solids | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,2540- D, 266 | - | - | 11.8 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} /$ Lit | IS 3025(part-23):1986, RA 2003 | 200 | 600 | 38.0 |
| 12 | $\begin{aligned} & \text { Total Hardness ( as } \\ & \mathrm{CaCO}_{3} \text { ) } \end{aligned}$ | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,2340-C, 2- \\ & 44,45 \end{aligned}$ | 200 | 600 | 82.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Ca-B, } \\ & 3-67 \end{aligned}$ | - | - | 44.0 |
| 14 | Magnesium Hardness $\left(\mathrm{as}_{\mathrm{CaCO}}^{3}\right. \text { ) }$ | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | - | - | 38.0 |
| 15 | Calcium (as Ca ) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,3500-Ca-B, 3-67 | 75 | 200 | 17.6 |
| 16 | Magnesium (as Mg) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | 30 | 100 | 9.23 |
| 17 | Chloride (as Cl ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B}, \\ & 4-72 \end{aligned}$ | 250 | 1000 | 34.9 |
| 18 | Sulphate ( as $\mathrm{SO}_{4}$ ) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,4500-\mathrm{SO}_{4}{ }^{-}$ E,4-190 | 200 | 400 | 23.8 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{NO}_{3}- \\ & \mathrm{B}, 4-122 \end{aligned}$ | 45 | NoRelaxati on | 0.74 |
| 20 | Phosphate (as P) | mg/Lit | $\begin{aligned} & \text { APHA 22nd Ed.2012,4500-P-C, } \\ & 4-153 \end{aligned}$ | - | - | N.D. |



REPORT NO. 04224

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | ACCEPTABLE LIMIT FORDRINKING WATER (IS 10500:2012) |  | RESULT |
|  |  |  |  | Acceptable Limit | $\begin{gathered} \text { Permissible } \\ \hline \text { limit } \\ \hline \end{gathered}$ |  |
| 21 | Sodium (as Na ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA 22ndEd.2012,3500-Na-B, } \\ & 3-97 \end{aligned}$ | - | - | 6.1 |
| 22 | Potassium (as K) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed. $2012,3500-K-B, 3-$ 87 | - | - | 2.1 |
| 23 | Boron (as B) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,4500-B-B, 425 | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | $\mathrm{mg} /$ Lit | APHA 22 ${ }^{\text {nd }}$ Ed. $2012,3111-\mathrm{B}, 3-18$ | 0.3 | NoRelaxati on | N.D. |
| 25 | Fluoride (as F) | $\mathrm{mg} /$ Lit | $\text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{F}-\mathrm{B}$ $\& D, 4-84 \& 87$ | 1 | 1.5 | 0.17 |
| 26 | Manganese (as Mn) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.1 | 0.3 | N.D. |
| 27 | Lead (as Pb) | mg/Lit | APHA 22 ${ }^{\text {nd }}$ Ed. 2012,3111-B, 3-18 | 0.01 | NoRelaxati on | N.D. |
| 28 | Nickel (as Ni) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ni}, 3- \\ & 108 \end{aligned}$ | 0.02 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3- \\ & 105 \end{aligned}$ | 0.003 | $\begin{gathered} \text { NoRelaxati } \\ \text { on } \end{gathered}$ | N.D. |
| 32 | Mercury (as Hg) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,3112-B, 3-23 | 0.001 | NoRelaxati on | N.D. |
| 33 | Arsenic (as As) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22{ }^{\text {nd }}$ Ed.2012,3114-C, 3-38 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,3114-C, 3-38 | 0.01 | $\begin{gathered} \text { NoRelaxati } \\ \text { on } \end{gathered}$ | N.D. |
| 35 | Chromium (as Cr ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Cr-B, } \\ & 3-69 \end{aligned}$ | 0.05 | $\begin{aligned} & \text { NoRelaxati } \\ & \text { on } \end{aligned}$ | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,5540-\mathrm{C}, 5-53$ | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound (as $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,5540-B \text { \& C, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} / \mathrm{Lit}$ | APHA $22{ }^{\text {nd }}$ Ed.2012,6440-6-93 | 0.0001 | $\begin{gathered} \text { NoRelaxati } \\ \text { on } \end{gathered}$ | N.D. |
| 39 | Mineral Oil | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | mg/Lit | IS 3025 (Part 39):1991, RA 2003 | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \mathrm{MPN} / \\ 100 \mathrm{ML} \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| 2 | Faecal coliform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981: RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| 3 | E. Coli | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981:RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 7 | Alpha- HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |



REPORT NO. 04224

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

Note: $\mathrm{mg} /$ 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.


End of the test report


| Name \& Address Of The Gusfomer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA <br> U/G COAL MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | RT NO | UES | -22/ | 4226 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | REF NO | UES | /w/0 | 586 |
|  |  |  | OF SAMPLING | $24 /$ |  |  |
|  |  |  | OF RECEIPT | 25/ |  |  |
|  |  |  | OF REPORT | 01/ |  |  |
|  |  |  | OF ANALYSIS | STAR | 12021 | END: |
| SAMPLE DETAILS |  |  |  |  |  |  |
| SAMPLE TYPE | GROUND WATER <br> MILUPARA VILLAGE NEAR PHCHIL (DUGWELL) |  | ORDER /REFEERENCE: |  | $\begin{aligned} & M / P O / S R V / 2122 / 0049 \text {, } \\ & \text { DTD. 24-JULY-2021 } \end{aligned}$ |  |
| CUSTMER SAMPLE ID |  |  | SAMPLE CONDITION AT RECEIPT |  | OK |  |
| PACKING OF SAMPLE | $\begin{array}{lllllll} 3 & L & X & 1 & N O & P V C & C A N \\ 1 & L & X & 1 & N O & P V C \\ 1 & L & X & 1 & N O & \text { GLASS BOTTLE } \end{array}$ | SEALED | SAMPLE COLLECTED BY |  | CHEMIST |  |
| SAMPLING PROCEDURE | $\begin{aligned} & \text { IS: } 3025(\text { PART I):1987 RA 2003; } \\ & \text { APHA 22ND ED. } 2012,1060-B, 1-39 \end{aligned}$ |  | QUANTITY RECEIVED |  | 5 LTR |  |


| SR. NO. | TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 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 | - | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{H}^{+}-B \text {, } \\ & 4-92 \end{aligned}$ | 6.5-8.5 | NoRelaxatio <br> n | 6.97 |
| 5 | Turbidity | NTU | APHA $22{ }^{\text {nd }}$ Ed. 2012,2130-B,2-13 | 1 | 5 | 1.86 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | $\begin{aligned} & \text { IS 3025(part-14):1984, RA } \\ & 2013 \end{aligned}$ | - | - | 274.0 |
| 7 | Residual Chlorine | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G} \text {, } \\ & 4-69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed. 2012,2540-B, 264 | - | - | 177.4 |
| 9 | Total Dissolved Solids | mg/Lit | $\begin{aligned} & \text { IS 3025(part-16):1984, RA } \\ & 2006 \end{aligned}$ | 500 | 2000 | 164.8 |
| 10 | Total Suspended Solids | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed.2012,2540- D, 266 | - | - | 12.6 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-23):1986, RA } \\ & 2003 \end{aligned}$ | 200 | 600 | 40.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,2340-\mathrm{C}, 2- \\ & 44,45 \end{aligned}$ | 200 | 600 | 92.0 |
| 13 | Calcium Hardness (as CaCO3) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,3500-Ca-B,3-67 | - | - | 54.0 |
| 14 | Magnesium Hardness (as CaCO 3 ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}- \\ & \mathrm{B}, 3-84 \end{aligned}$ | - | - | 38.0 |
| 15 | Calcium (as Ca) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,3500-Ca- B,3-67 | 75 | 200 | 21.6 |
| 16 | Magnesium (as Mg) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | 30 | 100 | 9.23 |
| 17 | Chloride (as Cl ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B} \text {, } \\ & 4-72 \end{aligned}$ | 250 | 1000 | 18.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | APHA $222^{\text {nd }}$ Ed. $2012,4500-\mathrm{SO}_{4}{ }^{-}$ <br> E, 4-190 | 200 | 400 | 25.2 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,4500-\mathrm{NO}_{3}{ }^{-}$ B, 4-122 | 45 | NoRelaxatio <br> n | 4.2 |
| 20 | Phosphate (as P) | mg/Lit | APHA 22ndEd.2012,4500-P-C, 4-153 | - | - | N.D. |



|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  |  |  | Acceptable Limit | Permissible limit |  |
| 21 | Sodium (as Na ) | mg /Lit | APHA 22nd Ed.2012,3500-NaB, 3-97 | - | - | 6.4 |
| 22 | Potassium (as K) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{K}-\mathrm{B} \text {, } \end{aligned}$ | - | - | 1.2 |
| 23 | Boron (as B) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-B-B \text {, } \\ & 4-25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,3111-B,318 | 0.3 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \end{gathered}$ | N.D. |
| 25 | Fluoride (as F) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed. $2012,4500-F-B$ \&D, 4-84 \& 87 | 1 | 1.5 | 0.03 |
| 26 | Manganese (as Mn) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed. 2012,3111-B, 318 | 0.1 | 0.3 | 0.15 |
| 27 | Lead (as Pb) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,3111-B, 318 | 0.01 | $\underset{\mathrm{n}}{\mathrm{NoRelaxatio}^{\text {NoRe }}}$ | N.D. |
| 28 | Nickel (as Ni) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Ni, 3- } \\ & 108 \end{aligned}$ | 0.02 | $\underset{\text { No }}{\text { Nelaxation }}$ | N.D. |
| 29 | Zinc (as Zn ) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed. 2012,3111-B, 318 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed.2012,3111-B, 318 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,3500-Cd, 3105 | 0.003 | $\underset{\mathrm{n}}{\mathrm{NoRelaxatio}}$ | N.D. |
| 32 | Mercury (as Hg ) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,3112-B, 323 | 0.001 | $\underset{\mathrm{n}}{\text { NoRelaxatio }}$ | N.D. |
| 33 | Arsenic (as As) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed.2012,3114-C, 3- } \\ & 38 \end{aligned}$ | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed.2012,3114-C, 338 | 0.01 | $\underset{\mathrm{n}}{\mathrm{NoRelaxatio}}$ | N.D. |
| 35 | Chromium (as Cr ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B} \text {, } \\ & 3-69 \end{aligned}$ | 0.05 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \end{gathered}$ | N.D. |
| 36 | Anionic Detergent (as MBAS) | $\mathrm{mg} /$ Lit | ```APHA 22 nd Ed.2012,5540-C, 5- 53``` | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound $\left(\text { as } \mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}\right)$ | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,5540-B \& C \text {, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} / \mathrm{Lit}$ | APHA $22{ }^{\text {nd }}$ Ed.2012,6440-6-93 | 0.0001 | $\underset{\mathrm{n}}{\mathrm{NoRelaxatio}}$ | N.D. |
| 39 | Mineral Oil | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be 100 | ectable in any ample | Absent |
| 2 | Faecal coliform | MPN/ 100 ml | IS:1622:1981: RA:2019 | Shall not be 100 m | ectable in any ample | Absent |
| 3 | E. Coli | MPN/ 100 ml | IS:1622:1981:RA:2019 | Shall not be 100 m | ectable in any ample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

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

## Note: $\mathrm{mg} /$ 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 for15 days after issue of test report unless otherwise agreed with customer.
This is for information as the party has asked for above tesits) only.

-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 I Email : ultimatenviro@gmail.com

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

| Name \& Address of The Cusiomer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE,VILLAGE - <br> BANKHETA, POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107. |  |  | REPORT NO | UES/TR/21-22/0 | 4191 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | LAB REF NO | UES/21-22/W/0 | 513 |
|  |  |  | DATE OF SAMPLING | 23/11/2021 |  |
|  |  |  | DATE OF RECEIPT | 24/11/2021 |  |
|  |  |  | DATE OF REPORT | 01/12/2021 |  |
|  |  |  | DATE OF ANALYSIS | START: 24/11/2021 | END: 27/11/2021 |
| SAMPLE DETAILS |  |  |  |  |  |
| SAMPLE TYPE | GROUND WATER |  | ORDER /REFERENCE: | N/PO/SRV/2122/0045, DTD. 24-JULY-2021 |  |
| CUSTMER SAMPLE ID | SAKTA VILLAGE, (DUGWELL) |  | SAMPLE CONDITION AT RECEIPT | OK |  |
| PACKING OF SAMPLE | 3 L X 1 NO. PVC CAN <br> 1 I X 1 NO. PVC CAN <br> 1 L $X 1$ NO. GLASS BOTTLLE | SEALED | SAMPLE COLLECTED $B Y$ | CHEMIST |  |
| SAMPLING PROCEDURE | IS:3025 (PART I) : 1987 RA 2003; APHA 22ND ED. 2012, $1060-$ B, 1-39 |  | QUANTITY RECEIVED | 5 LTR |  |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { SR. } \\ & \text { NO. } \end{aligned}$ | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
|  |  |  |  | Acceptable Limit | Permissible limit |  |
| 1 | Colour | Hazen | IS:3025:(Part-4) | 5 | 15 | 2.4 |
| 2 | Odour | - | IS 3025(part-5) | Agreeable | Agreeable | Agreeable |
| 3 | Taste | - | IS 3025 (part-8) | Agreeable | Agreeable | Agreeable |
| 4 | pH | - | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{H}^{+}-B \text {, } \\ & 4-92 \end{aligned}$ | 6.5-8.5 | NoRelaxatio <br> n | 7.35 |
| 5 | Turbidity | NTU | APHA $22{ }^{\text {nd }}$ Ed. $2012,2130-B, 2-13$ | 1 | 5 | 2.4 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 | - | - | 246.4 |
| 7 | Residual Chlorine | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,2540-B, 2- \\ & 64 \end{aligned}$ | - | - | 157.0 |
| 9 | Total Dissolved Solids | mg/Lit | IS 3025(part-16):1984, RA 2006 | 500 | 2000 | 152.4 |
| 10 | Total Suspended Solids | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,2540-D, 266 | - | - | 4.6 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | IS 3025(part-23):1986, RA 2003 | 200 | 600 | 78.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,2340-C, 244,45 | 200 | 600 | 104.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B} \text {, } \\ & 3-67 \end{aligned}$ | - | - | 48.0 |
| 14 | Magnesium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | - | - | 56.0 |
| 15 | Calcium (as Ca) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B} \text {, } \\ & 3-67 \end{aligned}$ | 75 | 200 | 19.2 |
| 16 | Magnesium (as Mg) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | 30 | 100 | 13.6 |
| 17 | Chloride (as Cl ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B} \text {, } \\ & 4-72 \end{aligned}$ | 250 | 1000 | 19.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \mathrm{Ed} .2012,4500-\mathrm{SO}_{4}-\mathrm{E} \\ & 4-190 \end{aligned}$ | 200 | 400 | 27.5 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{NO}_{3}-\mathrm{B} \text {, } \\ & 4-122 \end{aligned}$ | 45 | NoRelaxatio <br> n | 0.73 |
| 20 | Phosphate (as P) | mg/Lit | APHA 22nd Ed.2012,4500-P-C,4-153 | - | - | N.D. |
| 21 | Sodium (as Na) | mg/Lit | APHA 22nd Ed.2012,3500-NaB, 3-97 | - | - | 15.1 |

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

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | Acceptable Limit | Permissible limit |  |
| 22 | Potassium (as K) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-K-B \text {, } \\ & 3-87 \end{aligned}$ | - | - | 0.68 |
| 23 | Boron (as B) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,4500-B-B, 4-25 | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,3111-B,3-18 | 0.3 | NoRelaxatio <br> n | N.D. |
| 25 | Fluoride (as F) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,4500-F-B$ \&D, 4-84 \& 87 | 1 | 1.5 | 0.11 |
| 26 | Manganese (as Mn) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3111-B, 3- \\ & 18 \end{aligned}$ | 0.1 | 0.3 | 0.09 |
| 27 | Lead (as Pb) | mg/Lit | ```APHA 22 nd Ed.2012,3111-B,3- 18``` | 0.01 | NoRelaxatio n | N.D. |
| 28 | Nickel (as Ni) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ni}, 3- \\ & 108 \end{aligned}$ | 0.02 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3111-B, 3- \\ & 18 \end{aligned}$ | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3111-\text { B, 3- } \\ & 18 \end{aligned}$ | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3- \\ & 105 \end{aligned}$ | 0.003 | NoRelaxatio <br> n | N.D. |
| 32 | Mercury (as Hg) | mg/Lit | ```APHA 22 nd Ed.2012,3112-B,3- 23``` | 0.001 | NoRelaxatio n | N.D. |
| 33 | Arsenic (as As) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3114-C, 3- \\ & 38 \end{aligned}$ | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3114-\mathrm{C}, 3- \\ & 38 \end{aligned}$ | 0.01 | NoRelaxatio n | N.D. |
| 35 | Chromium (as Cr ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B} \text {, } \\ & 3-69 \end{aligned}$ | 0.05 | NoRelaxatio n | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,5540-\mathrm{C}, 5-$ 53 | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound $\left(\text { as } \mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}\right)$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,5540-\text { B \& C, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed. 2012,6440-6-93 | 0.0001 | NoRelaxatio n | N.D. |
| 39 | Mineral Oil | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be $100 \mathrm{~m}$ | ectable in any sample | Absent |
| 2 | Faecal coliform | MPN/ 100 ml | IS:1622:1981: RA:2019 | Shall not be 100 | ectable in any sample | Absent |
| 3 | E. Coli | MPN/ 100 ml | IS:1622:1981:RA:2019 | Shall not be 100 m | ectable in any ample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | , | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

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REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions
The report for publication, arbitration or as legal dispute is forbidden.
Test sample will be retained for15 days after issue of test report unless otherwise agreed with customer.



| Name \& Address Of The Cusfomer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107 |  | REF | t ${ }^{\text {No}}$ | UES | -22/ | 4227 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | LAB | ef No | UES | /W/0 | 587 |
|  |  | DA | OF SAMPLING | 24/1 |  |  |
|  |  | DAT | OF RECEIPT | 25/1 |  |  |
|  |  | DA | OF REPORT | 01/ |  |  |
|  |  |  | date of analysis | START: 25/11/2021 |  | END: |
| SAMPLE DETAILS |  |  |  |  |  |  |
| SAMPLE TYPE | GROUND WATER <br> SIDARPARA VILLAGE (DUGWELL) |  | ORDER /REFERENCE: <br> SAMPLE CONDITION AT RECEIPT |  | M/PO/SRV/2122/0049, DTD. 24-JULY-2021 |  |
| CUSTMER SAMPLE ID |  |  | OK |  |
| PACKING OF SAMPLE | BOTTLE | SEALED |  |  | SAMPLE COL | $D B Y$ | CHEM |  |
| SAMPLING PROCEDURE | $\begin{aligned} & \text { IS: } 3025(\text { PART I):1987 } \\ & \text { APHA 22ND ED. } 2012,1 \end{aligned}$ | $\begin{gathered} 2003 ; \\ -B, 1-39 \end{gathered}$ | QUANTITY RE |  | 5 LTR |  |

REPORT NO. - 04227

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | Acceptable Limit | $\begin{gathered} \text { Permissible } \\ \text { limit } \\ \hline \end{gathered}$ |  |
| 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 | - | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{H}^{+}-\mathrm{B} \text {, } \\ & 4-92 \end{aligned}$ | 6.5-8.5 | $\begin{gathered} \text { NoRelaxati } \\ \text { on } \end{gathered}$ | 7.54 |
| 5 | Turbidity | NTU | APHA 22 ${ }^{\text {nd }}$ Ed. $2012,2130-B, 2-13$ | 1 | 5 | 0.43 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 | - | - | 332.0 |
| 7 | Residual Chlorine | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | APHA 22 ${ }^{\text {nd }}$ Ed.2012,2540-B, 264 | - | - | 207.0 |
| 9 | Total Dissolved Solids | $\mathrm{mg} /$ Lit | IS 3025 (part-16):1984, RA 2006 | 500 | 2000 | 204.4 |
| 10 | Total Suspended Solids | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,2540- D, 266 | - | - | 2.6 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | IS 3025(part-23):1986, RA 2003 | 200 | 600 | 58.0 |
| 12 | ```Total Hardness ( as CaCO``` | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed.2012,2340-C, 2- } \\ & 44,45 \end{aligned}$ | 200 | 600 | 92.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO} 3)$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed.2012,3500-Ca- } \\ & \text { B,3-67 } \end{aligned}$ | - | - | 54.0 |
| 14 | Magnesium Hardness $\text { (as } \mathrm{CaCO} 3 \text { ) }$ | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Mg- } \\ & \text { B,3-84 } \end{aligned}$ | - | - | 38.0 |
| 15 | Calcium (as Ca) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed.2012,3500-Ca- B, 3-67 | 75 | 200 | 21.6 |
| 16 | Magnesium (as Mg) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & \text { 3-84 } \end{aligned}$ | 30 | 100 | 9.23 |
| 17 | Chloride (as Cl ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B} \text {, } \\ & 4-72 \end{aligned}$ | 250 | 1000 | 18.9 |
| 18 |  | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{SO}_{4}-\mathrm{E} \text {, } \\ & 4-190 \end{aligned}$ | 200 | 400 | 15.3 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{NO}_{3}{ }^{-} \\ & \mathrm{B}, 4-122 \end{aligned}$ | 45 | $\begin{gathered} \text { NoRelaxati } \\ \text { on } \end{gathered}$ | 4.1 |
| 20 | Phosphate (as P) | mg/Lit | $\begin{aligned} & \text { APHA 22ndEd. 2012,4500-P-C, } \\ & 4-153 \end{aligned}$ | - | - | N.D. |



| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | Acceptable Limit | Permissible limit |  |
| 21 | Sodium (as Na ) | mg/Lit | $\begin{aligned} & \text { APHA 22nd Ed. } 2012,3500-\mathrm{Na}-\mathrm{B}, \\ & 3-97 \end{aligned}$ | - | - | 13.5 |
| 22 | Potassium (as K) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,3500-K-B, 3-$ 87 | - | - | 0.9 |
| 23 | Boron (as B) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-B-B, 4- \\ & 25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. $2012,3111-B, 3-18$ | 0.3 | NoRelaxati on | N.D. |
| 25 | Fluoride (as F) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{F}-\mathrm{B} \\ & \& \mathrm{D}, 4-84 \& 87 \end{aligned}$ | 1 | 1.5 | 0.12 |
| 26 | Manganese (as Mn) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.1 | 0.3 | 0.09 |
| 27 | Lead (as Pb) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 0.01 | NoRelaxati on | N.D. |
| 28 | Nickel (as Ni ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ni}, 3- \\ & 108 \end{aligned}$ | 0.02 | No Relaxation | N.D. |
| 29 | Zinc (as Zn ) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. 2012,3111-B, 3-18 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3- \\ & 105 \end{aligned}$ | 0.003 | $\begin{aligned} & \text { NoRelaxati } \\ & \text { on } \end{aligned}$ | N.D. |
| 32 | Mercury (as Hg) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed.2012,3112-B, 3-23 | 0.001 | NoRelaxati on | N.D. |
| 33 | Arsenic (as As) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. 2012,3114-C, 3-38 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. 2012,3114-C, 3-38 | 0.01 | NoRelaxati on | N.D. |
| 35 | Chromium (as Cr ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B} \text {, } \\ & 3-69 \end{aligned}$ | 0.05 | NoRelaxati on | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | APHA $22{ }^{\text {nd }}$ Ed. $2012,5540-C, 5-53$ | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound (as $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,5540-B \& C \text {, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} /$ Lit | APHA $22{ }^{\text {nd }}$ Ed. 2012,6440-6-93 | 0.0001 | NoRelaxati on | N.D. |
| 39 | Mineral Oil | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | No Relaxation | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \\ \hline \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| 2 | Faecal coliform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981: RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| 3 | E. Coli | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981:RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 2 |  | N.D. |



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

REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions
$>$ The report for publication, arbitration or as legal dispute is forbidden.
$>$ Test sample will be retained for15 days after issue of test report unless otherwise agreed with customer.
> This is for information as the party has asked for aboverest(s) only.


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 I Email : ultimatenviro@gmail.com

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

| Name S Address of The Customer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107. |  |  |  |  | REPORT NO | UES/TR/21-22/04192 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | lab ref no | UES/21-22/W/07514 |  |  |
|  |  |  |  |  | DATE OF SAMPLING | 23/11/2021 |  |  |
|  |  |  |  |  | DATE OF RECEIPT | 24/11/2021 |  |  |
|  |  |  |  |  | DATE OF REPORT | 01/12/2021 |  |  |
|  |  |  |  |  | date of analysis | START: 24/11/2021 | END: 27/11/2021 |  |
| SAMPLE DETAILS |  |  |  |  |  |  |  |  |
| SAMPLE | TYPE | GROUND WATER |  |  | ORDER /REFERENCE: | N/PO/SRV/2122/0045, DTD. 24-JULY-2021 |  |  |
| CUSTM | R SAMPLE ID | beljor village (DUGWEle) |  |  | SAMPLE CONDITION at RECEIPT | ок |  |  |
| PACKI | g of Sample | $\begin{array}{lllll} 3 & \text { L } & 1 & N O & \text { PVC CAN } \\ 1 & L & X & 1 & \text { No. PVC CAN } \\ 1 & \text { I } & 1 & \text { NO. GLASS BOTTLE } \\ \hline \end{array}$ |  | smaisd | SAMPLE COLLECTED $B Y$ | CHEMIST |  |  |
| SAMPL | NG PROCEDURE | IS: 3025 (PART I) : 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39 |  |  | QUANTITY RECEIVED | 5 LTR |  |  |
| Report No. 04192 |  |  |  |  |  |  |  |  |
| 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 |  | - | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{H}^{+}-\mathrm{B}, \\ & 4-92 \end{aligned}$ |  | 6.5-8.5 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \end{gathered}$ | 7.53 |
| 5 | Turbidity |  | NTU | APHA $22^{\text {nd }}$ Ed. $2012,2130-\mathrm{B}, 2-13$ |  | 1 | 5 | 0.36 |
| 6 | Electrical Conductivity |  | $\mu \mathrm{S} / \mathrm{cm}$ | $\begin{aligned} & \text { IS 3025(part-14):1984, RA } \\ & 2013 \end{aligned}$ |  | - | - | 564.0 |
| 7 | Residual Chlorine |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ |  | 0.2 | 1 | N.D. |
| 8 | Total Solid |  | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,2540-B, 264 |  | - | - | 351.0 |
| 9 | Total Dissolved Solids |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { IS 3025(part-16):1984, RA } \\ & 2006 \end{aligned}$ |  | 500 | 2000 | 346.2 |
| 10 | Total Suspended Solids |  | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,2540-\text { D, 2- } \\ & 66 \end{aligned}$ |  | - | - | 4.8 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { IS 3025(part-23):1986, RA } \\ & 2003 \end{aligned}$ |  | 200 | 600 | 166.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,2340-\mathrm{C}, 2- \\ & 44,45 \end{aligned}$ |  | 200 | 600 | 192.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO}_{3}$ ) |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Ca-B, } \\ & 3-67 \end{aligned}$ |  | - | - | 112.0 |
| 14 | Magnesium Hardness$\left(\mathrm{as}_{\mathrm{CaCO}}^{3}\right. \text { ) }$ |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ |  | - | - | 80.0 |
| 15 | Calcium (as Ca) |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. 2012,3500-Ca-B, } \\ & \text { 3-67 } \end{aligned}$ |  | 75 | 200 | 44.8 |
| 16 | Magnesium (as Mg) |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ |  | 30 | 100 | 19.4 |
| 17 | Chloride (as Cl ) |  | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B} \text {, } \\ & 4-72 \end{aligned}$ |  | 250 | 1000 | 46.9 |
| 18 |  |  | mg /Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{SO}_{4}-\mathrm{E} \text {, } \\ & 4-190 \end{aligned}$ |  | 200 | 400 | 27.3 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) |  | mg /Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{NO}_{3}-\mathrm{B} \text {, } \\ & 4-122 \end{aligned}$ |  | 45 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \end{gathered}$ | 1.56 |
| 20 | Phosphate (as P) |  | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22nd Ed.2012,4500-P-C,4-153 |  | - | - - | N.D. |

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

| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Acceptable Limit | Permissible limit |  |
| 21 | Sodium (as Na) | mg/Lit | APHA 22nd Ed.2012,3500-NaB, 3-97 | - | - | 5.6 |
| 22 | Potassium (as K) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-K-B \text {, } \\ & 3-87 \end{aligned}$ | - | - | 1.18 |
| 23 | Boron (as B) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-B-B \text {, } \\ & 4-25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | mg/Lit | APHA $22^{\text {nd }}$ Ed. 2012,3111-B,3-18 | 0.3 | NoRelaxatio <br> n | N.D. |
| 25 | Fluoride (as F) | $\mathrm{mg} /$ Lit | APHA $22^{\text {nd }}$ Ed. 2012,4500-F-B \&D, 4-84 \& 87 | 1 | 1.5 | 0.09 |
| 26 | Manganese (as Mn) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3111-B, 3- \\ & 18 \end{aligned}$ | 0.1 | 0.3 | 0.14 |
| 27 | Lead (as Pb) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3111-B, 3- \\ & 18 \end{aligned}$ | 0.01 | NoRelaxatio <br> n | N.D. |
| 28 | Nickel (as Ni) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ni}, 3 \text { - } \\ & 108 \end{aligned}$ | 0.02 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3111-\text { B, 3- } \\ & 18 \end{aligned}$ | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3111-B, 3- \\ & 18 \end{aligned}$ | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3- \\ & 105 \end{aligned}$ | 0.003 | NoRelaxatio <br> n | N.D. |
| 32 | Mercury (as Hg) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,3112-B, 323 | 0.001 | NoRelaxatio <br> n | N.D. |
| 33 | Arsenic (as As) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3114-\mathrm{C}, 3- \\ & 38 \end{aligned}$ | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3114-C, 3- \\ & 38 \end{aligned}$ | 0.01 | NoRelaxatio <br> n | N.D. |
| 35 | Chromium (as Cr) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B} \text {, } \\ & 3-69 \end{aligned}$ | 0.05 | NoRelaxatio n | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,5540-\mathrm{C}, 5- \\ & 53 \end{aligned}$ | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound $\left(\text { as } \mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}\right)$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,5540-\text { B \& C, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} /$ Lit | APHA $22{ }^{\text {nd }}$ Ed. 2012,6440-6-93 | 0.0001 | NoRelaxatio n | N.D. |
| 39 | Mineral Oil | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | No Relaxation | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | - | Relaxation | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \mathrm{ML} \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not b any 100 | detectable in ml sample | Absent |
| 2 | Faecal Coliform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981: RA:2019 | Shall not be any 100 | detectable in ml sample | Absent |
| 3 | E. Coli | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981:RA:2019 | Shall not be any 100 | detectable in ml sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

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

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

| Report No. 0 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
|  |  |  |  | Acceptable Limit | Permissible limit |  |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 7 | Alpha-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 8 | Beta- HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 9 | Delta HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 10 | Alpha-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 11 | Beta-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 12 | Endosulfansulphate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 13 | Monocrotophos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 14 | Ethion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 15 | Chloropyrifos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 16 | Phorate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 17 | Phoratesulphoxide | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 18 | Phoratesulphone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 19 | 2,4-D | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 515.1-1995 |  |  | N.D. |
| 20 | Alachlor | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 21 | Atrazine | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 532-2000 |  |  | N.D. |
| 22 | Methyl parathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 23 | Methyl paraxone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 24 | Malathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 25 | Malaoxon | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 26 | Aldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 27 | Dieldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

Note: $\mathrm{mg} /$ 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 fort5 days after issue of test report unless otherwise agreed with customer.


End of the test report

Ground Water Level Monitoring Report in and around the Coal Mine Area (From Jan 2022 to Mar 2022)

| Sr. | Location | Types of <br> No. |  |  | In Meters |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Ground <br> Water level <br> (BGL) Jan <br> $\mathbf{2 0 2 2}$ | Ground <br> Water level <br> (BGL) Feb <br> $\mathbf{2 0 2 2}$ | Ground <br> Water level <br> (BGL) Mar <br> $\mathbf{2 0 2 2}$ |  |  |
| $\mathbf{1}$ | Bankheta (Near HIL Office) |  | 11.34 | 11.74 | 12.21 |  |  |
| $\mathbf{2}$ | Banjikhol (Near Office) | Borewell/ <br> AWLR | 24.48 | 24.66 | 24.85 |  |  |
| $\mathbf{3}$ | Milupara (Near Office) | Borewell/ <br> AWLR | 11.17 | 11.71 | 12.21 |  |  |
| 4 | HIL Staff Quarter | Borewell/ <br> AWLR | 6.57 | 7.04 | 7.96 |  |  |
| 5 | Milupara Village (PHC-HIL) | Dugwell | 4.43 | 4.68 | 5.58 |  |  |
| 6 | Sakta Village (Near Primary | Dugwell | 3.18 | 3.31 | 3.85 |  |  |
| 7 | Sidarpara Village (Near Primary |  |  |  |  |  |  |
| School) | Dugwell | 8.68 | 8.83 | 9.90 |  |  |  |
| 8 | Beljor Village | Dugwell | 6.47 | 6.72 | 6.84 |  |  |

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 5 Adolniss Df The Curtonnat TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANIKHETA, POST MILUPARA, DISTT, - RAIGARH (C.G.) 496107. |  |  | Maport mo | UES/TR/21-22/0 | 5991 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | LAB REF NO | UES/21-22/W/01 | 0309 |
|  |  |  | DATE OF SAMPLING | 24/01/2022 |  |
|  |  |  | DAzE or javcarpt | 25/01/2022 |  |
|  |  |  | DAIE OFI REPDCRT | 02/02/2022 |  |
|  |  |  | DATE OF ANALYGIS | START: 25/01/2022 | END; 29/01/2022 |
| SAMPIE DETAILS |  |  |  |  |  |
| SAMPIE TYPE | GROUNDNEATER |  | ORDER /REPERENCE: | N/PO/SRV/2122/0045, DTD. 24-JuLY-2021 |  |
| Custmer sample id | BANRKENTA <br> MTNE (PIEZOMETEEA) AMLR |  | SAMPLE CONDITION AT RECEIPT | aK |  |
| FACKING OF SMNPLF |  | ceazo | SAMPLE COEFECHED HY | craorser |  |
| SANWLING PROCSDURE | IS:3025 (DART X) :1997 RA 2003; APNA 22ND ED, 2012, $1060-1$, 1-39 |  | QUMNTITY RECEIVED | 5 LTR |  |


| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER 15 10500:2012 |  | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Accoptable Limit | Permissible Ilmit |  |
| 1 | Colour | Hazen | 1S:3025:(Part-4) | 5 | 15 | $<1$ |
| 2 | Odour | - | 15 3025 (part-5) | Agreeable | Agreaable | Agreeable |
| 3 | Taste | - | 15 3025 (part-B) | Agreeable | Agreeable | Agreeable |
| 4 | pH | - | $\begin{aligned} & \text { APHA } 22^{7 d} \mathrm{Ed} .2012,4500-\mathrm{H}^{+}-\mathrm{B} \\ & 4-92 \end{aligned}$ | 6.5-8.5 | NoRelaxatio <br> n | 7.72 |
| 5 | Turbidity | NTU | APHA $22^{\text {at }} \mathrm{Ed} .2012,2130-\mathrm{B}, 2-13$ | 1 | 5 | 1.21 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025 (part-14):1984, RA 2013 | - | - | 178.4 |
| 7 | Residual Chlorine | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \mathrm{Ed} .2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | APHA 22 $2^{\text {ni }}$ Ed.2012,2540-B, 264 | - | - | 111.4 |
| 9 | Total Dissolved Solids | mg/Lit | 15 3025(part-16):1984, RA 2006 | 500 | 2000 | 108.6 |
| 10 | Total Suspended Solids | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {no }} \text { Ed. } 2012,2540-\text { D, } 2- \\ & 66 \end{aligned}$ | - | - | 2.8 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | IS 3025(part-23):1986, RA 2003 | 200 | 600 | 40.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {" }}$ Ed.2012,2340-C, $2-$ 44,45 | 200 | 600 | 54.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B}, \\ & 3-67 \end{aligned}$ | - | - | 32.0 |
| 14 | Magnesium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nt }} \mathrm{Ed} \cdot 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | - | - | 22.0 |
| 15 | Caiclum (as Ca) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {net }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B} \\ & 3-67 \end{aligned}$ | 75 | 200 | 12.8 |
| 16 | Magnesium (as Mg) | mg/Lit | ${ }_{3-84}^{\text {APHA } 22^{\text {nd }} \mathrm{Ed}, 2012,3500-\mathrm{Mg}-\mathrm{B},}$ | 30 | 100 | 5.34 |
| 17 | Chloride (as Cl) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {m }} \mathrm{Ed} .2012,4500-\mathrm{Cl}-\mathrm{B}, \end{aligned}$ | 250 | 1000 | 14.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {rd }} \mathrm{Ed} .2012,4500-\mathrm{SO}_{4}-\mathrm{E}_{\text {; }} \\ & 4-190 \end{aligned}$ | 200 | 400 | 11.6 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {re }} \text { Ed. } 2012,4500-\mathrm{NO}_{r}-\mathrm{B}, \\ & 4-122 \end{aligned}$ | 45 | NoRelaxatio <br> n | 0.36 |
| 20 | Phosphate (as P) | mg/Lit | APHA 22nd Ed.2012,4500-P-C, 4-153 | - | - | N.D. |
| 21 | Sodium (as Na) | mg/Lit | APHA 22nd Ed.2012,3500-Na-B, 3-97 | - | - - | 16.4 |
| 22 | Potassium (as K) | $\mathrm{mg} /$ L it | APHA $22^{\text {nd }}$ Ed. $2012,3500-K-B, 3$ - | - | - | 1.26 |

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


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
|  |  |  |  | Acceptablo Limit | Pormissible Himit |  |
|  |  |  | 87 |  |  |  |
| 23 | Boron (as B) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {res }} \text { Ed. } 2012,4500-B-B, 4- \\ & 25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe ) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {me }}$ Ed.2012,3111-8,3-18 | 0.3 | Norelaxatio <br> n | N.D. |
| 25 | Fluoride (as F) | mg/Lit | APHA $22^{\text {mo }}$ Ed. 2012,4500-F-B 8D, 4-84 \& 87 | 1 | 1.5 | 0.13 |
| 26 | Manganese (as Mn) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {ra }}$ Ed. $2012,3111-\mathrm{B}, 3-18$ | 0.1 | 0.3 | N.D. |
| 27 | Lead (as Pb) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {mi }}$ Ed.2012,3111-B, 3-18 | 0.01 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \end{gathered}$ | N.D. |
| 28 | Nickel (as Ni ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {re }} \text { Ed. } 2012,3500-\mathrm{N}, 3- \\ & 108 \end{aligned}$ | 0.02 | $\begin{gathered} \text { No } \\ \text { Rolaxation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {ef }}$ Ed.2012,3111-B, 3-18 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | mg/Lit | APHA $22^{\text {24 }}$ Ed.2012,3111-B, 3-18 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | APHA $22^{\text {ef }}$ Ed. $2012,3500 \cdot \mathrm{Cd}, 3-$ 105 | 0.003 | $\begin{aligned} & \text { MoRelaxatio } \\ & \mathrm{n} \end{aligned}$ | N.D. |
| 32 | Mercury (as Hg ) | mg/Lit | APHA 22 ${ }^{\text {4 }}$ Ed. $2012,3112-\mathrm{B}, 3-23$ | 0.001 | $\begin{gathered} \text { NoRelaxatio } \\ n \end{gathered}$ | N.D. |
| 33 | Arsenic (as As) | mg/Lit | APHA 22 ${ }^{\text {ra }}$ Ed. $2012,3114-\mathrm{C}, 3-38$ | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se ) | mg/Lit | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3114-C, 3-38 | 0.01 | $\begin{gathered} \text { NoRolaxatio } \\ \mathrm{n} \end{gathered}$ | N.D. |
| 35 | Chromium (as Cr) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {m }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B}, \\ & 3-69 \end{aligned}$ | 0.05 | $\underset{\mathrm{n}}{\substack{\text { NoRelaxatio } \\ \hline}}$ | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | APHA $22^{\text {mi }}$ Ed. 2012,5540-C, 5-53 | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound $\left(\mathrm{as} \mathrm{C}_{5} \mathrm{H}_{5} \mathrm{OH}\right)$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{n i} \text { Ed. } 2012,5540-B \text { \& C, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} / \mathrm{L}$ L | APHA 22 ${ }^{\text {ed Ed. 2012,6440-6-93 }}$ | 0.0001 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \end{gathered}$ | N.D. |
| 39 | Mineral Oil | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \\ \hline \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be detectable in any 100 ml sample |  | Absent |
| 2 | Faecal Coliform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | 1S:1622:1981: RA:2019 | Shall not be detectable in any 100 ml sample |  | Absent |
| 3 | E. Coli | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981:RA:2019 | Shall not be detectable in any 100 ml sample |  | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | $p, p$ DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 7 | Alpha-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.01 |  | N.D. |
| 8 | Beta-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.04 |  | N.D. |

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

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

REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions
7 The raport for publication, arbitration or as legat dispute is forbidden.
7. Test sample will be retained for 15 days after issue of test report uniess otherwise agroed with customer

- This is for information as the party has asked for above foste's) only


End of the test report


| ```TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.``` |  |  | Reporat no | UES/TR/21-22/05992 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lall Ret no | UES/21-22/W/010310 |  |
|  |  |  | bate of smapling | 24/01/2022 |  |
|  |  |  | मate of receipt | 25/01/2022 |  |
|  |  |  | natz of reporar | 02/02/2022 |  |
|  |  |  | mate of amalysis | start: 25/01/2022 | END:29/01/2022 |
| SNMPLE DETAILS |  |  |  |  |  |
| SNMPLE TYpe | GHOUND WATER |  | OMIER /REFERENCE: | $\begin{aligned} & \mathrm{N} / \mathrm{PO} / \mathrm{SRV} / 2 . \\ & 2022 \end{aligned}$ | 22/0045, DTD. 24-JULY- |
| custmer shmple io | BANTIRHOL MINE (PISECNA | Suamine | BMGLE CONDTTION AT десегтр | IT OK |  |
| PACKING or andie | 3 I X 1 mo. PVC CAF $15 \times 1$ mo. PVC CAN $15 \times 1$ mo. akass botrix | ezaum | SAMPIE COLLECHED MY | ar chamerst |  |
| SAMPLING PROCEDuve | IS: 3025 (PART I) :1997 APHA 22ND ED. 2012, 10 | $\begin{aligned} & 20031 \\ & 0-B, 1-39 \end{aligned}$ | Quantity received | 5 Lm |  |

Report No. 05992

| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Acceptable Limit | Permissiblo Ilimit |  |
| 1 | Colour | Hazen | 15:3025:(Part-4) | 5 | 15 | $<1$ |
| 2 | Odour | - | 15 3025 (part-5) | Agreeable | Agreaable | Agresable |
| 3 | Taste | - | IS 3025 (part-8) | Agreeable | Agreeable | Agreeable |
| 4 | pH | - | $\begin{aligned} & \text { APHA } 22^{* 6} \mathrm{Ed} .2012,4500-\mathrm{H}^{+}-\mathrm{B} \\ & 4-92 \end{aligned}$ | 6.5-8.5 | MoRalaxation | 6.84 |
| 5 | Turbidity | NTU | APHA 22 ${ }^{\text {at }}$ Ed. 2012,2130-8,2-13 | 1 | 5 | 2.4 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 | - | - | 170.2 |
| 7 | Residual Chlorine | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {ra }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {ni }} \text { Ed.2012,2540-B, 2- } \\ & 64 \end{aligned}$ | - | - | 115.4 |
| 9 | Total Dissolved Solids | mg/Lit | IS 3025 (part-16):1984, RA 2006 | 500 | 2000 | 112.6 |
| 10 | Total Suspended Solids | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {e }} \text { Ed. } 2012,2540-\text { D, 2- } \\ & 66 \end{aligned}$ | * | - | 2.8 |
| 11 | Alkalinity Total $\text { (as } \mathrm{CaCO}_{3} \text { ) }$ | mg/Lit | IS 3025(part-23):1986, RA 2003 | 200 | 600 | 48.0 |
| 12 | Total Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | APHA $22^{\text {ne }}$ Ed.2012,2340-C, $2-$ 44,45 | 200 | 600 | 80.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} / \mathrm{L}$ it | $\begin{aligned} & \text { APHA } 22^{\text {m }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B} \text {, } \\ & 3-67 \end{aligned}$ | - | - | 46.0 |
| 14 | Magnesium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \mathrm{Ed} .2012,3500-\mathrm{Mg}-\mathrm{B}, \\ & 3-84 \end{aligned}$ | $\cdots$ | - | 34.0 |
| 15 | Calcium (as Ca) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {ne }}$ Ed. 2012,3500-Ca-B, 3-67 | 75 | 200 | 18.4 |
| 16 | Magnesium (as Mg) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {NI }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \\ & 3-84 \end{aligned}$ | 30 | 100 | 8.26 |
| 17 | Chloride (as Cl ) | mo/Lt | $\begin{aligned} & \text { APHA } 22^{w 1} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B}, \\ & 4-72 \end{aligned}$ | 250 | 1000 | 14.9 |
| 18 | Sulphate ( as $^{\mathbf{S O}} \mathbf{4}^{\text {) }}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed. } 2012,4500-\mathrm{SO}_{4}-\mathrm{E}_{\text {; }} \\ & 4-190 \end{aligned}$ | 200 | 400 | 13.4 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | $\text { APHA } 22^{\text {red }} \text { Ed. } 2012,4500-\mathrm{NO}_{3}$ $B, 4-122$ | 45 | NoRelaration | 2.1 |
| 20 | Phosphate (as P) | mg/Lit | APHA 22nd Ed.2012,4500-P-C. $4-153$ | - | - | N.D. |

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| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO, |  |  |  | Accoptable Limit | Pormissiblo limit |  |
| 21 | Sodium (as Na ) | mg/Lit | $\begin{aligned} & \text { APHA 22nd Ed.2012,3500-Na-B, } \\ & 3-97 \end{aligned}$ | - | - | 8.4 |
| 22 | Potassium (as K) | $\mathrm{mg} / \mathrm{Ll}$ | $\begin{aligned} & \text { APHA } 22^{\text {to }} \text { Ed. } 2012,3500-\mathrm{K}-\mathrm{B}, \\ & 3-87 \end{aligned}$ | - | $\checkmark$ | 0.20 |
| 23 | Boron (as B) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {te }} \text { Ed. } 2012,4500-B-B \text {, } \\ & 4-25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe ) | mg/Lit | APHA 22 $22^{\text {ed }}$ Ed.2012,3111-B,3-18 | 0.3 | NoRolaxation | N.D. |
| 25 | Fluoride (as F) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{3 /} \text { Ed.2012,4500-F-B } \\ & 8 \mathrm{D}, 4-84 \& 87 \end{aligned}$ | 1 | 1.5 | N.D. |
| 26 | Manganese (as Mn) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{26}$ Ed.2012,3111-B, 3-18 | 0.1 | 0.3 | N.D. |
| 27 | Lead (as Pb) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {at }}$ Ed. $2012,3111-\mathrm{B}, 3-18$ | 0.01 | Norelaxation | N.D. |
| 28 | Nickel (as Ni) | mg/Lit | $\text { APHA } 22^{m} \mathrm{Ed} .2012,3500-\mathrm{Ni}, 3-$ $108$ | 0.02 | $\underset{\substack{\text { No } \\ \text { Relaxation }}}{\text { and }}$ | N.D. |
| 29 | Zinc (as Zn ) | $\mathrm{mg} / \mathrm{L}$ it | APHA 22 ${ }^{\text {nd }}$ Ed.2012,3111-B, 3-18 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $222^{\text {ra }}$ Ed, 2012,3111-8, 3-18 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | $\mathrm{mg} / \mathrm{L}$ it | $\begin{aligned} & \text { APHA } 22^{\text {m }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3 \text { - } \\ & 105 \end{aligned}$ | 0.003 | NoRelaxation | N.D. |
| 32 | Mercury (as Hg) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {tr9 }}$ Ed. 2012,3112-B, 3-23 | 0.001 | NoRalaxation | N.D. |
| 33 | Arsenic (as As) | $\mathrm{mg} / \mathrm{L}$ it | APHA $22^{\text {6 }}$ Ed, 2012,3114-C, 3-38 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | $\mathrm{mg} / \mathrm{Lut}$ | APHA 22 $22^{\text {ef }}$ Ed. 2012,3114-C, 3-38 | 0.01 | NoRelaxation | N.D. |
| 35 | Chromium (as Cr) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{2 d} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B}, \\ & 3-69 \end{aligned}$ | 0.05 | NoRelaxation | N.D. |
| 36 | Anionic Detergent (as MBAS) | $\mathrm{mg} / \mathrm{Lut}$ | APHA $22^{26}$ Ed.2012,5540-C, 5-53 | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound $\left(\text { as } \mathrm{C}_{6} \mathrm{H}_{3} \mathrm{OH}\right)$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{26} \mathrm{Ed} .2012,5540-\mathrm{B} \& \mathrm{C} \text {, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{H} / \mathrm{Lit}$ | APHA $22^{\text {es }}$ Ed.2012,6440-6-93 | 0.0001 | Morelaxation | N.D. |
| 39 | Mineral Oill | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & 153025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Rolaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { 15 } 3025 \text { (Part 39): 1991, RA } \\ & 2003 \text {, } \end{aligned}$ | * | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \\ \hline \end{gathered}$ | 15:1622:1981: RA:2019 | Shall not be 100 m | tectable in any sample | Absent |
| 2 | Faecal Coliform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | 1S:1622:1981: RA:2019 | Shall not be 100 | tectable in any sample | Absent |
| 3 | E. Coli | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981:RA:2019 | Shall not be 100 m | tectable in any sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | P,PDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | P,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 7 | Alpha- HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | Acceptable Limit | Permissible Iimit |  |
| 8 | Beta- HCH | $\mu g / L$ | US EPA 508-1995 |  |  | N.D. |
| 9 | Delta HCH | $\mu g / L$ | US EPA 508-1995 |  |  | N.D. |
| 10 | Alpha-Endosulfan | $\mu g / L$ | US EPA 508-1995 |  |  | N.D. |
| 11 | Beta-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 12 | Endosulfansulphate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 13 | Monocrotophos | $\mu g / L$ | US EPA 8141A-1994 |  |  | N.D. |
| 14 | Ethion | $\mu \mathrm{L} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 15 | Chloropyrifos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 16 | Phorate | $\mu \mathrm{H} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 17 | Phoratesulphoxide | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 18 | Phoratesulphone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 19 | 2,4~D | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 515.1-1995 |  |  | N.D. |
| 20 | Alachlor | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 21 | Atrazine | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 532-2000 |  |  | N.D. |
| 22 | Methyl parathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 23 | Methyl paraxone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  |  | N.D. |
| 24 | Malathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141 A-1994 |  |  | N.D. |
| 25 | Malaoxon | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141 A-1994 |  |  | N.D. |
| 26 | Aldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508* 1995 |  |  | N.D. |
| 27 | Dieldrin | $\mu \mathrm{H} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions
$>$ The report for pubircation, arbitratlon or as logat dilspufe is forbidden.
7 Test samplo will be retained for $15 d a y s$ affor issue of test report unless othenvise agreed with customer.
$>$ This is for informatlon as the party has asked for above fest(s) onty


End of the test report

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Ring Road No-2, Kabir Nagar, Raipur (C. G.) - 492099 Ph: 0771-4027777 I Email Ulimatenviro@gmail.com

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|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IVIS, MILUPARA <br> U/O COAL MINE,VILLAGE - MILUPARA, <br> BLOGK-TAMNAR, <br> DISTT. - RAIGARH (C., ©.) 496107 |  |  | Jewaray no | UES/TR/21-22/06049 |  |  |
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| SAMPLE DETAITS |  |  |  |  |  |  |
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| PACKING OF SNOLE | $3: \times 1$ NO. PVC CAN $14 \times 1$ NO, FVC CAN 1 I $x 1$ mo. talasa mortis | skazeo | saupte ontumerso BY |  | cumaz |  |
| SNMPLIMG PMOCELSDE | 15:3025 (PAKT x) 20987 RA 2003, APMA 222 ND 10. $2012,1060=\mathrm{B}, 2-39$ |  | gnowntit recerveo |  | 5 Lzr |  |

REPORT MO. 06049

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. NO. | parameter | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
|  |  |  |  | Acceptable Limit | Permissible limit |  |
| 1 | Colour | Hazen | 15:3025:(Part-4) | 5 | 15 | $<1$ |
| 2 | Odour | - | 153025 (part-5) | Agreeable | Agreeable | Agreeable |
| 3 | Taste | - | IS 3025 (part-8) | Agreasble | Agreeable | Agreeable |
| 4 | pH | - | $\begin{aligned} & \text { APHA } 22^{-1} \text { Ed. } 2012,4500-\mathrm{H}^{+}-\mathrm{B} \\ & 4-92 \end{aligned}$ | 6.5-8.5 | $\begin{gathered} \text { Ho } \\ \text { Rolaxation } \end{gathered}$ | 6.53 |
| 5 | Turbidity | NTU | APHA $22^{\text {nd }}$ Ed. $2012,2130-8,2-13$ | 1 | 5 | 2.2 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 | - | - | 194.0 |
| 7 | Residual Chlorine | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {re }} \mathrm{Ed} .2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | APHA $22^{\text {m }}$ Ed. $2012,2540-8,2-$ 64 | - | - | 128.8 |
| 9 | Total Dissolved Solids | mg/Lit | 15 3025(part-16):1984, RA 2006 | 500 | 2000 | 120.4 |
| 10 | Total Suspended Solids | mg/Lit | APHA $22^{\text {ch }}$ Ed.2012,2540- D, 266 | - | $=$ | 8.4 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | Is 3025(part-23):1986, RA 2003 | 200 | 600 | 32.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{60} \text { Ed. } 2012,2340-\mathrm{C}, 2 \\ & 44,45 \end{aligned}$ | 200 | 600 | 68.0 |
| 13 | Calcium Hardness $\left(\mathrm{as}_{5} \mathrm{CaCO}_{3}\right)$ | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{n 0} \mathrm{Ed} .2012,3500-\mathrm{Ca}-8 \text {, } \\ & 3-67 \end{aligned}$ | - | - | 38.0 |
| 14 | $\begin{aligned} & \text { Magnesium } \\ & \text { Hardness (a5 } \\ & \mathrm{CaCO}_{3} \text { ) } \end{aligned}$ | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {eed }}$ Ed. 2012,3500-Mo-B, 3-84 | - | $\sim$ | 30.0 |
| 15 | Calcium (as Ca) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {da }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B} \text {, } \\ & 3-67 \end{aligned}$ | 75 | 200 | 15.2. |
| 16 | Magnesium (as Mg) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{n} \text { Edi } 2012,3500-\mathrm{Mg}-\mathrm{B}, \\ & 3-84 \end{aligned}$ | 30 | 100 | 7.2 |
| 17 | Chloride (as Cl) | mg/L | $\begin{aligned} & \text { APHA } 22^{\mathrm{*}} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B}, \\ & 4-72 \end{aligned}$ | 250 | 1000 | 13.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {d }} \text { Ed } 2012,4500-\mathrm{SO}_{4} \\ & \mathrm{E}, 4-190 \end{aligned}$ | 200 | 400 | 12.4 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{n d} \text { Ed. } 2012,4500-\mathrm{NO}_{r}-\mathrm{B}, \\ & 4-122 \end{aligned}$ | 45 | $\begin{gathered} \text { No } \\ \text { Delaxation } \end{gathered}$ | 2.3 |

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



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


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| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | mesult |
|  |  |  |  | Aeeoptable Limit | Permissible limit |  |
| 3 | P,PDDE | $\mu g / L$ | US EPA 508-1995 |  | 1 | N.D. |
| 4 | PfP DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 1 | N.D. |
| 5 | O,p DOD | $\mu \mathrm{g} / 2$ | US EPA 508-1995 |  | 1 | N.D. |
| 6 | Gamma-HCH (Undane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 2 | N.D. |
| 7 | Alpha-HCH | $\mu g / L$ | US EPA 508-1995 |  | 0.01 | N.D. |
| 8 | Beta-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 0.04 | N.D. |
| 9 | Delta HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 0.04 | N.D. |
| 10 | Alpha-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 0.4 | N.D. |
| 11 | Beta-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 0.4 | N.D. |
| 12 | Endosulfansulphat <br> e | $\mu g / L$ | US EPA 508-1995 |  | 0.4 | N.D. |
| 13 | Monocrotophos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  | 1 | N.D. |
| 14 | Ethion | pg/L | US EPA 8141A-1994 |  | 3 | N.D. |
| 15 | Chloropyrifos | $\mu \mathrm{g} / \mathrm{h}$ | US EPA 8141A-1994 |  | 30 | N.D. |
| 16 | Phorate | $\mu \mathrm{g} / \mathrm{L}$ | U5 EPA 8141A-1994 |  | 2 | N.D. |
| 17 | Phoratesulphoxide | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  | - | N.D. |
| 18 | Phoratesulphone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  | $\cdots$ | N.D. |
| 19 | $2,4-\mathrm{D}$ | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 515.1-1995 |  | 30 | N.D. |
| 20 | Alachlor | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 20 | N.D. |
| 21 | Atrazine | $\mathrm{Hg} / \mathrm{L}$ | US EPA 532-2000 |  | 2 | N.D. |
| 22 | Methyl parathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA $8141 \mathrm{~A}-1994$ |  | 0.3 | N.D. |
| 23 | Methyl paraxone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  | - | N.D. |
| 24 | Malathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  | 190 | N.D. |
| 25 | Malaoxon | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 |  | 190 | N.D. |
| 26 | Aldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  | 0.03 | N.D. |
| 27 | Dieidrin | $\mathrm{p} / \mathrm{L}$ | US EPA 508-1995 |  | 0.03 | N.D. |

REMARKS: RESULTS ARE AS ABOVE
Torms 4 condifions

* The ropont for pubincalloo, arbibration or as hugn dispute is forbidden.
- Tear sanapie will bo retained for 15cays aftor issue of test repart uniess otherwise agreed wits customer.

-End of the test report

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| ```Maris a A.tivers of The chatomer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA UIO COAL MINE,VILLAOE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107``` |  | REPCRT NO |  | UES/TR/21-22/0604日 |  |  |
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| cusman emare to | STAIT QUNETER-BMNTRWOL PIETCMEIER (AWIAT) |  | MuEME CONDITION AF RECEIPT |  | OR |  |
| packimg of ander | $3 \pm \times 1$ NO. TVC CAN 1 I $x$ i ND. PVC CNM $12 \times 1$ NO. GLASs ROTTIE | arkied | EMGLE COULECTED ay |  | crucrer |  |
| SMEPLINA PROCBUNE | TS; 3025 (DART I):1987 RA 2003 ; <br> APHA 22ND KD. $2012,1060-8,1-39$ |  | guxatry fucervin |  | 5 298 |  |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5R. <br> NO. | parameter | UNIT | METHOD OF TEST | ACCEPTABLE LIMIT FORDAINKING WATER (IS tospouj042) |  | RESULT |
|  |  |  |  | Acceptable Limit | Permissible limit |  |
| 1 | Colour | Hazen | 15:302S:(Part-4) | 5 | 15 | $<1$ |
| 2 | Odour | - | IS 3025:(part-5) | Agreesable | Agreeable | Agreeable |
| 3 | Taste | - | IS 3025:(part-8) | Agreeable | Agreeable | Agreaable |
| 4 | pH | - | $\begin{aligned} & \text { APHA } 22^{=-1} \text { Ed. } 2012,4500-\mathrm{H}^{+}+\mathrm{B}, \\ & 4-92 \end{aligned}$ | 6.5-8.5 | $\begin{gathered} \text { So } \\ \text { Rolaxation } \end{gathered}$ | 6.54 |
| 5 | Turbidity | NTU | APHA 220 ${ }^{\text {a }} \mathrm{Ed} .2012,2130-\mathrm{B}, 2-13$ | 1 | 5 | 0.98 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 | - | - | 232.4 |
| 7 | Residual Chlorine | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{24} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | APHA $22^{-1}$ Ed.2012,2540-3,264 | - | - | 161.9 |
| 9 | Total Dissolved Solids | $\mathrm{mg} / \mathrm{Lit}$ | IS 3025(part-16):1984, RA 2006 | 500 | 2000 | 146.8 |
| 10 | Total Suspended Solids | $\mathrm{mg} / \mathrm{L}$ t | APHA $22^{\text {-I }}$ Ed.2012,2540- D, 2 66 | - | - | 14.2 |
| 11 | Alkalinity Total $\left(\text { as } \mathrm{CaCO}_{1}\right)$ | mg/Lit | 153025 (part-23):1986, 8A 2003 | 200 | 600 | 42.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {m/ }} \mathrm{Ed} .2012,2340-\mathrm{C}, 2- \\ & 44,45 \end{aligned}$ | 200 | 600 | 88.0 |
| 13 | Calclum Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{24} \mathrm{Ed} .2012,3500-\mathrm{Ca}-\mathrm{B}, \\ & 3-67 \end{aligned}$ | - | * | 50.0 |
| 14 | Magnesium Hardness $\left(\mathrm{as}_{\mathrm{CaCO}}^{3}\right. \text { ) }$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {ni }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B}, \\ & \hline \end{aligned}$ | - | - | 38.0 |
| 15 | Calcium (as Ca) | ma/Lit | $\begin{aligned} & \text { APHA } 22^{20} \text { Ed.2012,3500-Ca-B, } \\ & 3-67 \end{aligned}$ | 75 | 200 | 20,0 |
| 16 | Magnesium (as Mg) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\mathrm{od}} \text { Ed. } 2012,3500-\mathrm{Mo}-\mathrm{B}, \\ & 3-84 \end{aligned}$ | 30 | 100 | 9.23 |
| 17 | Chloride (as C) | mg/Lit | $\begin{aligned} & \text { APHA } 222^{=1} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B}, \\ & 4-72 \end{aligned}$ | 250 | 1000 | 30.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | APHA $22^{\text {8 }}$ Ed.2012,4SOO-SO <br> E,4-190 | 200 | 400 | 21.8 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | APHA $22^{\text {t/ }} \mathrm{Ed} .2012,4500-\mathrm{NO}_{y}$ $8,4-122$ | 45 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | 0.54 |
| 20 | Phosphate (as P) | mg/Lit | APHA 22nd Ed.2012,4500-P-C, 4. 153 | * | - | N.D. |

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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986
faxport no. 06048

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | unit | METHOD OF TEST | ACCEPTABLE LIMIT FORDRINKING WATER (IS 10500.2012) |  | RESULT |
| $\begin{aligned} & \text { SR. } \\ & \text { NO. } \end{aligned}$ |  |  |  | Acceptable Limit | Permianible flimit |  |
| 21 | Sodium (as Na ) | mg/Lit | APHA 22ndEd.2012,3500-Na-B, 3-97 | - | - | 5.4 |
| 22 | Potassium (as K) | $\mathrm{mg} /$ Lit | APHA 22 ${ }^{\text {m }}$ Ed, 2012,3500-K-B, 387 | - | - | 2.1 |
| 23 | Boron (as B) | mg/Lit | $\begin{aligned} & \text { Af } \\ & 25 \\ & 25 \mathrm{~A} .22^{-1} \mathrm{Ed} .2012,4500-\mathrm{B}-\mathrm{B}, 4- \\ & \hline \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | $\mathrm{mg} / \mathrm{L} / \mathrm{t}$ | APHA $22^{\text {af }}$ Ed.2012,3111-B,3-18 | 0.3 | $\begin{gathered} \text { No } \\ \text { Pelaxation } \end{gathered}$ | N.D. |
| 25 | Fluoride (as F) | mg/Lit | APRA $22^{* \prime}$ Ed $2012,4500-F-B$ $8 \mathrm{D}, 4-84887$ | 1 | 1.5 | 0.12 |
| 25 | Manganese (as Mn) | $\mathrm{mg} / \mathrm{L}$ it | APrA $22^{\text {zi }}$ Ed.2012,3111-B, 3-18 | 0.1 | 0.3 | N.D. |
| 27 | Lead (as Pb) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {zi }}$ Ed. $2012,3111-\mathrm{B}, 3-18$ | 0.01 | $\begin{gathered} \text { No } \\ \text { Rolaxation } \end{gathered}$ | N.D. |
| 28 | Nickel (as Ni) | $\mathrm{mg} / \mathrm{L}$ t | $\begin{aligned} & \text { APHA } 22^{21} \mathrm{Ed} .2012,3500-\mathrm{NL}, 3- \\ & 108 \end{aligned}$ | 0.02 | $\begin{gathered} \text { Ro } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | mg/Lit | APHA $22^{\text {et }}$ Ed.2012,3111-E, 3-18 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {at }}$ Ed 2012,3111-0, 3-1/ | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | mg/ut | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed } 2012,3500-\mathrm{Cd}, 3 \text { - } \\ & 105 \end{aligned}$ | 0.003 | $\begin{gathered} \text { No } \\ \text { Melaxation } \end{gathered}$ | N.D. |
| 32 | Mercury (as Hg) | mg/Lit | APHA 22 ${ }^{\text {n/ }}$ Ed. $2012,3112-8,3-23$ | 0.001 | $\begin{gathered} \text { So } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 33 | Arsenic (as As) | mg/Lt | APHA 22" Ed.2012,3114-C, 3-38 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22** Ed.2012,3114-C, 3-38 | 0.01 | $\begin{gathered} \text { No } \\ \text { Relakation } \end{gathered}$ | N.D. |
| 35 | Chromium (as Cr) | mg/Lit | $\begin{aligned} & \text { APHA } 2 Z^{n} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B}, \\ & 3-69 \end{aligned}$ | 0.05 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 36 | Ansonic, Detergent ( as MBAS) | mg/Lit | APHA $22^{\text {as }}$ Ed. $2012,5540-\mathrm{C}, 5-53$ | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound (as Cethori) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {mi }} \text { Ed. } 2012,5540-8 \text { \& } C_{r}, \\ & 57 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuciear Aromatic Hydrocarbon (PAH) | H9/LIt | APHA 22*4 Ed. 2012,5440-6-93 | 0.0001 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 39 | Minerat Oil | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { 1S } 3025 \text { (part-39): 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | $\mathrm{mm} / \mathrm{Lit}$ | IS 3025 (Part 39):1991, RA 2003 | - | $\rightarrow-$ | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \mathrm{MPN} / \\ 100 \mathrm{ML} \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not any. 100 | detectable in <br> al sample | Absent |
| 2 | Faecal collform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{mi} \end{aligned}$ | 15:1022:1901: MA:2019 | Shall not b any 100 | detectable in mi sample | Absent |
| 3 | E. Coll | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | 1S:1622:1981:RA:2019 | Shall not be any 10 | detectable in I sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | P,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 50B-1995 |  |  | N. D. |
| 2 | O.p DOT | $\mathrm{pg} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | P,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p טטט | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,P DDO | $\mu \mathrm{g} / \mathrm{L}$ | US EPA S08-1995 |  |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 7 | Alpha-HCH | $\mu \mathrm{a} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |

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

| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $5 R \text {. }$ | PARAMETER | UNIT | METHOD OF TEST | ACCEPTABLE LIMIT FOR DFUNEINO WATER (IS 1050012012 ) | Result |
| NO. |  |  |  | Acceptabio  <br> Limit Pormissible <br> Iimit  |  |
| 8 | Beta- HCH | $1 \mathrm{~kg} / \mathrm{L}$ | US EPA 508-1995 | 0.04 | N.D. |
| 9 | Delta HCH | $\mu \mathrm{g} / \mathrm{h}$ | US EPA 508-1995 | 0.04 | N.D. |
| 10 | Alpha-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 | N.D. |
| 11 | Beta-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | U5 EPA 508-1995 | 0.4 | N.D. |
| 12 | Endosulfansulphate | Hg/L | US EPA SDE-1995 | 0.4 | N.D. |
| 13 | Monocrotophos | $\mu \mathrm{g} / \mathrm{L}$ | USEPA 8141A 1994 | 1 | N.D. |
| 14 | Ethion | $\mathrm{pg} / \mathrm{L}$ | US EPA 8141A-1994 | 3 | N.D. |
| 15 | Chloropyrifos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 30 | N.D. |
| 16 | Phorate | $\mu \mathrm{g} / \mathrm{L}$ | USEPA E141A-1994 | 2 | N.D. |
| 17 | Phoratesulphoxide | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - | N.D. |
| 18 | Phoratesulphone | $\mathrm{Hg} / \mathrm{L}$ | USEPA 8141A-1994 | - | N.D. |
| 19 | 2,4-D | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 515.1-1995 | 30 | N.D. |
| 20 | Nachlor | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 20 | N.D. |
| 21 | Atrarine | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 532-2000 | 2 | N.D. |
| 22 | Methyl parathion | $\underline{\mu g / L}$ | US EPA E141A-1994 | 0.3 | N.D. |
| 23 | Methyl paraxone | $\mathrm{pg} / \mathrm{L}$ | US EPA B141A-1994 | 0 | N.D. |
| 24 | Malathion | $\mu \mathrm{g} / 2$ | US EPA B141A-1994 | 190 | N.D. |
| 25 | Malaoxon | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 150 | N.D. |
| 26 | Aldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA SO8-1995 | 0.03 | N.D. |
| 27 | Dieldrin | $\mu \mathrm{L} / \mathrm{L}$ | US EPA 508-1995 | 0.03 | N.D. |

REMARKS: RESULTS ARE AS ABOVE
Terma \& condifions

- The raport for putilication, arbitrution ar as logal dispote is forbidden.
$\geqslant$ Fest sample will be retahed forts days afler issue of test report wífess athenvise apyeed with castomer.
- This is for information as flie party has asherf for above hastive only.


End of the test report

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Ring Road No-2, Kabir Nagar, Raipur (C. G.) - 492099 Ph: 0771-4027777 I Email ullimatenviro@gmail com

| Hanme 4 Addiress of The Cinatiomer <br> TO, <br> HINDALCO INDUSTRES LIMITED, <br> GARE PALMA - IVIB, MILUPARA <br> UG COAL MINE,VILLAGE - MILUPARA, <br> ELOCK-TAMNAR, <br> DISTT, = RAIGAMH (C.G.) 496107 |  | REP | T MO UE | 1-22/ | 5050 |
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|  |  | EAB | ET N0 | 2/W/0 | 0.457 |
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|  |  | tax | OF analysis sma | 12022 | 2ND:29/01/2022 |
| SAMPLE DZTATLS |  |  |  |  |  |
| SNOPIE TIPE | GNCUDD WATER <br> MTEUPARA vIKLACE KEMA PHCarIL (DUGNatiL) |  | GRDER /REFERLICT: <br> SAMPLE CCNBITICN AT Rncript | $\begin{aligned} & M / P O / S R V / 2122 / 0069, \\ & D R D .24-\pi U L r-2021 \end{aligned}$ |  |
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| PACKCIMG of sanme | $3 \pm \pi 1$ mo. Prc cal $12 x+10$. We cal $1 \pm \times 1$ mo. gung morfiy | smazep |  | swete cowtrotmp ay | cmoutse |  |
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| SR. <br> NO. | TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 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 | - | I5 3025 (part-5) | Agreeable | Agroaable | Agroeabia |
| 3 | Taste | - | IS 3025(part-8) | Agreoable | Agreeable | Agraeabla |
| 4 | pH | $=$ | $\begin{aligned} & \text { APMA } 22^{\mathrm{Nt}} \mathrm{Ed} .2012,4500-\mathrm{H}^{+}-\mathrm{B}, \\ & 4-92 \end{aligned}$ | $6.5-8.5$ | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | 6.74 |
| 5 | Turbidity | NTU | APHA 22*ECd.2012,2130-8,2-13 | 1 | $5$ | 1.26 |
| 6 | Electrical Conductivity | $\mu 5 / \mathrm{cm}$ | $\begin{aligned} & \text { IS } 3025 \text { (part-14):1984, RA } \\ & 2013 \end{aligned}$ | - | - | 272.4 |
| 7 | Residual Chlorine | mg/Lit | $\begin{aligned} & \text { APHA 22. Ed. } 2012,4500-\mathrm{Cl}-\mathrm{G} \\ & 4-69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {s }} \text { Ed. } 2012,2540-1,2 \\ & 64 \end{aligned}$ | * | - | 187.0 |
| 9 | Total Dissolved Solids | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-16):1984, RA } \\ & 2006 \end{aligned}$ | 500 | 2000 | 174.6 |
| 10 | Total Suspended Solids | mg/Lit | APHA $22^{\circ 6}$ Ed.2012,2540-D,266 | * | * | 12.4 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-23):1986, RA } \\ & 2003 \text {. } \end{aligned}$ | 200 | 600 | 44.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {ad }} \mathrm{Ed} .2012,2340-\mathrm{C}, 2- \\ & 44,45 \end{aligned}$ | 200 | 600 | 102.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO} 3)$ | mg/Lit | APHA 22 ${ }^{\text {24 }}$ Ed.2012,3500-Ca- $8,3-67$ | - | - | $50.0{ }^{+}$ |
| 14 | Magnesium Hardness (as CaCO3) | mg/Lit | APHA 22 2 Ed.2012,3500-Mg-B,3-84 | - | - | 52.0 |
| 15 | Calcium (as Ca) | mg/Lit | APHA $22^{* /}$ Ed. $2012,3500-\mathrm{Ca}-$ B, 3-67 | 75 | 200 | 20.0 |
| 16 | Magneslum (as Mg) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{31} \text { Ed } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | 30 | 100 | 12.6 |
| 17 | Chituride (as CI) | mg/Lit | $\begin{aligned} & \text { APHA } 2 \text { 2n }^{\text {N }} \text { Ed } 2012,4500-\mathrm{Cl}-\mathrm{B}, \\ & 4-72 \end{aligned}$ | 250 | 1000 | 23.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | APHA $22^{\text {ri }}$ Ed.2012,4500-50 ${ }^{-}$ E, 4-190 | 200 | 400 | 20.7 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | mg/Lit | APHA $22^{\text {² }}$ Ed. $2012,4500-\mathrm{NO}_{3}$ <br> B, 4-122 | 45 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | 2.6 |

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| 5R. No. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | mesult |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Aceoptabie Limit | Permiasible Fimit |  |
| 20 | Phosphate (as P) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA 22ndEd.2012,4500-P-C, } \\ & 4-153 \end{aligned}$ | - | - | N.D. |
| 21 | Sodium (as Na ) | mg/Lit | APHA 22nd Ed.2012,3500-NaB, 3-97 | - | - | 5.2 |
| 22 | Potassium (as K) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{*} \mathrm{Ed} .2012,3500-\mathrm{K}-\mathrm{B}, \\ & 3-87 \end{aligned}$ | - | $=$ | 1.13 |
| 23 | Boron (as B) | $\mathrm{mg} /$ /it | $\begin{aligned} & \text { APHA } 22^{\text {w }} \text { Ed. } 2012,4500-\text { 日-B, } \\ & 4-25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | $\mathrm{mg} /$ Lut | APHA $22^{\text {a }}$ Cd.2012,3111-B,318 | 0.3 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 25 | Fluoride (as F) | $\mathrm{mg} /$ Lit | APHA 22 $2^{\text {a }}$ Ed. 2012,4500-F-B BD, 4-84 \& 87 | 1 | 1.5 | 0.06 |
| 26 | Manganese (as Mn) | mg/Lit | APHA 222d Ed.2012,3111-B, 318 | 0.1 | 0.3 | 0.14 |
| 27 | Lead (as Pb) | $\mathrm{mg} /$ Lit | APHA 22 $2{ }^{\text {m }}$ Ed.2012,3111-8,3- $18$ | 0.01 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 28 | Nickel (as Nl) | mg/Lit | APHA 22 ${ }^{\text {si }}$ Ed.2012,3500-NI, 3 108 | 0.02 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 29 | Zinc ( 35 Zn ) | mg/Lit | APHA 22" Ed. 2012,3111-B, 118 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,3111-\mathrm{B}, 3-$ 18 | 0.05 | 1. 5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | APHA $22^{\text {nd }}$ Ed. $2012,3500-\mathrm{Cd}, 3$ 105 | 0.003 | $\begin{gathered} \text { No } \\ \text { Relsxation } \end{gathered}$ | N.D. |
| 32 | Mercury (as Hg) | mg/Lit | APHA 22" Ed. 2012,3112-3, 323 | 0.001 | No <br> Relaxation | N.D. |
| 33 | Arsenic (as As) | mg/Lit | APHA 22" Ed. 2012,3114-C, 338 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se ) | mg/Lit | APHA 22 ${ }^{\text {º }}$ Ed. 2012,3114-C, 338 | 0.01 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 35 | Chromium (as Cr) | mg/Lt | APHA $22^{\text {A4 }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}$, 3-69 | 0.05 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 36 | Anionic Detergent (as MBAS) | $\mathrm{mg} / \mathrm{L}$ Lt | APHA $22^{\text {ad }}$ Ed.2012,5540-C, 553 | 0,2 | 1.0 | N.D. |
| 37 | Phenolic Compound $\left(\text { as } \mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}\right)$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \text { Ed 2012,5540-8 \& C, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | Hg/LIt | APHA $22^{* 6}$ Ed. $2012,6440-6,93$ | 0.0001 | $\begin{gathered} \text { No } \\ \text { Ralaxation } \end{gathered}$ | N.D. |
| 39 | Mineral Oil | $m g / L$ | $\begin{aligned} & \text { 15 } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | No <br> Relaxation | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \end{gathered}$ | 15:1622:1981: RA:2019 | Shall not be detectable in any 100 ml sample |  | Absent |
| 2 | Faecal coliform | MPN/ <br> 100 ml | 15:1622:1981: RA:2019 | Shall not be detectable in any 100 ml sample |  | Absent |
| 3 | E. Coli | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | 7S:1622:1981:RA:2019 | Shall not be detectable in any 100 ml sample |  | Absent |
| 1 | P,p DDT | $\underline{\mu / L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 2 | o.p DDT | Hg/L | US EPA 508-1995 | 1 |  | N.D. |
| 3 | p,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |

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

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR. No. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | Result |
|  |  |  |  | Aceeptable Limit | Permissibte IImit |  |
| 4 | P.P DOD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 2 |  | N.D. |
| $\frac{7}{8}$ | Alpha-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.01 |  | N.D. |
| 8 | Beta- HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.04 |  | N.D. |
| $\frac{9}{10}$ | Delta HCH | $\mu \mathrm{L} / \mathrm{L}$ | US EPA 508-1995 | 0.04 |  | N.D. |
| 10 | Alpha-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 |  | N.D. |
| 11 | Beta-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 |  | N.O. |
| $\frac{12}{13}$ | Endosulfansulphate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 |  | N.D.* |
| 13 | Monocrotophos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 1 |  | N.D. |
| 14 | Ethion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 3 |  | N.D. |
| 15 | Chioropyrifos | Hg/L | US EPA 8141A-1994 | 30 |  | N.D. |
| 16 | Phorate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 2 |  | N.D. |
| 17 | Phoratesulphoxide | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | $\cdots$ |  | N, D. |
| 18 | Phoratesulphone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 19 | 2,4-D | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 515,1-1995 | 30 |  | N.D. |
| 20 | Alachlor | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 20 |  | N.D. |
| 21 | Atrazine | $\mu \mathrm{m} / \mathrm{L}$ | US EPA 532-2000 | 2 |  | N.D. |
| 22 | Methyl parathion | $\mu g / L$ | US EPA 8141A-1994 | 0.3 |  | N.D. |
| 23 | Methyl paraxone | Pg/L | US EPA 8141A-1994 | - |  | N.D. |
| 24 | Malathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 190 |  | N.D. |
| 25 | Malaoxon | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 26 | Aldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.03 |  | N.D., |
| 27 | Dieldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.03 |  | N.D. |

REMARKS: RESULTS ARE AS ABOVE
Terms \& condfitions
The ropont for uubtication, arbitration or as legat ellspute is fortintdon
Test sample will be ratained forlis days after issues of test ruport unless otherwise agread with customer


End of the test report

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

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

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

| Nawne If Ahthpas of Thar Cuanamer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107. |  |  | Raport mo | UES/TR/21-22/0 | 3993 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | LAB REF MO | UES/21-22/W/01 | 0311 |
|  |  |  | DAIE OF SAMPLTMG | 24/01/2022 |  |
|  |  |  | DAIE OF RESCEIPT | 25/01/2022 |  |
|  |  |  | DATE OF REPORT | 02/02/2022 |  |
|  |  |  | BATE Of ANALYSTS | Stant:25/01/2022 | EnD:29/01/2022 |
| SAMPLE DETAILS |  |  |  |  |  |
| STMMPIS STPE | GROLIMD MATER |  | ORDES /RETERENCE: | N/P0/SRV/2122/0045, DTD. 24-JULY-2022 |  |
| CUSDEER SNMPLE ID | SAKTA VILLAGE, (DUGEELE) |  | shiplar condition AT RECETPT | ак |  |
| dacking of smote |  | anam | sNADIE COLLECTED BY | CHEMIST |  |
| samalima prockpur | 1S:3025 (PART I) +1907 RA 2003: APRA 22ND ED. 2012, $1060-8,1-39$ |  | ounntity recerved | 5 LTR |  |

Faport No, 05993

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| No. |  |  |  | Acceptable Limit | Pormissible Ilimit |  |
| 1 | Colour | Hazon | 15:3025:(Part-4) | 5 | 15 | 2.1 |
| 2 | Odour | - | IS 3025(part-5) | Agreeable | Agreeable | Agreeable |
| 3 | Taste | - | IS 3025 (part-8) | Agreeable | Agreeable | Agreeable |
| 4 | pH | - | $\begin{aligned} & \text { APHA } 22^{\prime \prime} \text { Ed. } 2012,4500-\mathrm{H}^{-}-\mathrm{B}_{f} \\ & 4-92 \end{aligned}$ | 6.5-8.5 | $\begin{gathered} \text { NoRelaxatio } \\ \text { n } \\ \hline \end{gathered}$ | 7.53 |
| 5 | Turbidity | NTU | APHA $22^{\text {² }}$ Ed. 2012,2130-8,2-13 | 1 | 5 | 2.4 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025(part-14):1984, RA 2013 | - | - | 256.4 |
| 7 | Residual Chlorine | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\text {rd }} \mathrm{Ed}, 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | $\mathrm{mg} / \mathrm{Lit}$ | $\text { APHA } 22^{\text {red }} \text { Ed } 2012,2540-\text { B, } 2 \text { - }$ $64$ | - | $\checkmark$ | 164.0 |
| 9 | Total Dissolved Solids | mg/Lit | 15 3025 (part-16):1984, RA 2006 | 500 | 2000 | 158.8 |
| 10 | Total Suspended Solids | mg/Lit | APHA $22^{\text {º }}$ Ed. $2012,2540-$ D, $2-$ 66 | $\checkmark$ | - | 5.2 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} /$ Lit | 15 3025(part-23):1986, RA 2003 | 200 | 600 | 86.0 |
| 12 | Total Hardness ( as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{n 6} \text { Ed. 2012,2340-C, 2- } \\ & 44,45 \end{aligned}$ | 200 | 600 | 104,0 |
| 13 | Calcium Hardness (as $\left.\mathrm{CaCO}_{3}\right)$ | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA 22" Ed. 2012,3500-Ca-B, } \\ & 3-67 \end{aligned}$ | - | * | 54.0 |
| 14 | $\begin{aligned} & \text { Magnesium Hardness } \\ & \text { (as } \mathrm{CaCO}_{3} \text { ) } \end{aligned}$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{d t} \text { Ed. } 2012,3500-\mathrm{Mg} \cdot \mathrm{~B}, \\ & \hline \end{aligned}$ | - | - | 50.0 |
| 15 | Calcium (as Ca) | $\mathrm{mg} / \mathrm{L}$ it | $\begin{aligned} & \text { APHA } 22^{\mathrm{m}} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B}, \\ & 3-67 \end{aligned}$ | 75 | 200 | 21.6 |
| 16 | Magnesium (as Mg) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nd }} \mathrm{Ed} .2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3.84 \end{aligned}$ | 30 | 100 | 12.1 |
| 17 | Chloride (as Cl ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{m 0} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B}, \\ & 4-72 \end{aligned}$ | 250 | 1000 | 22.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{t 0} \mathrm{Ed} .2012,4500-\mathrm{SO}_{*} \mathrm{E} \text {, } \\ & 4-190 \end{aligned}$ | 200 | 400 | 27.6 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{\circ 6} \text { Ed. } 2012,4500-\mathrm{NO}_{\mathrm{r}}-\mathrm{B} \text {, } \\ & 4-122 \end{aligned}$ | 45 | Morelakstio <br> n | 0.56 |
| 20 | Phosphate (as P) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22nd Ed.2012,4500-p. C,4-153 | - | - | N.D. |
| 21 | Sodium (as Na ) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22nd Ed.2012,3500-Na-B,3-97 | * | - | 16.1 |



| 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 | $\begin{aligned} & \text { APHA } 22^{\text {me }} \text { Ed. } 2012,3500-\mathrm{K}-\mathrm{B} \text {, } \\ & 3-87 \end{aligned}$ | - | - | 0.38 |
| 23 | Boron (as B) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {ra }} \text { Ed. } 2012,4500-B-B \text {, } \\ & 4-25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | mg/Lit | APHA 22 ${ }^{\text {rd }}$ Ed, 2012,3111-B,3-18 | 0.3 | NoRelaxatio | N.D. |
| 25 | Fluoride (as F) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {ed }}$ Ed.2012,4500-F-B $8 \mathrm{D}, 4-84 \& 87$ | 1 | 1.5 | 0.12 |
| 26 | Manganese (as Mn) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {te }}$ Ed.2012,3111-B, 318 | 0.1 | 0.3 | 0.09 |
| 27 | Lead (as Pb) | mg/Lit | APHA $22^{\text {² }}$ Ed.2012,3111-B, 318 | 0.01 | $\begin{gathered} \text { NoRelaxatio } \\ \text { n } \end{gathered}$ | N.D. |
| 28 | Nickel (as Ni) | $\mathrm{mg} / \mathrm{L} i \mathrm{t}$ | APHA $22^{\text {nt }}$ Ed 2012,3500-NI, 3108 | 0.02 | $\begin{gathered} \text { No } \\ \text { Rolakation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | mg/Lit | APHA $22^{\text {ns }}$ Ed.2012,3111-B, 318 | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | mg/Lit | APHA $22^{\text {m }}$ Ed,2012,3111-B, 3 18 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | APHA $22^{\text {me }}$ Ed. $2012,3500-\mathrm{Cd}, 3-$ 105 | 0.003 | $\begin{gathered} \text { NoRelaxatio } \\ \text { n } \end{gathered}$ | N.D. |
| 32 | Mercury (as Hg ) | mg/Lit | APHA $22^{\text {ra }}$ Ed. $2012,3112-\mathrm{B}, 3$ 23 | 0.001 | $\begin{aligned} & \text { NoRelaxatio } \\ & \mathrm{n} \end{aligned}$ | N.D. |
| 33 | Arsenic (as As) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {ma }}$ Ed. $2012,3114-\mathrm{C}, 3$ 38 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | mg/Lit | APHA $22^{\text {nd }}$ Ed.2012,3114-C, 338 | 0.01 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \end{gathered}$ | N.D. |
| 35 | Chromium (as Cr ) | mg/Lit | ```APHA 22 2d Ed.2012,3500-Cr-B, 3-69``` | 0.05 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \end{gathered}$ | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | APHA $22^{\text {nd }}$ Ed,2012,5540-C, 553 | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound (as $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}$ ) | $\mathrm{mg} / \mathrm{Lit}$ | ```APHA 22 290 Ed.2012,5540-B & C, 5-47``` | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} / \mathrm{Lit}$ | APHA $22^{\text {re }}$ Ed. 2012,6440-6-93 | 0.0001 | $\begin{gathered} \text { NoRelaxatio } \\ \mathrm{n} \\ \hline \end{gathered}$ | N.D. |
| 39 | Mineral Oil | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { IS } 3025 \text { (part-39) : 1991, RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | - | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \\ \text { ML } \end{gathered}$ | IS:1622:1981: RA:2019 | Shall not be 100 m | ectable in any sample | Absent |
| 2 | Faecal coliform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | 15:1622:1981: RA:2019 | Shall not be 100 m | ectable in any sample | Absent |
| 3 | E. Coll | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981:RA:2019 | Shall not be 100 m | ectable in any ample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | p,PDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |



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

## Note: mg/hit: milligram per liter, N.D.- Not Detected. <br> REMARKS: RESULTS ARE AS ABOVE

Terms \& conditions
> The report for publlication, arbitration or as legal dispute is forbidden.
> Test sample wifl be refained fort5 days affor issie of tort ropoit unless othenvise agnoed with customer.
$\rightarrow$ This is for information as the party has asked for above test(s) onty.


End of the test report

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

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

| Namu II Adidruan or They Einthourer TO， <br> HINDALCO INDUSTRIES LIMAITED， GARE PALMA－IVIS，MILUPARA <br> Uİ COAL MINE，VILLAOE－MILUPARA， <br> BLOCK－TAMNAR， <br> DISTT．－RAIGARH（C．Q．） 496107 |  |  |  | UES／TR／21－22／06051 |  |  |
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| SAMPLE DETAILS |  |  |  |  |  |  |
| SWATE TXPE | chound mamat |  | crenst／nachaumice： |  | $\begin{aligned} & \text { N/PO//2RV/2122/0039, } \\ & \text { DtD. } 24 \text {-nuty-2021 } \end{aligned}$ |  |
| Cunsmar skove x |  |  | SNATLS CONDITIEN AT मECEIPY |  | un |  |
| Phocina of samata | $\begin{aligned} & 3 \text { I } X \text { I I NO. PVC CAN } \\ & 1 \end{aligned} \frac{1}{x} 11 \text { NO. PVC CAN }$ | seauco | SWaple costacted by |  | camersa |  |
| stughima procedutix | IS：3025（PARA 1$)=1987 \mathrm{RA} 20037$AFNA $22 N D \mathrm{ED}, 2012,1050-8,1-39$ |  | gcantity ractives |  | 52 mR |  |

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| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SR． | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500：2012 |  | RESULT |
| No． |  |  |  | Acceptable Limit | Parmissible Timit |  |
| 1 | Colour | Hazen | IS：3025：（Part－4） | 5 | 15 | $<1$ |
| 2 | Odour | － | IS 3025（part－5） | Agreeabla | Agreeable | Agreeable |
| 3 | Taste | － | 15 3025（part－8） | Agreeable | Agreeable | Agreeable |
| 4 | pH | $\bullet$ | $\begin{aligned} & \text { APHA } 22^{2} \text { Ed. } 2012,1500 \cdot \mathrm{H}^{+}-B_{1} \\ & 4.92 \end{aligned}$ | 6．5－8．5 | Ifohalamati on | 7.28 |
| 5 | Turbidity | NTU | APHA $22^{\circ 6} \mathrm{Ed}, 2012,2130-8,2-13$ | 1 | 5 | 0.43 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | IS 3025（part－14）：1984，RA 2013 | － | － | 342.0 |
| 7 | Residual Chlorine | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {d }} \mathrm{Ed}, 2012,4500-\mathrm{Cl}-\mathrm{G}, 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N．D． |
| 8 | Total Solid | mg／Lit | APHA $22^{\text {24 }}$ Ed． $2012,2540-$ B， $2=$ 64 | $\rightarrow$ | － | 216.0 |
| 9 | Total Dissolved Solids | $\mathrm{mg} / \mathrm{Lit}$ | 15 3025（part－16）：1984，RA 2006 | 500 | 2000 | 212.4 |
| 10 | Total Suspended Solids | mg／Lit | APHA 22 ${ }^{\text {® }}$ E．2012，2540－D， 2 － 66 | － | － | 3.6 |
| 11 | Alkalinity Total $\left(a s \mathrm{CaCO}_{1}\right)$ | mg／Lit | IS 3025（part－23）：1986，RA 2003 | 200 | 600 | 62.0 |
| 12 | Total Hardness（as $\mathrm{CaCO}_{3}$ ） | mg／Lut | $\begin{aligned} & \text { APHA } ク ⿰ 习 习^{* 6} \mathrm{Ed} .2012,2340-\mathrm{C}, 2 \\ & 44,45 \end{aligned}$ | 200 | 600 | 98.0 |
| 13 | Calcium Hardness（as CaCO3） | mg／Lit | $\begin{aligned} & \text { APHA } 22^{24} \text { Ed. 2012,3500-Ca- } \\ & \text { B,3-67 } \end{aligned}$ | － | － | 56.0 |
| 14 | Magnesium Hardness （as CaCO 3 ） | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {ne }} \mathrm{Ed}, 2012,3500-\mathrm{Mg}-$ B，3－84 | － | ＊ | 42.0 |
| 15 | Calcium（as Ca） | $\mathrm{mg} / \mathrm{L}$ it | APHA $22^{\text {ne }}$ Ed，2012，3500－Ca－ 8，3－67 | 75 | 200 | 22.4 |
| 16 | Magnesium（as Mg） | mg／Lit | $\begin{aligned} & \text { APFA } 22^{+1} \text { Ed. } 2012,3500-\mathrm{Mg} \cdot \mathrm{~B}, \\ & 3-84 \end{aligned}$ | 30 | 100 | 10.2 |
| 17 | Chloride（as Cl） | mg／Lit | $\text { APHA } 22^{-\alpha} \text { Et. } 2012,4500-\mathrm{Cl}-\mathrm{B} \text {, }$ $4-72$ | 250 | 1000 | 21.9 |
| 18 | Sulphate（as $\mathrm{SO}_{4}$ ） | mg／Lit | $\begin{aligned} & \text { APHA } 22^{\text {Ke }} \mathrm{Ed} .2012,4500-\mathrm{SO}_{4}-\mathrm{E}, \\ & 4-190 \end{aligned}$ | 200 | 400 | 12.4 |
| 19 | Nitrate（as $\mathrm{NO}_{3}$ ） | mg／Lit | $\begin{aligned} & \text { APHA } 22^{w-} \mathrm{Ed} .2012,4500-\mathrm{NO}_{3} \\ & \mathrm{~B}, 4-122 \end{aligned}$ | 45 | $\begin{aligned} & \text { Nolelaxati } \\ & \text { on } \end{aligned}$ | 3.6 |

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| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | Result |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Acceptable Limit | Permissible limit |  |
| 20 | Phosphate (as P) | $\mathrm{mg} / \mathrm{L}$ it | APHA 22ndEd.2012,4500-p-C, $4-153$ | - | - | N.D. - |
| 21 | Sodium (as Na ) | $\mathrm{mg} / \mathrm{L}$ it | APHA 22nd Ed.2012,3500-N3-B, 3.97 | - | * | 10.7 |
| 22 | Potassium (as K) | $\mathrm{mg} /$ Lit | APHA $22^{22}$ Ed. 2012,3500-K-B, 387 | - | - | 0.9 |
| 23 | Boron (as B) | mg/Lit | APHA $22^{-2}$ Ed. 2012,4500-B-B, 425 | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | $\mathrm{mg} /$ Lit | APHA 22 ${ }^{\text {26 }}$ Ed.2012,3111-B,3-18 | 0.3 | NoRelaxati on | N.D. |
| 25 | Fluoride (as F) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{2} \mathrm{Ed} .2012,4500-\mathrm{F}-\mathrm{B} \\ & 8 \mathrm{D}, 4-84 \& 87 \end{aligned}$ | 1 | 1.5 | 0.12 |
| 26 | Manganese (as Mn) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22e Ed. 2012,3111-B, 3-18 | 0.1 | 0,3 | 0.09 |
| 27 | Lead (as Pb) | mg/Lit | APHA . 22 ${ }^{\text {re }}$ Ed, 2012,3111-B, 3-18 | 0.01 | $\begin{gathered} \text { NoRelaxati } \\ \text { on } \end{gathered}$ | N.D. |
| 28 | Nickel (as Ni) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\circ} \text { Ed. } 2012,3500-\mathrm{N}, 3 \\ & 10 \mathrm{~B} \end{aligned}$ | 0.02 | $\begin{gathered} \text { No } \\ \text { Rolaxation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | mg/Lit | APTHA $22^{-6} \mathrm{td} .2012,1111-15,3-18$ | 5 | 15 | N.D. |
| 30 | Copper (as Cu) | $\mathrm{mg} / \mathrm{Lit}$ | APPA 22 ${ }^{\text {df }}$ Ed.2012,3111-B, 3-1B | 0.05 | 1. 5 | N.D. |
| 31 | Cadmium (as Cd) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{29} \mathrm{Ed} .2012,3500-\mathrm{Cd}, 3- \\ & 105 \end{aligned}$ | 0.003 | $\begin{gathered} \text { SoMelaxat1 } \\ \text { on } \end{gathered}$ | N.D. |
| 32 | Mercury (as Hg ) | $\mathrm{mg} / \mathrm{L}$ it | APHA 22 ${ }^{\text {ds }}$ Ed. 2012,3112-B, 3-23 | 0.001 | $\begin{gathered} \text { NoRelaxati } \\ \text { on } \\ \hline \end{gathered}$ | N.D. |
| 33 | Arsenic (as As) | mg/Lit | APHA 22** Ed. 2012,3114-C, 3-38 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | mg/Lit | APHA $22^{\text {ed }}$ Ed. 2012,3114-C, 3-38 | 0.01 | $\begin{gathered} \text { MoRelaxati } \\ \text { on } \end{gathered}$ | N.D. |
| 35 | Chromium (as Cr) | $\mathrm{mg} / \mathrm{L}$ it | $\begin{aligned} & \text { APHA } 22^{\text {d }} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B}, \\ & 3-69 \end{aligned}$ | 0.05 | $\begin{aligned} & \text { NoRelaxati } \\ & \text { on } \end{aligned}$ | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | APHA $22{ }^{\text {nd }}$ Edl. $2012,5540-\mathrm{C}, 5.53$ | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound $\left(\text { as } \mathrm{C}_{2} \mathrm{H}_{3} \mathrm{OH}\right)$ | $\mathrm{mg} / \mathrm{L}$ it | $\begin{aligned} & \text { APHA } 22^{2 \pi} \text { Ed. } 2012,5540-\mathrm{B} \mathrm{~B} \mathrm{C} \text {, } \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{H} / \mathrm{Lit}$ | APHA 22 ${ }^{\text {as }}$ Ed. $2012,6440-6-93$ | 0.0001 | $\begin{gathered} \text { WoRelaxati } \\ \text { on } \end{gathered}$ | N.D. |
| 39 | Mineral Oil | mg/Lit | $\begin{aligned} & 153025(\text { part }-39): 1991, R A \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oll \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39):1991, RA } \\ & 2003 \end{aligned}$ | $\checkmark$ | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{aligned} & \text { MPN/ } \\ & 100 \\ & \mathrm{ML} \\ & \hline \end{aligned}$ | 15:1622:1981: RAこ2019 | Shall not be any 100 | etectable in sample | Absent |
| 2 | Faecal coliform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | 15:1622:1981: RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| 3 | E. Coti | MPN/ <br> 100 ml | IS:1622:1981:RA:2019 | Shall not be any 100 m | etectable in sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | P.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 2 | o.p DDT | $\mathrm{\mu g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |
| 3 | pfpDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N, D. |
| 4 | Pıp DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 1 |  | N.D. |

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| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5 R$. | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| No. |  |  |  | Acceplable Limit | Fermissible limit |  |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$. | US EPA 508-1995 | 1 |  | N.D. |
| 6 | Gamma-HCH (Lindane) | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 2 |  | N.D. |
| 7 | Alpha-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.01 |  | N.D. |
| 8 | Beta-HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.04 |  | N.D. |
| 9 | Deita HCH | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.04 |  | N.D. - |
| 10 | Alpha-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | USEPA 508-1995 | 0.4 |  | N.D. |
| 11 | Beta-Endosulfan | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 |  | N.D. |
| 12 | Endosulfansulphate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.4 |  | N,D. |
| 13 | Monocrotophos | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 1 |  | N.D. |
| 14 | Ethion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 3 |  | N.D. |
| 15 | Chloropyrifos | $\mu \mathrm{g} / \mathrm{L}$ | USEPA 8141A-1994 | 30 |  | N.D. |
| 16 | Phorate | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 2 |  | N.D. |
| 17 | Phoratesulphoxide | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 18 | Phoratesulphone | $\mu \mathrm{H} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 19 | 2,4-D | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 515.1-1995 | 30 |  | N.D. |
| 20 | Alachlor | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 20 |  | N.D. |
| 21 | Atrazine | $\mu g / 2$ | US EPA 532-2000 | 2 |  | N.D. |
| 22 | Methyl parathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA B141A-1994 | 0.3 |  | N.D. |
| 23 | Methyl paraxone | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | - |  | N.D. |
| 24 | Malathion | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 8141A-1994 | 190 |  | N.D. |
| 25 | Malaoxon | $\underline{\mu g} / \mathrm{L}$ | US EPA 8141A-1994 | $\rightarrow$ |  | N.D. |
| 26 | Aldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.03 |  | N.D. |
| 27 | Dieldrin | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 | 0.03 |  | N.D. |

REMARKS: RESULTS ARE AS ABOVE

> Terme \& conditions

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End of the test report


| Name I Aderras of The Chastainer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107. |  |  | REPART NO | UES/TR/21-22/0 | 5994 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab ref mo | UES/21-22/W/01 | 0312 |
|  |  |  | DATE OF SAMPLING | 24/01/2022 |  |
|  |  |  | DAIE OF RECEIPT | 25/01/2022 |  |
|  |  |  | DATE OF Raycint | 02/02/2022 |  |
|  |  |  | date of amalysis | START:25/01/2022 | END: 29/01/2022 |
| SAMPLE DETAILS |  |  |  |  |  |
| STMPLE TTPE | GROLTMD MEMER |  | Cruer /rinciance: | W/PO/SRV/2122/0045, DTD. 24-JUKY-2022 |  |
| CuSmand smave zo | helator village (buchelli) |  | SANQLE CONDITION AT RECETPT | CK |  |
| PACKING of smaply | $31 \times 1100$. PNO CN <br>  | อаих | savpze Cozzacied my | Chemtsr |  |
| SANPLING PROCEDURE | IS; 3025 (PART I) $=1987$ RA 2003: APHA 22ND KD. 2012, $1060-B_{,} 1-39$ |  | cunntity reczived | 5 LTR |  |


| Report No.05994 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TEST REPORT |  |  |  |  |  |  |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | Acceptable Limit | Permissible Ilimit |  |
| 1 | Colour | Hazen | 15:3025:(Part-4) | 5 | 15 | $<1$ |
| 2 | Odour | - | IS 3025 (part-5) | Agreeable | Agreeable | Agreeable |
| 3 | Taste | - | IS 3025(part-8) | Agreeable | Agrenable | Agreeable |
| 4 | pH | - | $\begin{aligned} & \text { APHA } 2 Z{ }^{66} \text { Ed. } 2012,4500-\mathrm{H}^{+}-\mathrm{B}, \\ & 4-92 \end{aligned}$ | 6.5-8.5 | $\begin{gathered} \text { No } \\ \text { Rolaxation } \end{gathered}$ | 7.58 |
| 5 | Turbidity | NTU | APHA 22 ${ }^{\text {at }}$ Ed. $2012,2130-8,2-13$ | 1 | 5 | 0.42 |
| 6 | Electrical Conductivity | $\mu \mathrm{S} / \mathrm{cm}$ | $\begin{aligned} & \text { IS 3025(part-14):1984, RA } \\ & 2013 \end{aligned}$ | - | - | 576.0 |
| 7 | Residual Chlorine | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {nh }} \text { Ed.2012,4500-Cl-G, } 4 \\ & -69 \end{aligned}$ | 0.2 | 1 | N.D. |
| 8 | Total Solid | mg/Lit | APHA $22^{\text {m }}$ Ed.2012,2540-B, 264 | - | - | 353.4 |
| 9 | Total Dissolved Solids | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { IS } 3025 \text { (part-16):1984, RA } \\ & 2006 \end{aligned}$ | 500 | 2000 | 348.6 |
| 10 | Total Suspended Solids | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed $2012,2540-0,2-$ 66 | - | - | 4.8 |
| 11 | Alkalinity Total (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (part-23):1986, RA } \\ & 2003 \end{aligned}$ | 200 | 600 | 166.0 |
| 12 | ```Total Hardness ( as CaCO3)``` | mg/Lit | $\text { APHA } 22^{\text {re }} \text { Ed. } 2012,2340-\mathrm{C}, 2 \text { - }$ $44,45$ | 200 | 600 | 196.0 |
| 13 | Calcium Hardness (as $\mathrm{CaCO}_{3}$ ) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {red }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B} \text {, } \\ & 3-67 \end{aligned}$ | - | - | 106.0 |
| 14 | Magnesium Hardness (as $\mathrm{CaCO}_{3}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {ec }} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & \text { 3.84 } \end{aligned}$ | - | - | 90.0 |
| 15 | Calcium (as Ca) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {td }} \text { Ed. } 2012,3500-\mathrm{Ca}-\mathrm{B}, \\ & 3-67 \end{aligned}$ | 75 | 200 | 42.4 |
| 16 | Magnesium (as Mg) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{24} \text { Ed. } 2012,3500-\mathrm{Mg}-\mathrm{B} \text {, } \\ & 3-84 \end{aligned}$ | 30 | 100 | 21.8 |
| 17 | Chloride (as Cl ) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {2t }} \text { Ed. } 2012,4500-\mathrm{Cl}-\mathrm{B}, \end{aligned}$ | 250 | 1000 | 46.9 |
| 18 | Sulphate (as $\mathrm{SO}_{4}$ ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {me }} \mathrm{Ed}, 2012,4500-\mathrm{SO}_{4}-\mathrm{E}_{\text {, }} \\ & 4-190 \end{aligned}$ | 200 | 400 | 25.2 |
| 19 | Nitrate (as $\mathrm{NO}_{3}$ ) | $\mathrm{mg} /$ Lit | $\begin{aligned} & \text { APHA } 22^{n \mathrm{nd}} \mathrm{Ed}, 2012,4500-\mathrm{NO}_{\mathrm{r}}-\mathrm{B}, \\ & 4-122 \end{aligned}$ | 45 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | 1.32 |
| 20 | Phosphate (as P) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22nd Ed.2012,4500-p. C.4-153 | - | - | N.D. |

HDD-272, Phase III - Near JP Chowk
Ring Road No. 2, Kabir Nagar, Raipur (C. G.) - 492099
Ph : 0771-40277771 Email : ultimatenviro@gmail.com

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

| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | PARAMETER | UNIT | METHOD OF TEST | AS PER IS 10500:2012 |  | RESULT |
| NO. |  |  |  | Acceptable Limit | Pormissible limit |  |
| 21 | Sodium (as Na ) | mg/Lit | APHA 22nd Ed. 2012,3500-Na-B,3-97 | $\sim$ | - | 6.8 |
| 22 | Potassium (as K) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {rd }} \text { Ed. Ed. } 2012,3500-K-B, \end{aligned}$ | - | - | 1.34 |
| 23 | Boron (as B) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {rc }} \text { Ed. } 2012,4500-8-\theta, \\ & 4-25 \end{aligned}$ | 0.5 | 1.0 | N.D. |
| 24 | Iron (as Fe) | $\mathrm{mg} / \mathrm{Lt}$ | APHA $22^{26}$ Ed. 2012,3111-B,3-18 | 0.3 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 25 | Fluoride (as F) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{16} \text { Ed. } 2012,4500-\mathrm{F}-\mathrm{B} \\ & \text { \&D, } 4-84 \& 87 \end{aligned}$ | 1 | 1.5 | 0.09 |
| 26 | Manganese (as Mn) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{96}$ Ed.2012,3111-8, 318 | 0.1 | 0.3 | 0.12 |
| 27 | Lead (as Pb) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {mi }} \text { Ed.2012,3111-B, 3- } \\ & 18 \end{aligned}$ | 0.01 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 28 | Nickel (as Ni) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {cs }}$ Ed. 2012,3500-Ni, 3108 | 0.02 | $\begin{gathered} \text { No } \\ \text { Rolaxation } \end{gathered}$ | N.D. |
| 29 | Zinc (as Zn ) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {m }} \text { Ed.2012,3111-B, } 3- \\ & 18 \end{aligned}$ | 5 | 15 | N.D. |
| 30 | Copper (as Cu ) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {m }}$ Ed.2012,3111-B, 318 | 0.05 | 1.5 | N.D. |
| 31 | Cadmium (as Cd) | $\mathrm{mg} / \mathrm{Lit}$ | $\begin{aligned} & \text { APHA } 22^{\text {rd }} \text { Ed. } 2012,3500-\mathrm{Cd}, 3 \text { - } \\ & 105 \end{aligned}$ | 0.003 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 32 | Mercury (as Hg) | $\mathrm{mg} / \mathrm{Lit}$ | APHA 22 $2^{\text {ra }}$ Ed. 2012,3112-B, 323 | 0.001 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 33 | Arsenic (as As) | $\mathrm{mg} / \mathrm{Lit}$ | APHA $22^{\text {m }}$ Ed.2012,3114-C, 338 | 0.01 | 0.05 | N.D. |
| 34 | Selenium (as Se) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{\text {rd }} \text { Ed. 2012,3114-C, } 3- \\ & 38 \end{aligned}$ | 0.01 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 35 | Chromium (as Cr ) | mg/Lit | $\begin{aligned} & \text { APHA } 22^{2 \pi} \text { Ed. } 2012,3500-\mathrm{Cr}-\mathrm{B} \text {, } \\ & 3-69 \end{aligned}$ | 0.05 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 36 | Anionic Detergent (as MBAS) | mg/Lit | APHA $22^{* *}$ Ed. $2012,5540-\mathrm{C}, 5-$ 53 | 0.2 | 1.0 | N.D. |
| 37 | Phenolic Compound $\left(\text { as } \mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}\right)$ | mg/Lit | $\begin{aligned} & \text { APHA } 22^{26} \text { Ed. } 2012,5540-\mathrm{B} \& \mathrm{C}, \\ & 5-47 \end{aligned}$ | 0.001 | 0.002 | N.D. |
| 38 | Poly-nuclear Aromatic Hydrocarbon (PAH) | $\mu \mathrm{g} / \mathrm{Lit}$ | APHA $22^{\text {nd }}$ Ed. $2012,6440-6-93$ | 0.0001 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 39 | Mineral Oil | mg/Lit | $\begin{aligned} & \text { IS } 3025(\text { part }-39): 1991, \text { RA } \\ & 2003 \end{aligned}$ | 0.5 | $\begin{gathered} \text { No } \\ \text { Relaxation } \end{gathered}$ | N.D. |
| 40 | Oil \& Grease | mg/Lit | $\begin{aligned} & \text { IS } 3025 \text { (Part 39): 1991, RA } \\ & 2003 \end{aligned}$ | * | - | N.D. |
| Microbiological Analysis |  |  |  |  |  |  |
| 1 | Total Coliforms | $\begin{gathered} \text { MPN/ } \\ 100 \mathrm{ML} \end{gathered}$ | 15:1622:1981: RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| 2 | Faecal Coliform | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | IS:1622:1981: RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| 3 | E. Coll | $\begin{aligned} & \text { MPN/ } \\ & 100 \mathrm{ml} \end{aligned}$ | 1S:1622:1981:RA:2019 | Shall not be any 100 | etectable in sample | Absent |
| Pesticides |  |  |  |  |  |  |
| 1 | p,p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 2 | o.p DDT | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 3 | P,pDDE | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 4 | p,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |
| 5 | O,p DDD | $\mu \mathrm{g} / \mathrm{L}$ | US EPA 508-1995 |  |  | N.D. |



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

Note: $\mathrm{mg} /$ Lt: mililigram per liter, N.D. . Not Detected.

## REMARKS: RESULTS ARE AS ABOVE

Terms \& conditions
7. The raport for publication, arbitration or as legal allspute is forbiddeo.
7. Test sample will be retained fort5 days afler issue of toat roport unless otherwise agroed with cuatomer.
$>$ This is for information as the party has asked for above testis) onty.




## The Integrated Regional Office, Ministry of Environment Forests \& Climate Change (MoEF \& CC) Aranya Bhawan, North Block, Sector - 19, Nay Raipur, <br> Atal Nagar, Chhattisgarh, 492002

Sub.: Compliance of condition no. viii of Environment Clearance Letter no. - J-11015/ 8/1998-IA. II (M) Dated: - $\mathbf{3 1}{ }^{\text {st }}$ August 2000 for Under Ground Mining 1.0 Million Ton/Annum Production Capacity.

Ref.: Environment Clearance Letter no. - letter no. J-11015/ 8/1998-IA. II (M) Dated: - 31st August 2000.

## Dear Sir,

With reference to above subject, we are submitting herewith the quarterly monitoring report of Ground Water Level (from Oct. 2021 to December 2021) \& GW Quality for the month of November 2021 - Post monsoon period of Gare Palma IV/5 Coal Mines, Hindalco Industries Limited, Village - Milupara, Tehsil Tamnar, District - Raigarh, Chhattisgarh.

Thanking you,
Yours faithfully,


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, Area 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, Mạsingh Road, New Delhi - 110011

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. viii of Environment Clearance Letter no. - J-11015/ 8/1998-IA. II (M) Dated: - 31 ${ }^{\text {st }}$ August 2000 for Under Ground Mining 1.0 Million Ton/Annum Production Capacity.

Ref.: Environment Clearance Letter no. - letter no. J-11015/ 8/1998-IA. II (M) Dated: - 31st August 2000.

## Dear Sir,

With reference to above subject, we are submitting herewith the quarterly monitoring report of Ground Water Level (from Jan. 2022 to Mar. 2022) \& GW Quality for the month of January 2022 - Winter Season of Gare Palma IV/5 Coal Mines, Hindalco Industries Limited, Village - Milupara, Tehsil - Tamnar, District Raigarh, Chhattisgarh.

Thanking you,
Yours faithfully,


## 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

Annexure-4



| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{EM}_{10}$ ) | IS 5182 (Part 23): 2006 6 CPCB Guldelines Yol.-I | 100 |
| Particulate Mattex size less than 2.5 mictons ( $\mathrm{PNT}_{2}, 5$ ) | CPCB Guidelines Vol.-I | 60 |
| Sulphur Dioxide $\left\{\mathrm{SO}_{2}\right\}$ | 155182 (Part 2): 2001, RA 20066 CPCB Guidelines Vol. -1 | 80 |
| Nitrogen Dfoxide ( $\mathrm{NO}_{2}$ ) | Is 5182 (Part 6) $=2006$ 5 CPCB Gułdelines Vol:-t | BO |
| Carbon Monoxide (CO)* | IS 51821Part 107:1999, RA 2003 | 4.0 |
| Mercury (Hg) | EPA. Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{25} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\mathrm{ng} / \mathrm{m}^{3}$ |
| 01.10 .2021 | 46 | 28 | 18 | 28 | 0.7 | N. D. |
| 04.10 .2021 | 40 | 20 | 12 | 26 | 0.5 | N. D. |
| 08.10 .2021 | 46 | 26 | 16 | 24 | 0.9 | N, D. |
| 11.10 .2021 | 38 | 22 | 10 | 22 | 0.6 | N, D. |
| 14.10 .2021 | 34 | 28 | 18 | 28 | 0.4 | N.D. |
| 18.10.2021 | 36 | 22 | 12 | 26 | 0.8 | N. D. |
| 22.10 .2021 | 48 | 26 | 10 | 20 | 0.6 | N. D. |
| 25.10 .2021 | 36 | 20 | 16 | 28 | 0.9 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

## Terms \& conditions





End of the test report
AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY

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

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

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL <br> MINE, VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPCAR MO | UES/TR/21-22/04 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | UES/21-22/AAge// | 23-07530 |
|  |  | DATE OF SMAPLING | 02/11/2021 to 2 | 1/2021 |
|  |  | DATE OF RECETPT | 03/11/2021 to 2 | 1/2021 |
|  |  | DATE OF RAPPORT | 01/12/2021 |  |
|  |  | DATE OF ANALYSIS | START: 03/12/2021 | 20xD:28/11/2021 |
| SAMPLE DETAILS |  |  |  |  |
| MONITIRING TOR | ANEIENT AIR gUALITYY MONITOHENG | $\begin{aligned} & \text { CUSTCWIER FXF, NO, } 6 \\ & \text { DATE } \end{aligned}$ | $\begin{aligned} & \text { M/PO/ERV/2122/0049, } \\ & \text { DID. 24-JVLY-2021 } \end{aligned}$ |  |
| SADPLTNG LOCATYOM | MAIN OFETCE AREA, MILUPALA |  |  |  |
| DURAETON OF SARDLITM | 24 HCums | SAMPLIE COLLECTED BY | LABORAFOSY CARMIST |  |
| SAMPLING PROCEDREX | AS PKR METMOD REFERENCE |  |  |  |
| SAMPLE <br> goantiry/PACKCING | FILTER PAPER (PM10) $\ddagger 1 \times 2$ SO2: 3OMLXI NO. DVC BOTY FXMEER BLADCIER: IXI NO. | O., FILTER PAPER (PM NO2: 30MLXI NO. NV | $\text { -5) : } 1 \times 1 \mathrm{NO} \text {. }$ вогтия |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size Inss than 10 microns ( $\mathrm{PM}_{2}$ ) | IS 5182 (Part 23): 2006 \& CPCB Guidolines Vol.-I | $\frac{100}{}$ |
| Particulate Matter size less than 2.5 microns $\left\langle\mathrm{PM}_{3}\right.$, , $\rangle$ | CPCBGuidelines Vol.-I | 60 |
| Sulphue Dioxide $\left(\mathrm{SO}_{2}\right)$ | 18 5182 (Part 2) : 2001, RA 2006 . 6 CPCB Guidelines Vol.-1 | 80 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | Is 5182 (Part 6) $\ddagger 2006$ \& CPCB Guidelines Vol,-I | 80 |
| Carbon Monoxide (CO)* | 18 5182 (Part - 10) $\pm 2999$, RA 2003 | 4.0 |
| Nercury ( Hg ) | EPA Method 10-5 | $\cdots$ |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} P M_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.11.2021 | 48 | 30 | 20 | 26 | 0.8 | N. D. |
| 05.11 .2021 | 42 | 22 | 14 | 24 | 0.6 | N. D. |
| 09.11 .2021 | 48 | 28 | 18 | 26 | 0.8 | N.D. |
| 12.11.2021 | 40 | 24 | 12 | 24 | 0.4 | N.D. |
| 16.11 .2021 | 36 | 30 | 20 | 26 | 0.6 | N. D. |
| 19.11.2021 | 38 | 24 | 14 | 22 | 0.9 | N. D. |
| 23.11 .2021 | 46 | 28 | 12 | 26 | 0.7 | N, D. |
| 26.11.2021 | 38 | 22 | 18 | 24 | 0.8 | N. D. |

Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected
Terms 5 -conditions



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

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL <br> MINE, VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | RESPRT NO | UES/TR/21-22/04940 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAR RESF NO | UES/21-22/Axgm/08789-08796 |  |
|  |  | DATE of SAMPLING | 03/12/2021 to 28/12/2021 |  |
|  |  | DATE of RACEAPT | 04/12/2021 to 29/12/2021 |  |
|  |  | DATE OF REPOR | 01/01/2022 |  |
|  |  | DAEE OF ANALYEZS | START: 04/12/2021 | END: 31/22/2021 |
| SAMPLE DETAILS |  |  |  |  |
| MOWITORTNE SNR | AMBIENT AIR DUKLITY MONTTORING | CUSTOMCA REF. NO. 4 DATE | $\begin{aligned} & \mathrm{H} / \mathrm{PO} / \mathrm{SRV} / 2122 / 0049 \text {, } \\ & \mathrm{DRD.} 24-J U L Y-2022 . \end{aligned}$ |  |
| GNAPLING LOCATTON | MATN OFETCE AJEA, MILUPARA |  |  |  |
| DURAFTON OF SMAPLITME | 24 HCORS | sample colhecten by | LABCRATORY CMEMTST |  |
| SMMPLTMG PROCEDDUE: | AS PER MASTHOD REEERENCS |  |  |  |
| SAMELE <br> GUANTITY/PACRIMG |  SO2: 30MLLXI NO, PVC BOTTLE, NO2: 3OMLXI NO, PVC BOTTLE RUBBER BLANDER: $1 \times 1$ no. |  |  |  |


| Parameter | Method Reference | NAAQM |
| :---: | :---: | :---: |
| Partioulate Matter size leas than 10 microns ( $\mathrm{FM}_{10}$ ) | IS 5182 (Part 23): 2006 \& CPCR Guidelinea Yol.-I | Standard 100 |
| Particulate Mattar size less than 2.5 microns ( $\mathrm{PM}_{2,5}$ ) | CPCBGuidelines Vol, - I | 60 |
| Bulphur Dioxide $\left\{\mathrm{SO}_{2}\right\}$ | Is 5182 (Patt 2): 2001r RA 2006 s CPCB Guidelines Vol, -I | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | IS 5182 (Part 6) 12006 6 CPCB Guidelines Vol.-1 | 80 |
| Carbon Monoxids (CO): | IS 5182 (Part 10) 1999 , RA 2003 |  |
| Mercury (Hg) | EPA Method 10-5 | $\frac{4.0}{--}$ |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling 03.12.2021 | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| $\frac{03.12 .2021}{07.12 .2021}$ | 50 | 32 | 22 | 28 | 0.9 | N.D. |
| $\frac{07.12 .2021}{10.12 .2021}$ | 44 | 24 | 16 | 26 | 0.8 | N. D. |
| $\frac{10.12 .2021}{14.12 .2021}$ | 50 | 30 | 20 | 28 | 0.9 | N. D. |
| $\frac{14.12 .2021}{17.12 .2021 ~}$ | 42 | 26 | 14 | 26 | 0.6 | N. D. |
| $\frac{17.12 .2021}{}$ | 38 | 32 | 22 | 28 | 0.8 | N, D. |
| 24.12 .2021 | 40 | 26 | 16 | 24 | 1.0 | N. D. |
| 28.12.2021 | 48 | 30 | 14 | 28 | 0.8 | N. D. |
|  | 1 | 24 | 20 | 26 | 0.9 | N. D. |

Terms 5 condifions


..........................................

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


|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE, VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | fencine mo | UES/TR/21-22/060 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | UES/21-22/aAger/01 | 393-010400 |
|  |  | DATE OF SMMPLTMG | 04/01/2022 to 28 | 1/2022 |
|  |  | DATE OF RGCEIPT | 05/01/2022 to 291 | /2022 |
|  |  | DATE OF REPORT | 02/02/2022 |  |
|  |  | DATE OF ANALYSIS | START: 05/01/2022 | END: 01/02/2022 |
| SAMPLS DETAILS |  |  |  |  |
| MONTICALNG PCR | dMBTENT ALR QUAEITY MONXTORING | CUSNCNER REF: NO. 4 DAIE | M/DO/SRV/2122/004 DTD. 24-JULY-2021 |  |
| SAMPLING LOCAFTON | MAIN OFETCE AREA, MILUPARA |  |  |  |
| DURATITON OF SANQLIMG | 24 mCuRs | SAMPLE COLHEEESD aY | LABORATORY Cmamrsx |  |
| SMMPLING PRCOCDCORE | AS FAR METHOD RESERENCE |  |  |  |
| SAMPLE QUKNYITY/PACKING | FILIER PAPER (PM10) : IX2 NO., FILIER PAPER (PML2.5) : $2 X 1$ NO. SO2: 3OMLXI NO, PVC BOKZZE, NO2: 30MIXI NO. DVC BORTLE RUMAKR BLADCKR: $1 \times 1$ NO. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter Bize leas than 10 microns ( $\mathrm{PN}_{1}$ o) | 15 5182 (Part 23): 2006 6 CPCB Guidelines Vol.-I | $\frac{\text { Standard }}{100}$ |
| Particulate Matter Bize less than 2.5 microns $\left\langle\mathrm{PM}_{7}, 5\right.$ ) | CPCB Guidelines Vol, -I | 60 |
| Sulphur Dioxide $(\overrightarrow{S O})$ | IS 5182 (Part 2) 72001 , RA 20065 CPCB Guidelines Vol. $-I$ | 80 |
| Nitrogen Dioxide ( $\mathrm{MO}_{2}$ ) | IS 5182 (Part 6) : 2006 ₹ CPCB Guidelines Vol, -1 | 80 |
| Carbon Monoxide (CO)* | IS 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mercury (Hg) | EPA Method 10-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} P M_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | Hg $\mathrm{ng} / \mathrm{m}^{3}$ |
| 04.01.2022 | 58 | 22 | 12 | 26 | 0.7 | N. D. |
| 08.01.2022 | 60 | 28 | 18 | 22 | 0.6 | N. D. |
| 11.01 .2022 | 58 | 24 | 14 | 28 | 0.8 | N. D. |
| 15.01 .2022 | 48 | 28 | 12 | 22 | 0.4 | N. D. |
| 18.01.2022 | 40 | 30 | 16 | 24 | 0.8 | N. D. |
| 22.01 .2022 | 46 | 28 | 10 | 20 | 1.2 | N. D. |
| 25.01.2022 | 44 | 32 | 18 | 26 | 0.7 | N. D. |
| 28.01.2022 | 48 | 28 | 14 | 22 | 0.5 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |
| Torms 6 condifions <br>  <br>  |  |  |  |  |  |  |
| $\text { Mafluro } \frac{0210272022}{}$ |  |  |  | AUTHORIZED SIGNATORY |  |  |

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

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPCRT NO | UES/TR/21-22/079 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REFF MO | UES/21-22/AAgM/0 | 026-013033 |
|  |  | DATE OF SNMPLIMO | 01/02/2022 to 25 | 2/2022 |
|  |  | AAKE OF RACEIPT | 02/02/2022 to 26 | 2/2022 |
|  |  | DATE OF RXPGRT | 01/03/2022 |  |
|  |  | DATE of ancalysis | SIEART:03/02/2022 | AmD:01/03/2022 |
| SAMPIE DETAILS |  |  |  |  |
| MSOWITMRING FICR | AMBIENT AIR QUALITY MONITORING | CUSTCMAKR REE. NO, \& DA学: | $\begin{aligned} & \text { M/PO/SRV/2122/0049, } \\ & \text { DTD. 24-rtuLY-2021 } \end{aligned}$ |  |
| SAMPLING LOCATION | MAIN OFFICE AREA, MTLUPARA |  |  |  |
| DUSLAFTON or sampling | 24 RCURS | SAMPLE COLTECTED BY | LABGRATORY CHBMIST |  |
| SNRPLING PROCTDURE | AS PER METHOD REFEREMCE |  |  |  |
| SAMPLE DUANTITY/PACKING | FTLAER PAPER (PM2O) : $1 \times 1$ NO., FILIER PADER (PNEZ,5) : $1 \times 1$ NO. 502; 30MLKI NO. PVC BOTTLE, NO2; ЗOMLXI NO, PVC BOTTLE RUARER BLADOERI $1 \times 1$ NO. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $E M_{1}$ ) | IS 5182 (Part 23): 2006 \& CPCB Guidelines Vol,-1 | 100 |
| Particulate Natter size less than 2.5 miorons $\left(\mathrm{PM}_{2}, 5\right)$ | Is 5182 (Part 24): 2019 CPCB Guidelines Vol.-1 | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, FAA 2006 6 CPCB Guidelines Vol.-I | 80 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (Part 6); 2006 6 CPCB Guidelines Vol. -I | 80 |
| Carbon Monoxide, $(C O)$ * | IS 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mercury \{ ${ }^{\text {a }}$, $\}$ | ERA Method 10-5 | -- |




| Name A Alifinwa of The Combomer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPORT NO | UES/TR/21-22/089 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Las rup Mo | UES/21-22/AAGM/01 | 643 |
|  |  | DAIE OF SAMPLING | 02/03/2022 to 28 | 3/2022 |
|  |  | DATE OF RECEIPT | 03/03/2022 to 29 | 3/2022 |
|  |  | DAIE OF REPORT | 02/04/2022 |  |
|  |  | DATE OF ANALYSIS | START: 04/03/2022 | END; 02/04/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MONITOREIME PIOR | Anament AIf Guality MUNT TCRING | $\begin{aligned} & \text { CUSTOMER RAE. NO. } 6 \\ & \text { DATE } \end{aligned}$ | $\begin{aligned} & \mathrm{M} / \mathrm{PO} / \mathrm{SRN} / 2222 / 0049 \text {, } \\ & \mathrm{DTO} .24-\mathrm{JULY}-2021 \end{aligned}$ |  |
| SAMPLITNG LOCATION | MAIN GFFICE ARES, MTLUPARA |  |  |  |
| DURATTON OF SMMPLING | 24 mours | SANCLE COLLSCTAED BY | LABCRUTPRY CHEMTST |  |
| SAMTELNG PROCCEDUE | AS JEW METMOD R⿴囗TERENCE |  |  |  |
| SAMPLE DUNNTITY/PACKING | FILTER FAPKK (PMLO): $1 X 1$ NO, PILTER PAPER (PM2.5): $2 X 1$ NO, SO2: 30MEXI NO. PVC BORTLE, NO2: 30NLXI NO. PWC BOTTLE RUGBER BLADDER: IXI NO. |  |  |  |


| Parameter | Method Reference | NAAQM <br> Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathbb{P M}_{10}$ ) | IS 5182 (Part 23): 2006 6 CPCB Guidelines Vol,-I | Standard |
| Particulate Matter size less than 2,5 micxons $\left\{\mathrm{PM}_{2,5}\right.$ ) | IS 5182 fPart 24): 2019 CPCE Guidellnes Vol.-I | 60 |
| Sulphur Diaxide ( $\mathrm{SO}_{2}$ ) | IS 5182 fFart 2): 2001, RA 2006 . 6 CPCB Guidelines Vol.-I | 80 |
| Witrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | IS 5192 (Part 6) : 20065 CPCB Guidelines Vol, -I | 80 |
| Carbon Monoxida (CO)* | Is 5182 (Part 10):1999, RA 2003 | 4.0 |
| Morcury \{ Hg ] | EPA Method 10-5 | $\stackrel{-}{-}$ |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2,5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.03.2022 | 68 | 22 | 14 | 28 | 0.9 | N.D. |
| 07.03.2022 | 62 | 28 | 16 | 24 | 0.5 | N.D. |
| 11.03 .2022 | 70 | 26 | 12 | 20 | 0.8 | N, D. |
| 14.03 .2022 | 54 | 28 | 14 | 26 | 0.2 | N, D. |
| 18.03.2022 | 58 | 34 | 18 | 28 | 0.8 | N. D. |
| 21.03.2022 | 52 | 36 | 12 | 22 | 0.4 | N. D. |
| 25.03 .2022 | 68 | 40 | 16 | 28 | 0.6 | N.D. |
| 28.03.2022 | 54 | 32 | 12 | 24 | 0.8 | N. D. |

Terms \& conditions



-End of the test report
AN ISO : 9001:2015 / ISO: 14001:2015 /ISO 45001:2018 CERTIFIED LABORATORY



| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{PM}_{1} \mathrm{a}$ ) | IS 5182 (Part 23) 52006 \& CPCB Guidelines Vol.-1 | 100 |
| Particulate Matter size leas than 2.5 microns ( $\mathrm{PM}_{2}, 3$ ) | CPCB Euidelines Vol,-1 | 60 |
| Sulphur Dioxide $\left\{\mathrm{SO}_{2}\right\}$ | IS 5182 (Part 2): 2001, RA 20065 CPCB Guidelines Vol.-I | 80 |
| Witrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (Part 6): 2006 \& CPCB Guidelines Vol, $-I$ | 80 |
| Carbon Monoxide (CO)* | Is 51.82 Part 101+1999, RA 2003 | 4.0 |
| Mexcury (Hg) | EPA Method IO-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \text { CO } \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 01.10 .2021 | 44 | 28 | 16 | 28 | 0.6 | N. D. |
| 04.10.2021 | 52 | 24 | 12 | 22 | 0.2 | N. D. |
| 08+10.2021 | 48 | 26 | 14 | 28 | 0.9 | N, D. |
| 11.10.2021 | 38 | 22 | 18 | 30 | 0.8 | N. D. |
| 14.10 .2021 | 40 | 28 | 12 | 26 | 0.5 | N. D. |
| 18.10.2021 | 48 | 26 | 16 | 24 | 0.8 | N.D. |
| 22.10 .2021 | 46 | 24 | 10 | 18 | 0.5 | N. D. |
| 25,10.2021 | 42 | 28 | 12 | 26 | 0.7 | N. D. |

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

> Terms \& conditions


End of the zestreport

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

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

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL <br> MINE, VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPCORT NO | UES/TR/21-22/04 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | EAB REF NO | UES/21-22/AACM/ | 531-07538 |
|  |  | TXIE OF SAMDETNG | 02/11/2021 to 2 | 11/2021 |
|  |  | DAIE OF RECEIPT | 03/11/2021 to 2 | 11/2021 |
|  |  | DAEF or Replast | 01/12/2021 |  |
|  |  | DAFE or AkALYSES | SELRT:03/11/2021 | END $288 / 11 / 2021$ |
| SAMPIE DETAILS |  |  |  |  |
| MONTTCARINE SOR | ANGIENY AIR gUALITTY MCNITORING | CUSTCMER REE. NO, 4 DATE | M/PO/SRV/2122/0049, DID, 24-JULY-2021 |  |
| SAMPLITM LOCATEON | STAET OUAFCER, MELUFARA |  |  |  |
| DURATION OF SAMPLING | 24 motms | sumpe conpectan my | LABORATORY CMmetsy |  |
| SAMPLIMG PROCRDURE | AS PER NESTMOD REFESRICNCE |  |  |  |
| SADELI OUKNETTY/PACKING |  $\mathrm{SO}_{2}$ : 30hCLXI NO. DVC HOTTLE, NO2: 30MLXI NO. PVC BOTKLE RUBEER BLADDER: IKI MO. |  |  |  |


| Parameter | Method Reference | $\begin{aligned} & \text { NAAQM } \\ & \text { Standard } \end{aligned}$ |
| :---: | :---: | :---: |
| Particulate Natter size Iess than 10 microns $\left\langle\mathrm{PM}_{1}\right.$ ) | IS 5182 (Part 23) $\ddagger 2006$ 6 CPCB Guidelines Vol.-I | 200 |
| Particulate Matter size less than 2.5 microns $\left(\mathrm{PM}_{2}\right.$, ) | CeCBGuidelines Vol.-1 | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2) : 2001, RA 2006 \& CPCA Guidelines Vol. -I | 180 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | Is 5182 (Part 6): 2006 6CPCPGuidolines Vol.-I | 40 |
| Carbon Monoxide (CO)* | IS 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mercury (Hg) | EPA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.11.2021 | 46 | 30 | 18 | 26 | 0.7 | N. D. |
| 05.11 .2021 | 54 | 26 | 14 | 24 | 0.3 | N. D. |
| 09.11 .2021 | 50 | 28 | 16 | 26 | 0.8 | N. D. |
| 12.11.2021 | 40 | 24 | 20 | 28 | 0.6 | N. D. |
| 16.11 .2021 | 42 | 30 | 14 | 24 | 0.4 | N.D. |
| 19.11.2021 | 50 | 28 | 18 | 26 | 0.9 | N.D. |
| 23.11 .2021 | 48 | 26 | 12 | 20 | 0.6 | N. D. |
| 26.11.2021 | 44 | 30 | 14 | 28 | 0.8 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  | For ULTIMATE ENVIROLYTICAL SOLUTIONS 01112121 AUTHORIZED SIGNATORY |  |  |

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

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

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPCRT NO | UES/TR/21-22/04941 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAII REF MO | UES/21-22/AACM/08797-08804 |  |
|  |  | DATE OF SAMPLING | 03/12/2021 to 28/12/2021 |  |
|  |  | DATE of RECEEIPT | 04/12/2021 to 29/12/2021 |  |
|  |  | DATE OF REPPORT | 01/01/2022 |  |
|  |  | Dhte of Antalysis | START:04/12/2021 | KND:31/12/2921 |
| SAMPLE DETAILS |  |  |  |  |
| MCWYTORTNG FOD | AMBIENY AIR OULALITY MCNITORING | $\begin{aligned} & \text { CUSTCMAER REF, NO, } 8 \\ & \text { DAIE } \end{aligned}$ | H/PO/SRV/2122/0049, Dro. 24-JuLY-2021 |  |
| Smprlina location | STAFY GCARTIER, MILUUARA |  |  |  |
| Duteation of sakplimg | 24 BCURS | SAMPLE COLLECTED DY | LAMORATORY CNWMIST |  |
| SAMPLTMG PROCEDUKE | AS PER METMOD REFERENCS |  |  |  |
| SALPLE DURANTITY/PACKING |  <br>  RUMEKR BLADOER; $1 \times 2$ NO. |  |  |  |


| Parameter | Method Reference | NAAQM |
| :---: | :---: | :---: |
| Partjculats Matter size Iess than 10 microrip ( $\mathrm{PM}_{3}$ ) | Is 5182 (Part 23); 2006 6 CPCB Guidelinas Vol,-I | Standard |
| Particulate Matter size less than 2.5 mlerons ( $\mathrm{FM}_{2}, 3$ ) | CPCB Guidelines Vol -1 | 60 |
| Sulptur Dioxide $\left(S O_{y}\right)$ Nitrogen Dioxide-(NOy) | Is 5182 (Part 2\}: 2002, RA 2006 6 CPCB Guidelines Vol, -I | 80 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) Carbon Monoxide ( CO ) | IS 5182 (Part 6) IS 51820006 ¢ Part CECB Guidelines Vol.-I | 80 |
| Marcury (Hg) | IS $5182($ Part 10):1999, RA 2003 | 4.0 |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 03.12.2021 | 48 | 32 | 20 | 28 | 0.8 | N. D. |
| 07.12.2021 | 56 | 28 | 16 | 26 | 0.4 | N. D. |
| 10.12 .2021 | 52 | 30 | 20 | 28 | 0.9 | N, D. |
| 14.12.2021 | 42 | 26 | 22 | 30 | 0.8 | $\mathrm{N} \cdot \mathrm{D}$ |
| 17.12.2021 | 44 | 32 | 16 | 26 | 0. | N |
| 21.12 .2021 | 52 | 30 | 20 | 28 |  | N. |
| 24.12.2021 | 50 | 28 | 14 |  |  | N. D. |
| 28.12.2021 | 46 | 32 | 16 |  | 0.9 | N. D. |
| marks: * Duration | pling for | Hour, N.D | Detected |  | 0.6 | N. D. |

Ferms \& conditions



-End of the test report.


| Name 16 Aldivene cir Mar Chavenmer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE, VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPCORT NO | UES/TR/21-22/06 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | UES/21-22/AAQM/ | 0401~010408 |
|  |  | DATE OF SMMPLTME | 04/01/2022 to 28 | 01/2022 |
|  |  | Mats of recelp | 05/01/2022 to 29 | 01/2022 |
|  |  | DATE OF REPORT | 02/02/2022 |  |
|  |  | DATE OF ANALYSTS | START:05/01/2022 | END:01/02/2022 |
| SAMPLE DETAIIS |  |  |  |  |
| HCNITKRING POR | ANBIENT ATR GUALITTY MONITARING | CUSTCMER REE. NO. 4 date | M/PO/SRV/2122/0049, DTD. 24-JULY-2021 |  |
| SAMPLING LOCATEON | STAFE QUARTER, MILUPARA |  |  |  |
| DURATICOM OF SAMPLING | 24 NOURS | SNRLE COLLECTED BY | LABORATORY CHEPIST |  |
| SAMPLINE PJOCEDURE | AS FER NaywCo REFSRENCE |  |  |  |
| SAMPIE <br> QUANTITY/DACKING |  <br>  RUBELER bladDger: $1 \times 1$ mo. |  |  |  |

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{PM}_{10}$ ) | IS 5182 (Part 23): 2006 \& CRCB Guidelines Vol.-I | 100 |
| Particulate Matter size less than 2.5 microns ( PM 2.5 ) | CPCB Guidelines Vol.-I | 60 |
| Sulphur bioxide ( $\mathrm{SO}_{2}$ ) | IS 5122 (Fart 2) ; 2001, RA 2006 G CPCB Guidelines Vol.-I | 80 |
| Witzogun Dioxide ( $\mathrm{NOO}_{2}$ ) | IS 5182 (Part 6) : 2006 \& CPCB Guidelines Vol.-I | 80 |
| Carbon Monoxide (CO)* | IS 5182 (Part 10) 11999 , RA 2003 | 4.0 |
| Mercury ( Ejg ) | EPA Method 10-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | PM 10 $\mu \mathrm{g} / \mathrm{m}^{3}$ | $\mathrm{PM}_{2.5}$ $\mu \mathrm{g} / \mathrm{m}^{3}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\mathrm{NO}_{2}$ $\mathrm{mg} / \mathrm{m}^{3}$ |  | Hg |
| 04.01.2022 | 56 | ${ }_{20}$ | ${ }_{10}$ | ${ }_{22}$ | mg/m | ng/m ${ }^{\text {N }}$ |
| 08.01.2022 | 62 | 26 | 12 | 24 | 0.4 | N.D. |
| 11.01.2022 | 58 | 20 | 16 | 20 | 0.7 | N.D. |
| 15.01.2022 | 50 | 28 | 10 | 26 | 0.8 | N.D. |
| 18.01.2022 | 54 | 24 | 14 | 22 | 0.4 | N.D. |
| 22.01 .2022 | 68 | 26 | 12 | 24 | 0.8 | N. D. |
| 25.01.2022 | 56 | 22 | 12 | 28 | 0.6 | N.D. |
| 28.01.2022 | 48 | 24 | 16 | 20 | 0.7 | N.D. |
| Remarks: - Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |
|  <br>  |  |  |  |  |  |  |
| $\text { Thp } 1 \cdot \frac{1}{0^{2}} 0^{2} / 2022$ |  |  |  | FarU | $\text { ORIZED } 2$ | glutions $122$ <br> ory |

-End of the test report


| Nawne 4 AdAlfona DV The Custamar <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | Ruppore No | URS/TR/21-22/07901 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REE NO | UES/21-22/AAgM/013034-013035 |  |
|  |  | DITE OF SAMWING | 01/02/2022 to 25/02/2022 |  |
|  |  | DATE OF RECEIPT | 02/02/2022 to 26/02/2022 |  |
|  |  | DATE or RXPGRET | 01/03/2022 |  |
|  |  | DATE OF ANALYSIS | START: 03/02/2022 | END:01/03/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MONITCOAIMG FOU | MMBIENT ALR gWaLITY MONTTCRING | CuSTCNER HEF. NO. 6 מגz | $\begin{aligned} & M / \mathrm{PO} / \mathrm{SRV} / 2222 / 0049 \text {, } \\ & \text { DPD. } 24-7 T L Y-2021 \end{aligned}$ |  |
| SAMPLING LOCATION | STAFY CUARTER, MILUPARA |  |  |  |
| DURATION OF SNHPLING | 24 nouts | SAMPLE COLLECTED EY | LAMORATCARY CHEMIST |  |
| SAMPLTMG PROCEDUKE | AS DER MEXMOD RKEERENCS |  |  |  |
| SAMPIE QUANTISY/DACKING |  <br>  תUBAER READEKR; $2 \pi 1$ NO, |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns $\left(\mathrm{PF}_{10}\right)$ | I5 5182 (Part 23) : 2006 5 CPCB Guidelines Vol.-I | 100 |
| Particulate Matter size less than 2.5 microns ( $\mathrm{PM}_{8} .5$ ) | IS S182 (Part 24): 2019 CPCA Guidelines Voi.-1 | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, RA $2006 \frac{6}{6}$ CPCB Guidelines Vol.-I | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | IS 5182 (Part 6): 2006 a CPCB Guidelines Val. -1 | 80 |
| Carbon Monoxide (CO)* | IS 5182 (Part 10) $\div 1999$, RA 2003 | 4.0 |
| Mercury ( Hg ) | EPA Mathod 10-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mathrm{\mu g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{cO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 01.02 .2022 | 52 | 22 | 16 | 26 | 0.7 | N.D. |
| 04.02 .2022 | 68 | 25 | 12 | 26 | 0.5 | N. D. |
| 07.02 .2022 | 52 | 20 | 10 | 22 | 0.8 | N.D. |
| 11.02 .2022 | 46 | 24 | 18 | 28 | 0.6 | N. D. |
| 14.02.2022 | 58 | 28 | 14 | 20 | 0.5 | N. D. |
| 18.02.2022 | 60 | 20 | 18 | 26 | 0.9 | N. D. |
| 21.02 .2022 | 58 | 26 | 10 | 20 | 0.7 | N. D. |
| 25.02 .2022 | 62 | 28 | 16 | 18 | 0.5 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| $\pm \operatorname{coctl}(03)^{22}$ <br> REVIEWED BY |  |  |  |  |  |  |

-End of the test report.


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} P M_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{25} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.03.2022 | 62 | 30 | 16 | 28 | 0.8 | N.D. |
| 07.03 .2022 | 78 | 34 | 10 | 26 | 0.6 | N. D. |
| 11.03 .2022 | 62 | 28 | 12 | 25 | 0.2 | N. D. |
| 14.03 .2022 | 56 | 20 | 14 | 22 | 0.4 | N. D. |
| 18.03 .2022 | 78 | 28 | 18 | 26 | 0.8 | N. D. |
| 21.03.2022 | 70 | 34 | 10 | 28 | 0.2 | N. D. |
| 25.03 .2022 | 68 | 28 | 12 | 22 | 0.9 | N. D. |
| 28.03.2022 | 72 | 38 | 18 | 20 | 0.7 | N. D. |
| marks: * Durat | mpling for | Hour, N.D | Detected |  |  |  |

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




- End of the test report.

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

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771-4027777 1 Email : ultimatenviro@gmail.com

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

| ```NaNue AL Allbuse OV Rav Cowstomer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK - TAMNAR, DISTT. - RAIGARH (C.G.) }49610``` |  |  |  | UES/TR/21-22/3512 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF MO. |  | UES/21-22/AAgM/6318-6325 |  |  |
|  |  | EATE OF SAMPLING |  | 01/10/2021 to 25/10/2021 |  |  |
|  |  | DATE OF RECEIPT |  | 02/10/2021 to 26/10/2021 |  |  |
|  |  | DMTE OF REPPRT |  | 01/11/2021 |  |  |
|  |  | Date of knazysis |  | START:03/10/2021 |  | REND: 01 |
| SAMPLE DETAILS |  |  |  |  |  |  |
| MONITCRING FCOR | AMBIENT AIR QUALITY MOWITCRING |  | CUSTCNER REF. NO. 6 DATE |  |  | $\begin{aligned} & 0 / \mathrm{sRV} / 2 \\ & 0.24-\pi \end{aligned}$ |
| SANPLIME LOCATION | HIL COLCNY, KONTEEL |  |  |  |  |  |
| DUMATEON OF SAMPLTNG | 24 HOURS | SAMPLE COLLECTED BY |  | LABORATORY CHIMIST |  |  |
| SANTLIMG PROCSDUE | AS PER HETHOD REFERENCE |  |  |  |  |  |
| GAMPLE QUANETTY/PACKCIMG |  <br>  RUEBAR BLADDEA: $2 \times 1$ NO, |  |  |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size leas than 10 microns $\left\{\mathrm{PM}_{10}\right\}$ | IS 5182 (Part 23): 2006 \& CPCB Guidelines Vol.-I | 100 |
| Particulate Matter 未ize less tham 2.5 microns: (PMy.s) | CPCB Guidelines Yol.-I | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 3182 (Part 2): 2001, RA 2006 5 CPCB Guidelines Vol.-1 | 80 |
| Nitrogen Dioxide ( $\mathrm{NO}_{3}$ ) | IS 5182 (Part 6): 2006 \& CPCB Guidelines Vol.-I | 80 |
| Carbon Monoxido $\{\mathrm{CO})^{*}$ | IS 5182 (Part 10) $\ddagger 1999$, RA 2003 | 4.0 |
| Mercury [ Aq ] | ERA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 01.10 .2021 | 50 | 25 | 18 | 20 | 0.9 | N. D. |
| 04.10.2021 | 58 | 32 | 10 | 24 | 0.6 | N. D. |
| 08.10.2021 | 52 | 28 | 14 | 26 | 0.2 | N. D. |
| 11.10.2021 | 44 | 36 | 10 | 28 | 0.8 | N. D. |
| 14.10 .2021 | 52 | 34 | 16 | 20 | 0.9 | N, D. |
| 18.10.2021 | 58 | 20 | 12 | 26 | 1.0 | N. D. |
| 22.10 .2021 | 64 | 22 | 10 | 22 | 0.8 | N, D. |
| 25.10.2021 | 5日 | 38 | 14 | 29 | 0.5 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

Terms \& conditions





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


| Muns A Adatusan Df The Kusiomer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL. <br> MINE, VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | EEPORT NO | UES/TR/21-22/0420 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | UES/21-22/AAGM/ | 539-07546 |
|  |  | DATE OF SUADLIMG | 02/11/2021 to 2 | 1/2021 |
|  |  | DAEE OF RECESTPT | 03/11/2021 to 2 | 1/2021 |
|  |  | DAFE OF REPORT | 01/12/2021 |  |
|  |  | Date of analysta | START: 03/11/2021 | ERD: $28 / 11 / 2021$ |
| SAMPIE DETAILS |  |  |  |  |
| MONITCRETM | AMBIENT AIT OUALITY MONT TORING | CUSTONER REF. NO, $6 \text { PATE }$ | M/PO/S8V/2122/0049, DPD. 24 - $-\pi L K Y-2021$ |  |
| SAMPLING LOCAFICN | HIL COLONY, KONDKEL |  |  |  |
| DURATION OF SAMPLTNG | 24 HOURS | SAMPEE COLLECTELD $B r$ | LABCORAFORY CHEMIST |  |
| SMADLING PAOCEDURE | AS PKA METMOD REEERENCE |  |  |  |
| SANPLE OUANYTTY/РACKING | FILIER PADEF (PM <br>  HUMAER BLADDER: $1 K I$ NO. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size Less than 10 micorons ( $\mathrm{PM}_{3}$ ) | 18 5182 (Part 23): 2006 6 CPCB Guidelines Vol.-I | $\frac{100}{}$ |
| Particulate Mattor size leas than 2.5 microns $\left(\mathrm{PM}_{2}\right.$, ) $)$ | CPCBSuidelines Vol.-I | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2) : 2001, RA 2006 \& CPCB Guldelines Vol, -I | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | IS 5182 [Part 6): 2006 \& CFCB Guidelines Vol, -I | 80 |
| Carbon Monoxide (CO)* | IS 5182(Part 10):1999, RA 2003 | 4.0 |
| Mercury ( H q ) | EPA Mathod 10-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.11 .2021 | 52 | 26 | 20 | 22 | 0.8 | N,D. |
| 05.11 .2021 | 60 | 34 | 12 | 26 | 0.5 | N.D. |
| 09.11.2021 | 54 | 30 | 16 | 28 | 0.4 | N; D. |
| 12.11.2021 | 46 | 38 | 12 | 30 | 0.9 | N. D. |
| 16.11 .2021 | 54 | 32 | 18 | 22 | 0.8 | N. D. |
| 19.11.2021 | 60 | 24 | 14 | 28 | 1. 1 | N. D. |
| 23.11.2021 | 66 | 26 | 12 | 24 | 0.6 | N. D. |
| 26.11.2021 | 60 | 36 | 16 | 30 | 0.4 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| $\frac{\text { Dhead }}{01 r^{2}}$ <br> REVIEWED BY |  |  |  | For ULTIMATE ENVIROLYTICAL SOLUTIONS <br> AUTHORIZED SIGNATORY |  |  |



| Namer A Altheni or The cuntumar <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT, - RAIGARH (C.G.) 496107 |  | Reporat NO | UES/TR/21-22/0 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAS Reir No | UES/21-22/AAGM/ | 05-08812 |
|  |  | TATE OF SAMPLING | 03/12/2021 to 2 | 2/2021 |
|  |  | DATE OF RECEIPT | 04/12/2021 to 29 | 2/2021 |
|  |  | DATE OF REPCORT | 01/01/2022 |  |
|  |  | DAEE OF ANAEYSTS | START: 04/12/2021 | 30D:31/12/2022 |
| SAMPLE DETAIIS |  |  |  |  |
| MCWITTIRING FOR | AMEIENT AIR CUALITY MCNITORTMG | CUSTCKER REF . NO. 6 DATE | $\begin{aligned} & M / P 0 / S R V / 2122 / 0049, \\ & \text { DTD. } 24-\pi u 1 Y-2021 \end{aligned}$ |  |
| SARPLITMA LOCATTON | IITL COLONY, NONCREL |  |  |  |
| DUARAFION OF SAMPLINC | 24 HOURS | SWMPE COLLECTRD | Lancreatory chionest |  |
| EAMPLTNG PROCEDURE | AS DER NETMOO RETEFANCE |  |  |  |
| SKMPLE QUANTITY/PACKING |  $\mathrm{SO}_{4}$ : 30 MLXI NO. DVC BOTTLE, $\mathrm{NO}_{2}: 30 \mathrm{HLXI}$ NO, DVC mOTTLE BUABER BLADDER: 1XI NO, |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter aize less than 10 microns ( $\mathrm{FM}_{30}$ ) | Is 5182 (Part 23): 20066 CPCB Gujuplines Vol.-I | 100 |
| Partioulate Matter sizo 1mss than 2.5 microns $\left\{\mathrm{PM}_{2.3}\right\}$ | CPCBGuidelinas Vol.-1 | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | 15 5182 (Part 2): 2001, RA 2006 CPCB Guidelines Vol,-I | 80 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (Eart 6): 2006 \% CPCB Guidelines Vol,-I | 80 |
| Curbon Monoxide (CO)* | is 5182 PPart 10) $\ddagger 1999$, RA 2003 | 4.6 |
| Mercury (tig) | ERA Method IO-5 | $\cdots$ |




|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE, VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPORT NO | UES/2R/21-22/06 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | UES/21-22/AAMM/ | 409-010416 |
|  |  | DAEE OF SAMPLING | 04/01/2022 to 28/0 | 1/2022 |
|  |  | DIEE of recispt | 05/01/2022 to 29/0 | 1/2022 |
|  |  | DMIE OF REPORT | 02/02/2022 |  |
|  |  | Date or hnalysis | STMRT;05/01/2022 | END:01/02/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MENTMORTME FOR | ANIDENT AIR QUJLITY MONTTORING | CUSTONGK REFF. NO. <br> ¢ BATE | M/D0/szv/2122/0049, DTD. 24-JULY-2021 |  |
| SAMPLTMG LOCAITON | HIL COLONY, KONLKEL |  |  |  |
| טURATION OF SAAPLITME | 24 HCurs | SAMPIS COLLACTED BY | Lamoratory chismst |  |
| SAMMLINC PROCSLURE | IS PER MEYHIOD MEFARENCE |  |  |  |
| Sample <br> QUNKEETY/PACKING |  <br>  bubaer bladoer: $1 \times 1$ no. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Farticulate Mattex size less than 10 microns $\left\langle\mathrm{FM}_{10}\right.$ 〉 | IS 5182 (Part 23): 2006 \& CRCB Guidelines Vol.-I | 100 |
| Rastilutlate Matter size less than 2.5 microne $\left(\mathrm{PM}_{2} .1\right.$ ) | CPCB Guidelines Vol.-I | 60 |
| Sulphur Dicotide ( $\mathrm{SO}_{2}$ ) | I8 5182 (Part 2): 2001, RA 2006 6 CPCB Guidelines Vol.-I | 80 |
| Nitrogon DLoxide ( $\mathrm{NO}_{2}$ ) | IS 51B2 (Part 6): 2006 6 CPCB Guidelines Vol.-I | 80 |
| Carbon Nonoxide (CO)* Mrycury ( Hg ) | Is 5182 (Part 10):1999, RK 2003 | 4.0 |
| Whreuty ( Hg ) | EFA Method 10-5 | 4.0 |




| home it Adforpan of Ther Cisktraner <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPORT MO | UES/TR/21-22/07 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | UES/21-22/AAMM/ | 3036-013043 |
|  |  | DATE or SAMPLING | 01/02/2022 to 2 | 02/2022 |
|  |  | DATE of Recestry | 02/02/2022 to 2 | 02/2022 |
|  |  | DATE OF RKAPORT | 01/03/2022 |  |
|  |  | DATE OF A MALYEIS | START:03/02/2022 | END: 01/03/2022 |
| SAMPLE DETAIIS |  |  |  |  |
| MONITORING FOR | AhBTENT AYR pUaLity MONT TORING | CJSTCNER REF. NO. <br> 6 BATE | M/PO/SRV/2122/0049,$\text { DTD. } 24-\mathrm{JUL} Y-2021$ |  |
| SNHPLING LOCAITON | HIL COLOAY, MONTAREL |  |  |  |
| DERAFTON OT SAMPLTMG | 24 mouns | SAMPLE COLTECTED $B Y$ | LAMORATCRY CHBMET |  |
| SKMPLTNG PROCEDTRE | AS PER JETHOD JCEFASRENCK |  |  |  |
| SNMPLE QUANTITY/PACKING | FILIEER PAPER ( $\mathrm{PM}_{12}$ ): $1 \times 1$ NO., FILTER PAPER ( $\mathrm{PM}(\mathrm{a}, \mathrm{s}$ ): $2 X 1 \mathrm{NO}$. SO,: 3@LLXI NO. PVC BOTTLE, NO3: ЗONEXI NO. PVC BOTTLE Rumast mandien: $2 \times 1$ mo. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microne $\left(E M_{19}\right)$ | IS 5182 (Part 23): 2006 \& CPCB Guidelines Vol.-I | 100 |
| Particulate Matter size leas than 2.5 microns $\left(\mathrm{FM}_{2}, 5\right.$ ) | IS 5182 (Part 201: 2019 CPCB Guidelines Vol. -1 | 60 |
| Sulphur Dioxide $\left(\mathrm{SO}_{2}\right)$ | IS 5182 (Part 2\}: 2001, RA 2006 6 CPCB Guidelines Vol.-I | 80 |
| Mitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (Part 6): 2006 \& CPCB Guidelines Vol,-I | 80 |
| Carbon Monoxide (CO) * | Is 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mexcury (Hg) | EPA Method IO-5 | $\cdots$ |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 01.02.2022 | 68 | 24 | 16 | 20 | 0.9 | N. D. |
| 04.02 .2022 | 62 | 28 | 10 | 28 | 0.4 | N. D. |
| 07.02.2022 | 58 | 24 | 18 | 30 | 0.6 | N. D. |
| 11.02 .2022 | 56 | 22 | 14 | 28 | 0.2 | N. D. |
| 14.02 .2022 | 70 | 26 | 12 | 20 | 0.8 | N.D. |
| 18.02.2022 | 62 | 22 | 18 | 22 | 0.6 | N. D. |
| 21.02 .2022 | 58 | 28 | 16 | 26 | 0.2 | N.D. |
| 25.02.2022 | 50 | 18 | 12 | 24 | 0.8 | N.D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

Terms \& conditions.



End of the test report.

AN ISO : 9001:2015 I ISO: 14001:2015 I 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 Cilmate Change under EP act 1986

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | HEPCRE NO | UES/TR/21-22/08 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAE REF HO | UES/21-22/AAGM/ | 4645 |
|  |  | DATE OF SAMPLING | 02/03/2022 to 2 | 03/2022 |
|  |  | DBEE OF RECEIPT | 03/03/2022 to 29 | 03/2022 |
|  |  | DAFE OF RASPCRT | 02/04/2022 |  |
|  |  | DAIE OF ANCALYEIS | START:04/03/2022 | END: 02/04/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MCNITCORTNC sor | AMEIENT ATR QURLITY MONITPRIMG | CUSTOMER REF. ND. <br> 6 DASE | M/PO//SRV/2122/0049. DTD. 24-JULY-2021 |  |
| SAMPLING LOCATION | HIL COLONY, RCONDFEL |  |  |  |
| DURAFTON OF SMMPLING | 24 HOURS | SAMPLE COLLECTRD ay | LABORATORY CHAPCIST |  |
| SAMPLING FROCEDUKEE | AS PER METMOD RESERENCE |  |  |  |
| SAMPLE gUANIITY/PACRING |  $\mathrm{SO}_{2}$ I 30 NLXI NO . DVC BOTTLE, $\mathrm{NO}_{4}$ : 300 LLXI NO . PVC BOTTLE RUBBak hyanmar; $1 \times 1 \mathrm{NO}$. |  |  |  |

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns $\left(\mathrm{PM}_{1}\right)$ | IS 5182 [Part 23) : $2006 \&$ CPCB Guidelines Vol.-I | 100 |
| Particulate Matter size less than 2.5 mierons ( $\mathrm{PM}_{2}, 2$ ) | IS 5182 (Part 24): 2019 CPCB Guidelines Vol.-1 | 60 |
| Sulphur Dioxide $\left(\mathrm{SO}_{2}\right)$ | IS 5182 (Part 2): 2001, RA 2006 \& CPCB Guidelines Vol.-I | 10 |
| Nitrogen Dioxide ( $\mathrm{WO}_{2}$ ) | 185182 (Part 61: 2006 at CPCB Guidelines Vol,-I | 80 |
| Carbon Monoxide ( CO ) | IS 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mercury (Hg) | ERA Method 10-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.03.2022 | 76 | 28 | 14 | 22 | 0.9 | N.D. |
| 07.03 .2022 | 68 | 26 | 18 | 26 | 0.4 | N. D. |
| 11.03 .2022 | 48 | 22 | 10 | 32 | 0.8 | N. D. |
| 14.03 .2022 | 58 | 28 | 12 | 28 | 0.4 | N. D. |
| 18.03.2022 | 72 | 24 | 18 | 26 | 0.6 | N. D. |
| 21.03 .2022 | 68 | 26 | 16 | 20 | 0.8 | N. D. |
| 25.03 .2022 | 70 | 24 | 12 | 28 | 0.5 | N. D. |
| 28.03.2022 | 68 | 26 | 14 | 20 | 0.9 | N. D. |

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




End of the test report.
AN ISO : $9001: 2015$ / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY

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

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


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size leas than 10 microns $\left\langle\mathrm{PM}_{30}\right.$ ) | Is 5182 (Part 23): 20065 CPCB Guidelines Vol.-I | 100 |
| Particulate Matter size less than 2.5 microna ( $\mathrm{PM}, 3$ ) | CPCB Guidellnes Vol.-I | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001 , RA 20068 CPCB Guldellnes Vol.-I | 80 |
| Nitrogen Didaride $\left(\mathrm{NO}_{2}\right)$ | I5 5182 (Part 6): 2006 - CPCB Guidelines Vol.-I | 80 |
| Carbon Monoxide (CO)* | Is 5182 \|Part 10\} 1999 , RA 2003 | 4,0 |
| Marcury (Hg) | EPA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 01.10.2021 | 54 | 28 | 12 | 26 | 0.9 | N. D. |
| 04.10.2021 | 42 | 22 | 10 | 28 | 0.7 | N. D. |
| 08.10.2021 | 52 | 34 | 16 | 22 | 0.6 | N. D. |
| 11.10.2021 | 46 | 28 | 08 | 20 | 0.2 | N. D. |
| 14.10 .2021 | 50 | 32 | 12 | 28 | 0.8 | N. D. |
| 18.10 .2021 | 48 | 24 | 10 | 20 | 0.6 | N. D. |
| 22.10.2021 | 54 | 28 | 16 | 16 | 0.9 | N. D. |
| 25.10.2021 | 68 | 30 | 14 | 22 | 0.5 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

Terms \& conditions


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


|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL <br> MINE, VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPPORT NO | UES/TR/21-22/04203 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Lab rece NO | UES/21-22/AAge/07547-07554 |  |
|  |  | BATE or SAMPLIME | 02/11/2021 to 26/11/2021 |  |
|  |  | DATE or jegcerp | 03/11/2021 to 27/11/2021 |  |
|  |  | DATE OF RAPQRF | 01/22/2021 |  |
|  |  | DATE OF ANOLYSIS | SPART: $03 / 11 / 2021$ | ESD:28/11/2021 |
| SAMPLE DETAILS |  |  |  |  |
| MONITURING FOR | AnBIRNT ALR Quality MONITORING | CUSTCMKA REF. NO, \& DATE | M/PO/SRV/2122/0049, DRD, 24-ラULY-2021 |  |
| SAMPLING zOCATTOM | STP AREA, MONDICEL |  |  |  |
| DURAFICN OF SARPLING | 24 MOURS | SAMPLE COLLECHED HY | LAMORATORY CHBMIST |  |
| GAMPLKEG PFIOCELDETE | AS per jarmion mejravionce |  |  |  |
| SAMPLE <br> QUANTITY/PACICING |  <br>  mubess mandacr: $1 \times 1$ No. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Farticulate Mattor size less than 10 microns $\left\{\mathrm{PM}_{10}\right\}$ | 155182 (Part 23): 2006 \& CPCB Guidelines Vol.-1 | 100 |
| Particulate Matter size less than 2.5 microns $\left(\mathrm{PH}_{2}\right.$, ) | CPCBGuidelines Vol.-I | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | 15 5182 (Part 2): 2001, RA 2006 \% CPCB Guidelines Vol,-I | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | IS 5182 (Part 6) : 2006 \& cpCB Guidelines Vol.-I | BO |
| Carbon Monoxide (CO)* | IS 5182 PPart 10y11999, RA 2003 | 4.0 |
| Mercury ( Hg ) | EPA Method 10-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} P M_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.11 .2021 | 56 | 30 | 14 | 28 | 1.0 | N. D. |
| 05.11 .2021 | 44 | 24 | 12 | 30 | 0.8 | N. D. |
| 09.11 .2021 | 54 | 36 | 18 | 24 | 0.8 | N. D. |
| 12.11.2021 | 48 | 30 | 10 | 22 | 0.4 | N. D. |
| 16.11.2021 | 52 | 34 | 14 | 30 | 0.9 | N. D. |
| 19.11 .2021 | 50 | 26 | 12 | 22 | 0.8 | N. D. |
| 23.11.2021 | 56 | 30 | 18 | 18 | 1.0 | N. D. |
| 26.11.2021 | 70 | 32 | 16 | 24 | 0.6 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |
|  |  |  |  |  |  |  |



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 I Email : ultimatenviro@gmail.com

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

| Minmer al Aderasen DY Ther Sownventer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REpOET NO | UES/TR/21-22/04 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAE REE NO | UES/21-22/ARME/ | 8813-08820 |
|  |  | DATE OF SNapling | 03/12/2021 to 2 | /12/2021 |
|  |  | AATE OF RECEIDT | 04/12/2021 to 29 | 12/2021 |
|  |  | DMEE OT REPORT | 01/01/2022 |  |
|  |  | DMEE OE ARALYSIS | START: 04/12/2021 | END: $31 / 12 / 2021$ |
| SAMPLE DETAILS |  |  |  |  |
| MCWITORINC PGR | AMBIENT AIA QUALTTY MONTTORING | $\begin{aligned} & \text { CUSFCMAKR REFF. NO, if } \\ & \text { DMzE } \end{aligned}$ | M/PO/SHV/2122/0049. <br> DTD. 24-JULY-2021 |  |
| SAMPLING ZOCATION | ETP AREAS, KONDUCKL |  |  |  |
| DURATEON OF SAMDLING | 24 HCURS | SAMPLE COLLECTED AY | LABCMAFORY GHEMIST |  |
| SAMPLING PROCEDURE | AS PER METHOD REEEESNCE |  |  |  |
| SARPLE QURANFTTY/PACKING |  <br>  RUBEER BLNDNER: $1 \times 1$ NO. |  |  |  |


| Parameter | Method Reference | NAAQM |
| :---: | :---: | :---: |
| Earticulate Mattor size less than 10 microns $\left(\mathrm{PM}_{\mathrm{p}}\right)$ | IS 5182 (Part 231 +2006 \& CFCB Guidelines Vol.-I | $\frac{\text { Standard }}{100}$ |
| Particulate Mattax size Lesa than 2.5 microns. ( $\mathrm{PM}, \mathrm{l}, \mathrm{b}$ ) | CPCE Guidelines Vol , -1 | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{3}$ ) | IS 5182 (Part 2) : 2001, RA 20068 CPCB Guidelines Vol, $=1$ | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | IS 5182 (Part 6) $=2006$ ह CPCB Guidelines Val.-t | 80 |
| Carbon Monoxide ( 00 * Mercury $\langle\mathrm{Bg})$ | IS 5182 (Part 10):1995, RA 2003 EPA Method IO-5 | 4.0 |
| mercury ${ }^{\text {ag }}$ | Epa Method 10-5 | -- |



Termis 6 condifions.



-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 I Email : ultimatenviro@gmail.com

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

|  |  | REPCOMT NO | UES/TR/21-22/06027 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAS REF NO | UES/21-22/RAGM/010417-010424 |  |
|  |  | DATE OF SMAPLING | 04/01/2022 to 28/02/2022 |  |
|  |  | DATE OF RECEIPT | 05/01/2022 to 29/01/2022 |  |
|  |  | DATE OF REPPORT | 02/02/2022 |  |
|  |  | DAFE OF ANALYSIS | START:05/01/2022 | END: 01/02/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MCNVITOHINS FCR | MMGIENT ATR QCTALITY MOMITTRRING | CDSTCMER REF, NO. 4 DATE | $\begin{aligned} & \mathrm{M} / \mathrm{PO} / \mathrm{SRV} / 2122 / 0049, \\ & \mathrm{DPD}, 24-\pi U L Y-2021 \end{aligned}$ |  |
| SkDelimg Locarton | ETP AREA, KONENCES |  |  |  |
|  | 24 Hours | SAMPLE COLLECTED BY | LABORATORY Chaperst |  |
| FNU LIND PROCELXRE | AS PER MGTHOD REPAPMENCE |  |  |  |
| SHw <br> CWUNZZTY/RACFING |  <br>  RUPREA BLADDER: $2 \times 1$ NO. |  |  |  |


| Parameter | Method Reference | NAAQM <br> Standard |
| :---: | :---: | :---: |
| Partizuloto Matter size less than 10 microna $\left(\mathrm{PM}_{10}\right)$ | 13-5182 (Part 23): 20066 CPCB Guidelines Vol.-I | Standard |
| Parlmulato Matter size less that 2.5 microns $\left\langle\mathrm{PM}_{2.2 \text { I }}\right.$ | CPCB Guidelines Vol.-I | 60 |
| Sulphar Dioxide $\left[\mathrm{SO}_{2}\right]$ | IS 5182 (Part 2): 2001, RA 2006 s CPCB Guidelines Vol.-I | 80 |
| Hitrogen Diasids ( $\mathrm{NO}_{2}$ ) | IS 5182 (Part 6): 2006 - CPCB Guidelines Vol.-1 | 80 |
| Cntion Monoxide (CO)* | IS 5182 (Pact 10):1999, RA. 2003 | 4.0 |
| TH05cury (Eg) | EPA Method 10-5 | - |


ferms 5 conditions




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


| Name A Addlons of The Cusforser <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | Rafliat mo | UES/TR/21-22/07 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAE REE NO | UES/21-22/ARGM/ | 3044-013051 |
|  |  | DATE OF SMMPLTNG | 01/02/2022 to 25 | /02/2022 |
|  |  | DATs or macceret | 02/02/2022 to 26 | 102/2022 |
|  |  | DATE OF RRPCORT | 01/03/2022 |  |
|  |  | DAIE OF ANALYSzs | aEART:03/02/2022 | END: 01/03/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MONITORTMA TOR | AMIIIENT AIR GUALITY <br> MOWITORING | CUSFCNER REE, NO. S Bx: | $\begin{aligned} & \text { M/PO/SRV/2122/0049, } \\ & \text { DPD. 24-JULY-2021 } \end{aligned}$ |  |
| SAMPLIMG LOCATION | ETP AREA, RONVEKEL |  |  |  |
| DURATTON OS SAMPLTNG | 24 HOURS | SAMPLE COLLECTIES BY | LABORATORY CHmast |  |
| SRMPLING PROCEDUAE | AS PER METHOD REEERENCE |  |  |  |
| SRMPLE QULUNTITY/PACKING |  $3 O_{2}$ t 30 NLXI NO. PVC BOTTLE, MO ; SOMEXI NO. PVC BOTTLX RUBEEER BLADDER: IXI NO. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size leas than 10 microns $\left(\mathrm{PM}_{10}\right)$ | Is 5182 (Part 23) : 2005 \% CPCB Guidelines Vol.-I | 100 . |
| Particulate Matter size less than 2.5 microns $\left\langle\mathrm{PM}_{2}, 5\right\rangle$ | Is 5182 (Part 24) : 2019 CPCB Guidelines Vol.-I | 50 |
| Sulphur Dioxide $\left\{\mathrm{SO}_{2}\right\}$ | Is 5182 (Rart 2) 7 2001, RA 2006 \& CPCB Guidelines Vol, -I | 80 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 51B2 (Part 6): 2006 f CPCB Guidelines Vol,-I | B0 |
| Carbon Monoxide (COT* | IS 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mercury (Hg) | EPA Method 10-5 | $\xrightarrow{-}$ |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2 \cdot 5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 01.02 .2022 | 58 | 22 | 16 | 24 | 0.9 | N.D. |
| 04.02.2022 | 48 | 26 | 08 | 28 | 0.5 | N. D. |
| 07.02.2022 | 70 | 36 | 18 | 22 | 0.8 | N. D. |
| 11.02 .2022 | 64 | 30 | 08 | 26 | 0.6 | N. D. |
| 14.02 .2022 | 52 | 32 | 12 | 12 | 0.4 | N. D. - |
| 18.02 .2022 | 68 | 28 | 08 | 18 | 0.8 | N. D. |
| 21.02.2022 | 60 | 38 | 16 | 20 | 0.6 | N.D. |
| 25.02.2022 | 72 | 42 | 10 | 28 | 0.8 | N.D. |

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



| HDD-272, Phase III - Near JP Chowk Ring Road No. 2, Kabir Nagar, Raipur (C. G.) - 492099 Ph:0771-4027777 I Email: ultimatenviro@gmail.com |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Recognized by Ministry of Environment Forest and Climate Change under EP act 1986 |  |  |  |  |
|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE <br> PALMA - IV/5, MILUPARA U/G COAL <br> MINE,VILLAGE - MILUPARA, <br> BLOCK-TAMNAR, <br> DISTT. - RAIGARH (C.G.) 496107 |  | Sercher no | UES/TR/21-22/0日 |  |
|  |  | LIE FEE no | UES/21-22/ARGM/ | 4646 |
|  |  | date or smelitma | 02/03/2022 to 2 | 03/2022 |
|  |  | DMIE of receipy | 03/03/2022 to 2 | 03/2022 |
|  |  | Dave of rapore | 02/04/2022 |  |
|  |  | Date of amulysis | SEART:04/03/2022 | END: 02/04/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MONITOREING TOR | AMEIENT AIA quality mewitcring | CUSTCMER FOEF. NO, is DATE | M/PO/SRV/2122/00 DTD. 24-JULY-2021 |  |
| smapling location | ETP AREA, KONDIEEL |  |  |  |
| duratzon or smaling | 24 Hours | SAMPLE COLLIECTED EY | Laborarorey chams |  |
| SARPLTMG PROCEDURE | AS PER METHOD REFEAENCE |  |  |  |
| Shmple QUANFTTY/PACKING |  $5 O_{z}$ : 3OMLXI NO. PVC BOTTLX, MO $=3$ NLEXI NO, PVC BOTTLE a fibarer bladoser: IXI no. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{PM}_{10}$ ) | Is 5182 (Part 23): 2006 \& CPCB Guidelines Vol,-1 | 100 |
| Particulate Mattor size less than 2.5 mi crons ( $\mathrm{PM}_{2,3}$ ) | IS 5182 (Part 24): 2019 CPCB Guidelinea Voli-I | 60 |
| Sulphur Bioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, RA 2006 \& CPCE Guidelines Vol.-1 | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | 155182 (Part 6) : 2006 \& CPCB Guidelines Vol.-I | 60 |
| Carbon Monoxide (CO)* | IS 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mercuty ( lg ] | EPA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mathrm{\mu g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.03 .2022 | 52 | 28 | 12 | 24 | 0.6 | N. D. |
| 07.03 .2022 | 68 | 22 | 10 | 22 | 0.9 | N. D. |
| 11.03 .2022 | 86 | 36 | 06 | 26 | 0.5 | N. D. |
| 14.03 .2022 | 78 | 32 | 08 | 28 | 0.8 | N. D. |
| 18.03 .2022 | 60 | 38 | 16 | 20 | 0.6 | N. D. |
| 21.03 .2022 | 58 | 35 | 14 | 28 | 0.7 | N. D. |
| 25.03 .2022 | 82 | 42 | 10 | 22 | 0.5 | N. D. |
| 28.03.2022 | 60 | 34 | 16 | 28 | 0.4 | N. D. |

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

$\qquad$



| Parameter |  | Method Reference |  |  |  | NAAQM Standard |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Particulate Matter alze less than 10 microns ( $\mathrm{EM}_{3}$ ) |  | $\begin{aligned} & \text { IS } 5162 \text { (Part 23): } 2006=\mathrm{CPCB} \\ & \text { Guidelines Vol,-1 } \end{aligned}$ |  |  |  | 100 |
| Particulate Matter size less than 2.5 mierons $\left(\mathrm{PM}_{2}\right.$, ) |  | CPCBGuidalines Vol. -1 |  |  |  | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) |  | IS 5182 (Part 2): 2001, RA 2006 s CPCE Guidelines vol. - T |  |  |  | 80 |
| Mitrogen Dioxidn $\left\langle\mathrm{NO}_{2}\right\rangle$ |  | Is 5182 (Part 6) $=2006 \mathrm{f} \mathrm{CPCB}$ Guidelines Vol.-1 |  |  |  | 80 |
| Carbon Monoxide (CO)* |  | IS 5182(Part 10):1999, fA 2003 |  |  |  | 4.0 |
| Mercury (Hg) |  | EPA Method IO-05 |  |  |  | -- |
| TEST REPORT |  |  |  |  |  |  |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{25} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \text { co } \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{ }$ |
| 01.10.2021 | 54 | 22 | 12 | 28 | 0.8 | N. D. |
| 04.10.2021 | 50 | 28 | 09 | 20 | 0.9 | N. D. |
| 08.10 .2021 | 48 | 26 | 18 | 26 | 0.4 | N. D. |
| 11.10 .2021 | 40 | 20 | 14 | 20 | 0.6 | N. D. |
| 14.10.2021 | 44 | 24 | 10 | 28 | 0.2 | N. D. |
| 18.10 .2021 | 40 | 28 | 16 | 24 | 0.8 | N. D. |
| 22.10.2021 | 48 | 20 | 10 | 26 | 0.5 | N. D. |
| 25.10.2021 | 52 | 22 | 18 | 22 | 0.9 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

## Terms \& conditions







| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Natter alze less than 10 microns ( $\mathrm{PM}_{10}$ ) | IS 5182 (Part 23) : 20066 CPCB Guidelines Vol.-I | 100 |
| Particulate Natter aize less than 2.5 microns $\left(\mathrm{PM}_{7}, \mathrm{~S}\right)$ | CPCBGuidelines Vol.-I | 60 |
| Sulphiur Dioxide $\left\langle\mathrm{SO}_{z}\right)^{\text {d }}$ | 185182 (Fart 2): 2001, PA 2006 \& CPCB Guidelines Vol,-I | 80 |
| Nitrogen Dioxide $\mathrm{MNO}_{2}$ ) | 1S 51\&2 tPart 6): 2006 ह CPCB Guldelines Vol.-I | 80 |
| Carbon Monoxido (CO). | I5 5102(Part 10):1999, RA 2001 | 4.0 |
| Mexcury (Hg) | EPA. Method 20-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mu \mathrm{g} / \mathrm{m}^{3}}{ }$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{ }$ |
| 01.11 .2021 | 56 | 24 | 14 | 30 | 0.9 | N. D. |
| 06.11 .2021 | 52 | 30 | 10 | 22 | 0.8 | N. D. |
| 08.11. 2021 | 50 | 28 | 20 | 28 | 0.5 | N. D. |
| 13.11.2021 | 42 | 22 | 16 | 22 | 0.8 | N. D. |
| 15.11.2021 | 46 | 26 | 12 | 30 | 0.4 | N. D. |
| 20.11 .2021 | 42 | 30 | 18 | 26 | 0.6 | N. D. |
| 22.11 .2021 | 50 | 22 | 12 | 28 | 0.4 | N. D. |
| 27.11 .2021 | 54 | 24 | 20 | 24 | 0.8 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

Terms \& conditions




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

| Namer a incthras of The Citshamas <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPORT NO | UES/TR/21-22 | /04 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | UES/21-22/8 | am/ | 721-08728 |
|  |  | EATE OF BAMPLING | 04/12/2021 | to 2 | 12/2021 |
|  |  | DAIE OF Jacestpt | 05/12/2021 | -0 2 | 12/2021 |
|  |  | DATE OF REPORT | 01/01/2022 |  |  |
|  |  | DATE OF ANALYETS | START:05/12/ |  | EWD:30/12/2021 |
| SAMPLE DETAILS |  |  |  |  |  |
| HCNITORIWG POR | AMBIENT ALR gtaztit montionimg | CUSTCAER REY, NO, ¢ DATE |  |  | $\begin{aligned} & \text { SRV/2122/0045, } \\ & 24 \text {-JUL-2021 } \end{aligned}$ |
| SAMPLING zocation | CTFTCE AREA, BANJTKHOL |  |  |  |  |
| DUTCATION OF SAMPLING | 24 MOURS | SAMPLE COLLECYED m | LABORATORY GIEAIST |  |  |
| SAMPLZMO PROCEDURE | As PER METHOD REFEUENGE |  |  |  |  |
| SAMPLIE QULANETTY/PACKING | FILIER PAPEAR (FMIa): $1 \times 1$ NO., FTLTER PAFER (PM6, a) : $1 \times 2$ NO. $3 O_{3}$ : 30NEXI NO, FVC BOTTLE, NO RUBBET MLADOER: IXI NO. |  |  |  |  |


| Parameter | Method Reference | NAAQM |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microna ( $\mathrm{PM}_{1}$ ) | 15 5182 (Part 23) ; 2006 \% CPCB Guidelines Vol,-I | $\frac{\text { Standard }}{100}$ |
| Particulate Matter size less than 2.5 miarons $\left(\mathrm{FM}_{2}, 5\right)$ | CPCE Guidelines Vol.-1 | 60 |
| Sulphur Dioxide $\left\{\mathrm{SO}_{2}\right\}$ | IS 5182 (Part 2): 2001, 㤢A 2006 क CPCB Guidelines Vol.-I | 80 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (Part 6): 2006 6 CDCB Guidelines Vol.-I | 80 |
| Carbon Monoxide (CO) * Mezcury (Hg) | IS 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mezcury ( Hg ) | EPA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{25} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{Hg}}{\mathrm{ng} / \mathrm{m}^{3}}$ |
| 04.12.2021 | 58 | 26 | 16 | 32 | 1.0 | N.D. |
| 06.12.2021 | 54 | 32 | 12 | 24 | 0.9 | N. D. |
| 11.12 .2021 | 52 | 30 | 22 | 30 | 0.6 | N. D. |
| $\frac{13.12 .2021}{18.12 .2021}$ | 44 | 24 | 18 | 24 | 0.9 | N. D. |
| $\frac{18.12 .2021}{20.12 .2021}$ | 48 | 28 | 14 | 32 | 0.6 | N. D. |
| $\frac{20.12 .2021}{25.12 .2021}$ | 44 | 32 | 20 | 28 | 0.8 | N. D. |
| $\frac{25.12 .2021}{27.12 .2021}$ | 52 | 24 | 14 | 30 | 0.6 | N. D. |
| 27.12.2021 | 56 | 26 | 22 | 26 | 1.0 | N.D. |

## Terms \& conditions



End of the test report


| Nomie A Auhereall OV Thar Courtumer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | Hexpler No | UES/TR/21-22/05 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | zais fer NO | UES/21-22/AAQM/ | 0260-010267 |
|  |  | DATE OF SAMPLING | 03/01/2022 to 28 | 01/2022 |
|  |  | DARE OF RECEIPT | 04/01/2022 to 29 | 01/2022 |
|  |  | DAXE OE REPCAT | 02/02/2022 |  |
|  |  | BATE Or ankilysis | START; 04/01/2022 | END: 01/02/2022 |
| SAMPLS DETAILS |  |  |  |  |
| MONITORTNG FCN: |  | CUBICNER REF. NO. \& DATE |  | $\begin{aligned} & \text { N/PO/SRV/2122/0045, } \\ & \text { DPD, 24-JULY-2021 } \end{aligned}$ |
| SAMPLING LOCATION | OSETCE AREA, BANJTKHOL |  |  |  |
| DUPATION OF SNMPLITNG | 24 HOURS | SNMPLE COLESCTED BY | LabCRATORY CHOMST |  |
| SAMPLTNG PROCEDUUR | AS DER METHOD REYERENCE |  |  |  |
| SAMELEA <br> OURANTITXIFACKING |  $\mathrm{SO}_{2}$ t 3OMLXI NO. PVC NOTTLE, $\mathrm{NO}_{2} z$ 3GMLXI NO. PVC BOTTLK RUMAER BLADNKR: $1 \times 1 \mathrm{NO}$. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Mattex size less than 10 microns ( $\mathrm{EM}_{10}$ ) | IS 5182 (Rart 23): 2006 \% CPCB Guidelines Vol.-I | Standard 100 |
| Particulate Matter size less than 2.5 microns ( $\mathrm{PM}_{2.9}$ ) | CPCBGuidelines Vol.-I | 60 |
| Sulphur Dioxido $\left(\mathrm{SO}_{2}\right)$ | Is 5102 (Part 2): 2001, RA 2006 \& CPCB Guidelines Vol,-I | 80 |
| Nitrogen Dioxide ( $\mathrm{MO}_{2}$ ) | IS 5182 (Part 6): 2006 6 CFCB Gridelinea Vol.-I | 80 |
| Carbon Monoxide ( CO ) * Mercury ( Hg ) | IS 5182 (Part 10):1999, BA 2003 | 4.0 |
| Mercury (Hg) | EPA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{Hg}}{\mathrm{ng} / \mathrm{m}^{3}}$ |
| 03.01 .2022 | 64 | 30 | 18 | 30 | 0.6 | N.D. |
| 07.01.2022 | 60 | 24 | 10 | 26 | 0.8 | N. D. |
| 10.01 .2022 | 62 | 28 | 14 | 32 | 0.7 | N, D. |
| . 14.01 .2022 | 54 | 26 | 08 | 28 | 0.2 | N. D. |
| 17.01 .2022 | 58 | 20 | 14 | 22 | 0.6 | N. D. |
| $\frac{21.01 .2022}{24.01 .2022}$ | 54 | 38 | 10 | 26 | 0.5 | N. D. |
| $\frac{24.01 .2022}{28.01 .2022 ~}$ | 62 | 26 | 14 | 20 | 0.8 | N. D. |
| 28.01.2022 | 66 | 22 | 12 | 24 | 1.1 | N. D. |

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




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

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

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

| Nowe is lldtrasy of The Courtomer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPCORT NO | UES/TR/21-22/07 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | UES/21-22/ANGM/ | 2075-013082 |
|  |  | DATE OF SAMPLING | 01/02/2022 to 2 | /02/2022 |
|  |  | IATE OF RRCCEIPT | 02/02/2022 to 2 | 102/2022 |
|  |  | DAIE OF REPORT | 01/03/2022 |  |
|  |  | date of anazysis | STARTT 03/02/2022 | EXD: 01/03/2022 |
| SAMPLE DEZAILS |  |  |  |  |
| MONTITORING JOR |  | Cusforact mer. Mo. 4 naty |  | $\begin{aligned} & \mathrm{N} / \mathrm{PO} / \mathrm{SRV} / 2122 / 0045 \text {, } \\ & \mathrm{DFD}, 24-\mathrm{JULY}-2021 \end{aligned}$ |
| SAMPLING LOCATION | ORYICE AREA, BNWUIKHOL |  |  |  |
| DURESTION OF SAMPLINA | 24 HOURS | SNMPLE COLIECRED DY | LABCRUATORY CMEstrst |  |
| SAMPLTMG PROCEDURE | AS DET METHOD RESTERENCE |  |  |  |
| GMMPLE QUANMITY/PACETMG |  $3 \mathrm{SO}_{2}: 30 \mathrm{MLLX}$ NO. PVC BOTTLE, $\mathrm{NO}_{2}: 3 G \mathrm{GLXI}$ NO. PVC BOTTLE RUBBEAR BLADDESA: $1 \times 1 \mathrm{NO}$. |  |  |  |



| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} P M_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{+} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 01.02.2022 | 68 | 32 | 14 | 32 | 0.6 | N.D. |
| 04.02.2022 | 58 | 20 | 08 | 28 | 0.9 | N.D. |
| 07.02.2022 | 70 | 30 | 12 | 30 | 0.4 | N. D. |
| 11.02 .2022 | 62 | 22 | 08 | 26 | 0.8 | N. D. |
| 14.02 .2022 | 68 | 28 | 16 | 20 | 0.6 | N. D. |
| 18.02.2022 | 58 | 36 | 12 | 28 | 0.4 | N. D. |
| 21.02 .2022 | 65 | 24 | 18 | 23 | 0.9 | N. D. |
| 25.02.2022 | 62 | 2 B | 14 | 28 | 1.0 | N, D* |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |
| Terms \& conditions <br>  <br>  <br>  |  |  |  |  |  |  |
| $\begin{aligned} & \text { CDOA } \\ & 0103122 \\ & \text { REVIEWED BY } \end{aligned}$ |  |  |  | Forl | ENVIROL <br> ORIZED | Lutions <br> 22 <br> RY |

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

| $\begin{aligned} & \text { TO, } \\ & \text { HINDALCO INDUSTRIES LIMITED, } \\ & \text { GARE PALMA - IV/4, COAL MINE, } \\ & \text { VILLAGE - BANKHETA, } \\ & \text { POST -MILUPARA, } \\ & \text { DISTT. - RAIGARH (C.G.) } 496107 \\ & \hline \end{aligned}$ |  | Jipory no | UES/TR/21-22/089 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REFE NO | UES/21-22/AAQM/01 | 14619 |
|  |  | DMTE OF SMMPLINC: | 02/03/2022 to $28 /$ | 103/2022 |
|  |  | DATE OF RECETPT | 03/03/2022 to 29/ | 103/2022 |
|  |  | DATE OF REFORT | 02/04/2022 |  |
|  |  | DATE OF ALALYETS | SKART: 04/03/2022 | END:02/04/2022 |
| SAMPLE DETAILS |  |  |  |  |
| NCNITRORINE FOV | Aumirave ait ounzity montroming | CUSTOMER REEF, NO. 4 DAKE $N / \mathrm{PD}$ <br> DID |  | $\begin{aligned} & \text { SRV/2122/0045, } \\ & 24 \text {-JuLY }-2021 \end{aligned}$ |
| SALPLIING LOCATION | OFFICE ABES, HANGINOKLL |  |  |  |
| DURATION OF SANPLING | AS PER NETWOD REFERENCE |  |  |  |
| SAMPLITNG PROCSDURS |  |  |  |  |
| SAMPLE <br> QUANETTY/PACRTMS | FILEER PAPER ( $\mathrm{PN}_{10}$ ) : $2 \mathrm{K1}$ NO, , FILTER PAPER (PM. 1 ) : $2 X I$ NO. $\mathrm{SO}_{2} \mathrm{I}$ 3GMEXI MO. PVC BOTTLE, $\mathrm{NO}_{2} 工$ 3GALXI NO. PWC ECTYLE RUBBER BLADDER: IXI NO. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{PN}_{10}$ ) | IS 5182 (Part 23): 2006 a CPCB Guidelines Vol,-I | 100 |
| Particulate Matter size less than 2.5 microms ( $\mathrm{PM} / \mathrm{S}$ ) | IS 5182 [Part 24): 2019, CPCB Guidelines Vol.-1 | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | 185182 (Part 2) : 2001, RA 2006 : CPCB Guidelines Vol.-I | 80 |
| Nitrogen Dioxide $\left(\mathrm{MO}_{2}\right)$ | Is 5182 (Part 6): 2006 \& CPCB Guidellines Vol.-I | 60 |
| Carbon Monoxide (C0)* | I8 5182(Part 10):1999, RA 2003 | 4.0 |
| Mercury ( $\mathrm{H} / \mathrm{l}$ ) | EPA Method 10 -5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{Hg} / \mathrm{m}^{3}}{(2)}$ |
| 02.03 .2022 | 78 | 30 | 12 | 30 | 0.8 | N. D. |
| 07.03.2022 | 68 | 26 | 10 | 28 | 0.6 | N. D. |
| 11.03 .2022 | 80 | 28 | 14 | 24 | 0.8 | N. D. |
| 14.03 .2022 | 72 | 30 | 06 | 22 | 0.5 | N. D. |
| 18.03 .2022 | 78 | 34 | 10 | 24 | 0.6 | N. D. |
| 21.03 .2022 | 68 | 32 | 08 | 28 | 0.2 | N.D. |
| 25.03 .2022 | 55 | 28 | 14 | 20 | 0.8 | N. D. |
| 28.03.2022 | 62 | 20 | 12 | 22 | 0.5 | N.D. |
| Remarks: * Duration of sampling for CO-1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

## Terms \& conditions


-End of the test report
AN ISO : 9001:2015 / ISO: 14001:2015 /ISO 45001:2018 CERTIFIED LABORATORY


| ```Name S Alditwer IVT Ther Kiveremer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST =MILUPARA, DISTT. - RAIGARH (C.G.) }49610``` |  |  |  | UES/TR/21-22/3495 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | LAE FEF NO, |  | UES/21-22/ANGM/6254-6261 |  |  |  |
|  |  | DATE OF SNAPLING |  | 01/10/2021 to $25 / 10 / 2021$ |  |  |  |
|  |  | DATE OF RECEIPT |  | 02/10/2021 to $26 / 10 / 2021$ |  |  |  |
|  |  | DATE OF REPFORT |  | 01/11/2021 |  |  |  |
|  |  | DMIE OF ANALYETS |  | START:09/10/2021 |  |  | END:01/21 |
| SAMPLE DETAILS |  |  |  |  |  |  |  |
| MONTTOATMA FOR | AMEIENT ALR QUALTTY MONTMORTNG |  | Cusmomer jese. No, \& maxe |  |  |  | $\begin{aligned} & \mathrm{pO/SRV/21} \\ & D,: 24-\pi / 2 \end{aligned}$ |
| GMPPLING LOCATION | ETP AREA, Bantimaiol |  |  |  |  |  |  |
| DURATION OF SALPLING | 24 moums | BMMPLE COLLECTED BY |  |  | LAPCRATTORY CHEMIST |  |  |
| SAMPLIMO PROCEVETOS | AS PKE METINOD REPEREWCE |  |  |  |  |  |  |
| SMAPLE GUANTITK/PACKING |  <br>  <br>  |  |  |  |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size leas than 10 microns ( $\mathrm{EM} \mathrm{M}_{3}$ ) | Is 5182 (Part 23) : 2006 5 CPCB Guidelines Vol.-1 | 100 |
| Particulate Matter size less than 2.5 microna $\left(\mathrm{PM}_{2,3}\right)$ | cPCBSuidelines vol, -I | 60 |
| Sulphur bioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Fart 2): 2001, RA 2006 5 CPCB Guidelines Vol.-I | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ | IS 5182 (Part 6) : 2006 \& CPCB Guidelines Vol.-I | 80 |
| Carbon Morioxide (CO)* | 185182 (Part 10):1999, RA 2003 | 4.0 |
| Mercury $\langle\mathrm{Hg}$ ) | ERA Method 10-05 | $\cdots$ |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2-5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 01.10 .2021 | 48 | 22 | 08 | 26 | 0.7 | N. D. |
| 04.10 .2021 | 40 | 26 | 12 | 22 | 0.4 | N, D. |
| 08.10.2021 | 46 | 22 | 16 | 28 | 0.8 | N. D. |
| 11.10.2021 | 38 | 28 | 10 | 20 | 0.6 | N. D. |
| 14.10.2021 | 36 | 20 | 08 | 26 | 0.2 | N. D. |
| 18,10.2021 | 42 | 26 | 12 | 28 | 0.7 | N. D. |
| 22.10 .2021 | 46 | 28 | 09 | 20 | 0.6 | N. D. |
| 25.10.2021 | 40 | 20 | 14 | 24 | 0.2 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

## Terms \& conditions





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|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPPORT NO | UES/TR/21-22/04168 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REEF NO | UES/21-22/AAgM/07461-07468 |  |
|  |  | DATEN CF SUMPLING | 01/11/2021 to 27/11/2021 |  |
|  |  | Hate of receitpt | 02/11/2021 to 29/11/2021 |  |
|  |  | DATE OF Jeport | 01/12/2021 |  |
|  |  | DATE OF ANALYSIS | START:02/11/2021 | END: 29/12/2021 |
| SAMPDE DEPAITS |  |  |  |  |
| MONTTCATINQ EOT | MMBIANT AIR gUALITY MOWITORING | Custcmer fase NO. 6 Dast |  | $0 / 3 R V / 2122 / 0045 \text {, }$ $24-\pi U L Y-2021$ |
| SAMPLIMC LOCATION | HTF AREA, RANJINCHOL |  |  |  |
| DURATION OF SAMPLING | 24 HOURS | SURLE COLTECYED EY | famoratore chrotrst |  |
| SMMAPLTMG PROCEDURE | AS PER METHOD JUERKAWCE |  |  |  |
| SAMPIE <br> CULNTITY/PACECING |  $S D_{2}: 30 \mathrm{NLXI}$ NO. PVC BOTTLE, $\mathrm{NO}_{2}$ : 30 MLXI NO. RVC BOTPLE RLDEGE MLADDEE: IX1 NO. |  |  |  |


| Parameter | Method Reference | NAAQM |
| :---: | :---: | :---: |
| Particulate Mater size less than 10 microns ( $\mathrm{IM} \mathrm{M}_{\mathrm{jd}}$ ) | Is 5182 (Patt 23): 2006 ( CPCB Guidelines Val_-I | $\frac{\text { Standard }}{100}$ |
| Particulate Matter size less than 2.5 microns $\left\{\mathrm{PM}_{2,3}\right.$ ) | CPCBGuidelines VoI.-1 | 60 |
| Sulphur Dioxide $\left(\mathrm{SO}_{2}\right)$ | Is 5182 (Part 2) $=2001$, RA 2006 f CPCB Guidelines Vol.-I | 818 |
| Witrogen Dioxide ( $\mathrm{HO}_{z}$ ) | IS 5182 (Part 6) : 2006 \& CPCB Guidelines Vol,-I | 80 |
| Carbon Monoxide $\{C 0$ ) * Mercury (Hg) | $\text { Is } 5182 \text { (Part } 101 \text { I1999, RA } 2003$ EPA Method 10-5 | 4.0 |
| Mercury (Hg) | EPA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{ }$ |
| 01.11.2021 | 50 | 24 | 10 | 28 | 0.8 | N.D. |
| $\frac{06.11 .2021}{08.11 .2021}$ | 42 | 28 | 14 | 24 | 0.2 | N. D. |
| 08.11.2021 | 48 | 24 | 18 | 26 | 0.6 | N. D. |
| 13.11.2021 | 40 | 30 | 12 | 22 | 0.8 | N. D. |
| 15.11.2021 | 38 | 22 | 10 | 28 | 0.4 | N.D. |
| 20.11 .2021 | 44 | 28 | 14 | 30 | 0.6 | N. D. |
| 22.11 .2021 | 46 | 30 | 10 | 22 | 0.8 | N. D. |
| 27.11.2021 | 42 | 22 | 16 | 26 | 0.4 | N. D. |

Terms \& conditions



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 I Email : ultimatenviro@gmail.com

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


| Parameter | Method Reference | NAAQM |
| :---: | :---: | :---: |
| Particulate Matter siza less than 10 mierons ( $\mathrm{PM}_{10}$ ) | I8 5182 (Part 23): 2006 \& CPCB Guidelines Vol,-I | Standard |
| Particulate Matter size less than 2.5 microns ( $\mathrm{TM}_{2,5}$ ) | CPCB Guidelines Vol.-I | 60 |
| Stiphar Dioxite ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, RA 2006 s CPCB Guidelines Vol.-1 | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ <br> Carbon Monoxide $(\mathrm{CO})^{*}$ | IS S182 (Part 6): 2006 g CPCB Gufdalines Vo1, -I | 80 |
| Carbon Monoxide Mercury (Hg) | IS 5182 (Part 10):1999, RA 2003 EPA Method 10-5 | 4.0 |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} P M_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \text { CO }{ }^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 04.12.2021 | 52 | 26 | 12 | 30 | 0.9 | N.D. |
| 06.12 .2021 | 44 | 30 | 16 | 26 | 0.4 | N.D. |
| 11.12.2021 | 50 | 26 | 20 | 28 | 0.8 | N, D. |
| 13.12.2021 | 42 | 32 | 14 | 24 | 0.9 | N, D. |
| $\frac{18.12 .2021}{20.12 .2021}$ | 40 | 24 | 12 | 26 | 0.6 | N. D. |
| 20.12.2021 | 46 | 30 | 16 | 32 | 0.8 | N. D. |
| $\frac{25.12 .2021}{27.12 .2021}$ | 48 | 32 | 12 | 24 | 0.9 | N. D. |
| 27.12.2021 | 44 | 24 | 18 | 28 | 0.5 | N. D. |

Terms \& condifions



End of the test report


| ```Mame is Adithest OV The Guvimmer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107``` |  | HAPPRE NO | UES/TR/21-22/05972 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF NO | U8s/21-22/AAgM/010268-010275 |  |
|  |  | DAIE OF STAPLIMG | 03/01/2022 to 28/01/2022 |  |
|  |  | PATE OF RECEIPT | 04/01/2022 to 29/01/2022 |  |
|  |  | DATE OF REPORT | $02 / 02 / 2022$ |  |
|  |  | DATE Of ANALYSIS | STARE: 04/01/2022 | END: 01/02/2022 |
| SAMPLE DETALLS |  |  |  |  |
| MONTICRIMG POR | AHEIENT AIR QUALITY MONTTORING | CUSTCMER REF. NO, \& DATE |  | /SRV/2122/0045, 24-JULY-2021 |
| SAMPIINC LOCATION | STP AREA, BANUTKसOL |  |  |  |
| DURATION OF SAMPLING | 24 HOURS | SAMPLE COULECTED BY | LABCREATCRY ChEMEISY |  |
| SMAPLING PROCEDURE | AS PER METHOD REEERENCE |  |  |  |
| SAMPIE QUANTITY/PACKZNG | ETLIER PAPER (PMan) ; 1XI NO., FILTER PANER (PMG,s) ; $1 \times 1$ NO. <br>  <br>  |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns $\left(\mathrm{PM}_{19}\right)$ | IS 5182 (Part 23): 2006 \& CPCB Guidelines Vol.-I | 100 |
| Parciculate Matter size less than 2.5 microns ( $\mathrm{PM}, \mathrm{n}$ )] | CPCBGuidelines Vol.-I | 60 |
| Sulphur Dioxide $\left\{\mathrm{SO}_{2}\right\}$ | Is 5182 (Part 2) : 2001, RAA 2006 \# CPCB Guidelines Vol. -1 | B0 |
| Nitrogen Dioxide $\left\langle\mathrm{NO}_{3}\right.$ ) | IS 5182 [Part 6): 2006 6 CPCB Guldelines Vol.-I | 80 |
| Carbon Monoxide (CO)* | IS 5182 (Part 10):1999, RA 2003 | 4.0 |
| Mercury (Hg) | EPA Mothod 10-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 03.01.2022 | 58 | 28 | 16 | 24 | 0.7 | N. D. |
| 07.01 .2022 | 4 B | 32 | 14 | 22 | 0.8 | N. D. |
| 10.01.2022 | 56 | 26 | 10 | 20 | 0.5 | N. D. |
| 14.01.2022 | 48 | 30 | 18 | 28 | 0.4 | N.D. |
| 17.01.2022 | 50 | 28 | 12 | 24 | 0.9 | N, D. |
| 21.01 .2022 | 54 | 32 | 14 | 30 | 0.7 | N. D. |
| 24.01 .2022 | 46 | 30 | 10 | 26 | 0.5 | N. D. |
| 28.01.2022 | 58 | 28 | 16 | 22 | 0.7 | N. D. |

## Terms \& condifions





End of the test report
AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY

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

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

| Hame 5 Anfirgen iv The Ginstrump <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT, - RAIGARH (C.G.) 496107 |  | REPORT NO | UES/TR/21-22/07919 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Lat patr NO | UES/21-22/AAGM/013083-13090 |  |
|  |  | DAFE OF SAMELING | 01/02/2022 to 25/02/2022 |  |
|  |  | DAIE OF RECEETPF | 02/02/2022 to 26/02/2022 |  |
|  |  | DMEE OF REXIORT | 01/03/2022 |  |
|  |  | Dats of nuxilsis | SEART:03/02/2022 | 2WD: 01/03/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MCNITTORING FOR | AGBIENT AIR QLINTTY MOMTTORTMG |  |  | $\begin{aligned} & \text { /SRV/2122/00045, } \\ & 24-\text { JULY-2021 } \end{aligned}$ |
| SAMPLING LOCATION | ETP AREA, RNKTEKFOL |  |  |  |
| DURAETON OF SAMPLINO | 24 nouns | SNMRLE COLLECIED BY | INBORATIORY Chbotss |  |
| GRMPLTNG FROCEDURE | AS FER MGTHOD REPERENCE |  |  |  |
| sxMPLE <br> QUWNTITY/PACKING |  <br>  RUMBKR BLADMER: IXI NO. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{PM}_{2 \mathrm{n}}$ ) | IS 5182 (Part 23): 2006 \& CPCB Guidelines Vol.-I | 100 |
| Particulate Matter size less than 2.5 microns ( $\mathrm{EM}_{2} .5$ ) | 15 5182 (Part 24): 2019 CPCB Guidelines Vol, -I | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, PA 2006 \& CPCB Guidelines Vol.-1 | 80 |
| Nitrogen Dioxide $\left\langle\mathrm{NO}_{2}\right\rangle$ | IS 5182 (Part 6): 2006 \& CPCB Guidelines Vol, -I | 80 |
| Carbon Monoxide (CO)* | IS 5182 \{Fart 10) $\ddagger 1999$, RA 2003 | 4.0 |
| Mercury (Hg) | EPA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{P} M_{10} \\ \mathrm{\mu g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | Hg $\mathrm{ng} / \mathrm{m}^{3}$ |
| 01.02.2022 | 64 | 24 | 10 | 28 | 0.6 | N. D. |
| 04.02.2022 | 58 | 30 | 18 | 24 | 0.2 | N. D. |
| 07.02.2022 | 50 | 22 | 12 | 18 | 0.8 | N. D. |
| 11.02,2022 | 42 | 26 | 16 | 26 | 0.4 | N. D. |
| 14.02, 2022 | 62 | 32 | 10 | 20 | 0.8 | N.D. |
| 18.02.2022 | 58 | 28 | 18 | 28 | 0.2 | N. D, |
| 21.02 .2022 | 40 | 20 | 16 | 24 | 0.6 | N, D. |
| 25.02.2022 | 56 | 30 | 12 | 26 | 0.8 | N, D. |

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


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:0771-40277771 Email : ultimatenviro@gmail.com

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

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPORT NO | UES/TR/21-22/08927 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAS REF NO | UES/21-22/AACM/014620 |  |
|  |  | LAATE OF SAMPLING | 02/03/2022 to 28/03/2022 |  |
|  |  | DATE OF Rascyert | 03/03/2022 to 29/03/2022 |  |
|  |  | DATE OF Reporat | 02/04/2022 |  |
|  |  | \#AKT or anazysis | STARE:04/03/2022 | END: 02/04/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MCNITORING FOR | AUBIENT AIR GUALITY MCWITTORTNG | CUSTCNEFR REF. NO, 5 DATE |  | $\begin{gathered} 0 / \text { sRV/2122/0045, } \\ 24-J U L Y-2022 \end{gathered}$ |
| SAMPLING LOCAKION | EXP AREA, EANJLAGIOL |  |  |  |
| DURATION OF SANQLITMG | 24 Foums |  |  |  |
| SAMPLING PROCEEDTEE | AS PER METHOD RESEREENCE |  |  |  |
| SAMPLE QUMNTITY/PACKING | FILTER PAPER (PM ${ }_{\text {ta }}$ ): IXI NO., FTLIESR PAPAK (FME.s) : $1 X 1$ NO. $\mathrm{SO}_{2}$ : 30 MLLXI NO. PVC BOTTLE, $\mathrm{NO}_{2}$ : $30 \mathrm{HL} K 1$ NO. PVC BOTTIE RUREER BLADDER: IXI NO. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter gize less than 10 microns $\left(\mathrm{PM}_{10}\right)$ | IS 5182 (Part 23): 2006 ; CPCB Guidelines Vol.-I | 100 |
| Particulate Matter size less than 2.5 microns $\left(\mathrm{EN}_{2}, 2\right)$ | TS 5182 (Part 24): 2019 CPCB Guidelinea Vol.-1 | 60 |
| Sulphur Dioxide $\left(\mathrm{SO}_{2}\right)$ | 15 5182 (Part 2): 2001, FA 2006 s CPCB Guidelines Vol.-1 | 60 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (Tart 6): 2006 A CPCB Guldelines Vol.-I | 80 |
| Carbon Monoxide (CO)* | IS 5182 \{Part 10\}:1999, RA 2003 | 4.0 |
| Mexcury (Hg) | EPA Method IO-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mu \mathrm{g} / \mathrm{m}^{3}}{\mathrm{SO}_{2}}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}{ }^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 02.03.2022 | 70 | 28 | 14 | 24 | 0.5 | N. D. |
| 07.03.2022 | 64 | 36 | 12 | 28 | 0.9 | N. D. |
| 11.03 .2022 | 60 | 30 | 18 | 20 | 0.2 | N. D. |
| 14.03 .2022 | 58 | 28 | 12 | 28 | 0.8 | N. D. |
| 18.03 .2022 | 70 | 38 | 10 | 20 | 0.4 | N. D. |
| 21.03.2022 | 66 | 34 | 14 | 24 | 0.6 | N.D. |
| 25,03.2022 | 58 | 26 | 18 | 22 | 0.2 | N. ${ }^{\text {N. }}$ |
| 28.03.2022 | 62 | 32 | 16 | 28 | 0.8 | N+D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

## Terms \& conditions





-End of the test report
AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{PM}_{10}$ ) | IS 5182 (Part 23): 2006 6 CPCB Guidelines Vol.-I | 100 |
| Particulate Matter size less than 2.5 microns $(P M$, ) $)$ | CPCBGuidelines Vol:-I | 60 |
| Sulphur Dioxide $\left\{\mathrm{SO}_{2}\right\}$ | IS 5162 Part 21: 2001, RA 2006 \& CPCB Guidelines Vol. -1 | 80 |
| Witrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (Part 6): 2006 \& CPCB Guidelines Vol.-I | BD |
| Carbon Monoxide ( 00 )* | IS 51月2 (Part 10):1999, RA 2003 | 4.0 |
| Mercury ( Hg ) | EPA Mothod TO-05 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{aligned} & \mathrm{PM}_{2.5} \\ & \mu \mathrm{~g} / \mathrm{m}^{3} \end{aligned}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{ }$ |
| 01.10 .2021 | 52 | 28 | 10 | 20 | 0.7 | N. D. |
| 04.10 .2021 | 60 | 20 | 16 | 26 | 0.9 | N. D. |
| 08.10.2021 | 48 | 22 | 10 | 22 | 0.2 | N. D. |
| 11.10 .2021 | 54 | 26 | 18 | 27 | 0.5 | N. D. |
| 14.10 .2021 | 46 | 28 | 12 | 28 | 0.7 | N. D. |
| 18.10.2021 | 42 | 24 | 10 | 20 | 0.8 | N. D. |
| 22.10.2021 | 48 | 30 | 14 | 26 | 0.4 | N. D. |
| 25.10 .2021 | 56 | 28 | 12 | 28 | 0.9 | N. D. |
| Remarks: * Duration of sampling for CO-1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

## Terms \& conditions




-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 I Email : ullmatenviro@gmail.com

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

| ```Name II Adhhas of 7her Conathmet TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107``` |  | REPORT NO | UES/TR/21-22/04 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REE NO | UES/21-22/ARQM/ | 469-07476 |
|  |  | Dates or sampling | 01/11/2021 to 2 | 11/2021 |
|  |  | DATE OF Raccitipt | 02/11/2021 to 2 | 11/2021 |
|  |  | DATE OF REPORT | 01/12/2021 |  |
|  |  | HATE OF ANALYSIS | START:02/12/2021 | END:29/11/2022 |
| SAMPLE DETAILS |  |  |  |  |
| HONTTEGRTNG POR | ANBIANT AIR QULALITY MCNITORING |  |  | $\begin{aligned} & \text { /SRV/2122/0045; } \\ & 24-J u L Y-2021 \end{aligned}$ |
| SNMELING LOCAFTON | OFEICE ARESA, BANRKEIA |  |  |  |
| DURATETOW OF SUNDLING | 24 HCUMS | SAMPLE COLLSCTED BY | LuBCMATORY CHEMCIST |  |
| SMMPLING PROCEDUEE | AS PER MEMMOD REFERENCE |  |  |  |
| SAMPLE <br> QUANTITY/PACKIMG | FILTER PAFER (PMs) : $2 K I$ NO., FILTKR PAPER (PNG, $)$ : $2 K I$ NO, SOz: SOMLXI NO. PVC BOTTLE, MOpt JOMLLKI NO, PVC BOTTLK funuer BLADOER: $1 \times 1$ NO, |  |  |  |


| Parameter | Method Reference | NAAQM |
| :---: | :---: | :---: |
| Paxtioulate Matter size less than 10 microns ( $\mathrm{PM}_{10}$ ) | 18 5182 (Part 231: 2006 6 CECD Guldelines Vol,-I | Standard |
| Partlculate Matter aize Less than 2.5 microns ( $\mathrm{PN}_{2}, \mathrm{e}$ ) | cecrabuidelines Yol,-1 | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | 15 5182 (Part 2): 2001, RA 20064 CPCB Guidelines Vol.-I | 80 |
| Nitrogen bioxide ( $\mathrm{NO}_{7}$ ) | Is 5182 (Part 5 ): 2006 b CPCB Guidelines Vol, -I | 80 |
| Carbon Monoxide ( CO$)$ : Mercury $(\mathrm{Hg})$ | IS 5182(Part 10):1999, RA 2003 EPA Method 10-5 | 4.0 |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathbf{P M}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mu \mathrm{g} / \mathrm{m}^{3}}{\mathrm{SO}_{2}}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| $\frac{01.11 .2021}{06.11 .2021}$ | 54 62 | 30 | 12 | 22 | 0.8 | N.D. |
| 06.11.2021 | 62 50 | 22 | 18 | 28 | 0.6 | N. D. |
| $\frac{13.11 .2021}{}$ | 50 56 | 24 | 12 | 24 | 0.4 | N, D. |
| 15.11.2021 | 48 | 26 | 20 | 28 | 0.6 | N. D. |
| 20.11.2021 | 44 | 22 | 14 | 26 | 0.8 | N. D. |
| 22.11 .2021 | 46 | 28 | 12 | 22 | 0.6 | N. D. |
| 27.11.2021 | 58 | 30 | 4 | 28 | 0.2 | N. D. |
| narks: * Dura | amplin | -1 H | . - Not |  | 0.8 | N. D. |

Terms \& conditions


-End of the test report


|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPCORT NO | UES/TR/21-22/0491 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAE TEFF NO | UES/21-22/AAGM/0 | 737-08744 |
|  |  | DATE OF SAMPLING | 04/12/2021 to 2 | 2/2021 |
|  |  | Daze or fecceryt | 05/12/2021 to 28 | 12/2021 |
|  |  | DATE OF Reproret | 01/01/2022 |  |
|  |  | DATE OF ANALYGIS | SEART: 05/12/2021 | KND; 30/12/2021 |
| SAMPLE DETAILS |  |  |  |  |
| MONITORING TOS | AMBIENT AIR QUALITY moniticming |  | CUSTOMER REF. NO. \& DATE ${ }^{\text {a }}$ D | /SRV/2122/0045, $24-2 U L Y-2022$ |
| SAMPLING LOCATION | OTFTCE AREA, HNNKHETA |  |  |  |
| DURATTON OF SAMPLING | 24 notres | SMMPLE COLLECTED AY | Laboseatesy changst |  |
| SMAPLING PROCEDURE | AS PIER METHOD REFEREWCE |  |  |  |
| SAMPLE <br> gUANTITY/RACFTNG | FILIER PAPKR (FMra): $1 X 1$ NO., FILTER PAPER (PMe,s): $1 \times 1$ NO. <br>  RUBEER BLADKKCR: $1 \times 1 \mathrm{NO}$. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 miorons ( $\mathrm{PM}_{1}$ ) | Is 5182 (Part 23): 2006 a CPCB Guidelines Vol.-1 | 100 |
| Particulate Mattor size less than 2.5 microns $\left(\mathrm{PM}_{2}, 6\right)$ | CPCE Guidelines Vol.-I | 60 |
| Sulphur Dioxide $\left(\mathrm{SO}_{2}\right)$ | 13 5182 (Part 2): 2001, 期 2006 6 CPCB Guidelinos Vol.-I | 80 |
| Nitrogen Dioxide ( $\mathrm{HO}_{z}$ ) | IS 5182 (Part 6): 2006 \& CPCB Guldelines Vol,-I | 80 |
| Carbon Manoxide (CO) * | 18 5182(Part 10):1999, RA 2003 | 4.0 |
| Mercury (fig) | EPA Method Io-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\mathrm{ng} / \mathrm{m}^{3}$ |
| 04.12.2021 | 56 | 32 | 14 | 24 | 0.9 | N. D. |
| 06.12 .2021 | 64 | 24 | 20 | 30 | 0.8 | N. D. |
| 11.12 .2021 | 52 | 26 | 14 | 26 | 0.6 | N, D. |
| 13.12.2021 | 58 | 30 | 22 | 30 | 0.8 | N, D. |
| 18.12 .2021 | 50 | 28 | 16 | 28 | 0.9 | N. D. |
| 20.12 .2021 | 46 | 24 | 14 | 24 | 0.8 | N. D. |
| 25.12 .2021 | 48 | 30 | 18 | 30 | 0.4 | N. D. |
| 27.12.2021 | 60 | 32 | 16 | 28 | 0.6 | N. D. |
| Remarks: * Duration of sampling for CO-1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

Terms \& conditions



-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 : ultmatenviro@gmail.com

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

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | Replore mo | UES/ER/21-22 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REE MO | UES/21-22/AX | M/ | 0276-010283 |
|  |  | DATE OF SAMPLIME | 03/01/2022 t | 28 | 01/2022 |
|  |  | DATE or RECEETPY | 04/01/2022 | 29 | 01/2022 |
|  |  | मame or rxport | $02 / 02 / 2022$ |  |  |
|  |  | Date of analysis | STARE: 04/01/20 |  | END:01/02/2022 |
| SAMPIE DETAITS |  |  |  |  |  |
| MONITORING JTR | AhBIENT AIR QUALITY MONTTORING |  | Cusmonach ref. No. \& DATE | N/PO/SRV/2122/0045, DTD. 24-JULY-2021 |  |
| SAMPLING LOCMITON | OEFICE AREA, RANKHETA |  |  |  |  |
| DURNTION OF SANPLING | 24 nouns | SAMPLE COLLECIED BY | Lallornatory Chartss |  |  |
| SNMPLING PROCEBURE | AS PKR METMOD HXCRERENCE |  |  |  |  |
| sampie <br> QUANTITY/PACKZMG |  $\mathrm{SO}_{2}$ : 300chK1 NO. PVC BOTTLE, NOz: 30NLKI NO. PVC BOTTLE RURAER BLaDDEER: $1 \times 1$ NO, |  |  |  |  |

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{PM}_{1}$ ) | IS 5182 (Part 23): 20065 CPCB Guidelines Vol.-I | 100 |
| Particulate Matter size less than 2.5 microns ( $\mathrm{PM}_{2} .2$ ) | CPCBGuidelines Vol.-I | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, RA 2006 \& CPCB Guidelines Vol,-I | B0 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | 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 10-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 03.01 .2022 | 60 | 34 | 18 | 28 | 0.5 | N.D. |
| 07.01 .2022 | 66 | 28 | 12 | 24 | 0.7 | N. D. |
| 10.01 .2022 | 58 | 24 | 08 | 22 | 0.9 | N. D. |
| 14.01 .2022 | 52 | 32 | 10 | 28 | 0.5 | N. D. |
| 17.01 .2022 | 58 | 26 | 12 | 22 | 0.7 | N.D. |
| 21.01.2022 | 56 | 22 | 14 | 20 | 0.8 | N. D. |
| 24.01. 2022 | 50 | 26 | 12 | 26 | 0.6 | N.D. |
| 28.01.2022 | 68 | 30 | 10 | 24 | 0.8 | N. D. |

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


HDD-272. Phase III - Near JP Chowk
Ring Road No. 2, Kabir Nagar, Raipur (C. G ) - 492099
Ph : 0771-40277771 Email : ulimatenviro@gmail.com

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

| ```Momor & Adhtvas or The Cuptmmer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107``` |  | RISpart mo | UES/TR/21-22/07920 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | LMB REF NO | UES/21-22/AAGN/013091-013098 |  |  |
|  |  | DATE OF SAMPLIMG | 01/02/2022 to 25/02/2022 |  |  |
|  |  | DAIE OF RECESPF | 02/02/2022 to 26/02/2022 |  |  |
|  |  | DATE OF REPORT | 01/03/2022 |  |  |
|  |  | BATE OF ANALYSIS | START:03/02/2022 |  | END:01/03/2022 |
| SAMPLE DETAILS |  |  |  |  |  |
| MONITRORING YOR | ANBIENT AIR QUALITY MCNKTORIMG |  | CUSTCNER REF. NO, \& DATE |  | $\begin{aligned} & \text { SRRV/2122/0045, } \\ & 24-J U L Y-2021 \end{aligned}$ |
| SAMPLING LOCATTON | OFFICE ARUSA, BANOUESTA |  |  |  |  |
| DURAETON OF SUAPLING | 24 HOums | sumpe cokescine my |  |  |  |
| SNMPLINC PRCCRDURE | AS FAR METHOD REETERENCE |  |  |  |  |
| SAMPLE <br> QUANTITY/PACRIMG |  $\mathrm{SO}_{2}$ : 3 OMEXXI NO, PVC BOTTLE, $\mathrm{NO}_{3}$ : 3GMEXI NO. PVC BOITLE femazar mzadperi $1 \times 1$ NO. |  |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter size less than 10 microns ( $\mathrm{PM}_{10}$ ) | IS 5182 (Part 23): 2006 \& CPCB Guidelines Vol,-I | 100 |
| Farticulate Natter size less than 2.5 microns $\left(\mathrm{PM}_{2}, \mathrm{~s}\right)$ | IS 5182 (Part 24): 2019 cPCB Guidelines Vol. - | 60 |
| Sulphur Dioride ( $\mathrm{SO}_{2}$ ) | IS 5192 (Fart 2) : 2001, RA 2006 6 CPCB Guidelines Vol.-I | B0 |
| Nitrogen Dioxide $\left\{\mathrm{NO}_{2}\right]$ | IS 5182 (Part 6): 2006 6 CPCB Guldelines Vol,-I | 80 |
| Carbon Monoxide (CO) * | IS 5182 (Part 10):1999, RA 2003 | 4.9 |
| Mercury $\{\mathrm{Hg}$ \} | E.PA Nethod 10-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \text { PM }{ }_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2 \cdot 5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \text { CO } \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{ }$ |
| 01.02 .2022 | 68 | 38 | 10 | 26 | 0.8 | N.D. |
| 04.02.2022 | 64 | 34 | 16 | 22 | 0.6 | N. D. |
| 07.02 .2022 | 56 | 30 | 10 | 24 | 0.9 | N. D. |
| 11.02 .2022 | 48 | 24 | 08 | 20 | 0.7 | N. D. |
| $\frac{14.02 .2022}{18.02 .2022}$ | 68 | 30 | 06 | 18 | 0.5 | N. D. |
| 18.02 .2022 21.02 .2022 | 52 | 28 | 10 | 24 | 0.8 | N. D. |
| $\frac{21.02 .2022}{25.02 .2022}$ | 60 72 | 28 | 14 | 22 | 0.4 | N. D. |
| 25.02.2022 | 72 | 36 | 12 | 28 | 0.9 | N. D. |

Terms \& conditions




| Alome E Alithaur of The Emanimar <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST-MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | Repporc Mo | UES/TR/21-22 | 08 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | LAB HES NO | UES/21-22/AA | M/ | 621 |
|  |  | PATE or SANPLTMG | 02/03/2022 t | 28 | 3/2022 |
|  |  | Dave or uscatrpe | 03/03/2022 t | 29 | 3/2022 |
|  |  | DATEA or mapose | 02/04/2022 |  |  |
|  |  | dats of amalysis | STAUT:04/03/20 |  | axD: 02/04/2022 |
| SAMPLE DETAILS |  |  |  |  |  |
| MOWITURTMG TOR | AMBIENT AIR QUALITY MCNITORING |  | Cuswovect sury, NO, \& DAT8 |  | $\begin{aligned} & \text { (sRV/2122/0045, } \\ & 24-\operatorname{TuLY}-2021 \end{aligned}$ |
| SAMPLING LOCATION | OFTICE AREA, HAmOEST |  |  |  |  |
| Dutation or sanflivg | 24 HOURS | SMAPLE COLLICCIED BY | Zascoutrory chemrsi |  |  |
| SAMPLING PROCEDURE | AS PER METACO REFEKKANCE |  |  |  |  |
| STMOLE <br> GUANTITY/PACKIMG |  SO_: 3OMLXI NO, PVC BOFTLE, MO ${ }_{3}$; SOMLX1 NO, PVC BOTTLE AUMAER MLADOER: $1 \times 1$ MO. |  |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulata Matter size less than 10 microns ( $\mathrm{PM}_{1 \rho}$ ) | IS 5182 (Part 23) $\ddagger 2006$ \& CpcB Guidelines Vol.-1 | 100 |
| Particulate Matter alae less than 2.5 microns $\left(\mathrm{PN}_{2}, 1\right)$ | IS 5182 \{Part 241: 2019 CPCB Guidelines Vol.-I | 60 |
| Sulphur Dioxide $\left\{\mathrm{SO}_{2}\right\}$ | 15. 5182 (Part 2) ) 2002, RA 2006 s CPCB Guidelines Vol.-I | 80 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (part 6): 2006 \& CPCB Guldelines Vol,-I | 80 |
| Carbon Monoxide (CO) * | I5 5182 (Part 10):2999, EA 2003 | 4.0 |
| Mercury (Hg) | EPA Method 10-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 02.03.2022 | 72 | 32 | 14 | 22 | 0.9 | N. D. |
| 07.03 .2022 | 70 | 38 | 12 | 26 | 0.5 | N. D. |
| 11.03 .2022 | 66 | 32 | 18 | 24 | 0.8 | N. D. |
| 14.03.2022 | 58 | 24 | 06 | 28 | 0.5 | N. D. |
| 18.03 .2022 | 79 | 36 | 10 | 20 | 0.2 | N. D. |
| 21.03.2022 | 68 | 28 | 08 | 26 | 0.6 | N.D. |
| 25.03 .2022 | 62 | 22 | 12 | 28 | 0.8 | N. D. |
| 28.03.2022 | 80 | 38 | 10 | 22 | 0.7 | N. D. |
| Remarks: * Duration of sampling for CO-1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

Terms \& conditions


End of the test report
AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Farticulate Matter size less than 10 microns ( $\mathrm{PM}_{12}$ ) | I3 5182 (Part 23): 2006 6 CPCB Guidelines Vol,-I | 100 |
| Particulate Matter size less than 2.5 microns ( $\mathrm{PM}_{2}$, ) | CPCBGuidelines Yol.-1 | 60 |
| Sulphur Dioxide $\left\|30_{2}\right\|$ | IS 5182 (Part 2\} : 2001, RA 2006 s CPCB Gtidelines Vol. $-I$ | 80 |
| Nitrogen Dioxide ( $\mathrm{MO}_{3}$ ) | Is 5182 (Part 6): 2006 6 CPCB Guidelines Vol.-I | 80 |
| Carbon Monoxide (CO)* | IS 5182 (Rart 10):1999, KA 2003 | 4.0 |
| Morcury ( Hg ) | EPA Method 10-05 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{aligned} & \mathrm{PM}_{2,5} \\ & \mu \mathrm{~g} / \mathrm{m}^{3} \end{aligned}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{ }$ |
| 01.10 .2021 | 60 | 28 | 14 | 28 | 0.5 | N. D. |
| 04.10.2021 | 52 | 24 | 12 | 26 | 0.8 | N. D. |
| 08.10.2021 | 48 | 26 | 18 | 20 | 0.6 | N. D. |
| 11.10.2021 | 46 | 28 | 10 | 26 | 0.7 | N, D. |
| 14.10 .2021 | 42 | 22 | 16 | 22 | 0.4 | N. D. |
| 18.10 .2021 | 50 | 20 | 08 | 28 | 0.6 | N. D. |
| 22.10 .2021 | 52 | 28 | 12 | 25 | 0.5 | N. D. |
| 25.10.2021 | 40 | 26 | 10 | 22 | 0.9 | N. D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

## Terms \& conditions





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


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Farticulate Natter aize less than 10 microna ( $\mathrm{FM}_{12}$ ) | IS 5182 (Part 23) $=20066$ CPCB Guidelines Vol,-I | 100 |
| Particulate Matter size less than 2.5 nicrons ( $\mathbb{E N}_{2}$.2) | CPCBGuideliner Yoi, -I | 60 |
| Sulphuz Dioxfue ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, RA 2006 E CPCE Guidelines Vol.-I | 80 |
| ttitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | IS 5182 (Part 6) : 2006 6 CPCB Guidelines Vol.-I | 80 |
| Carbon Monoxide (CO) * | I5 5182(Part 10):1999, RA 2003 | 4.9 |
| Nercury (Hg) | EPA Method IO-5 | -- |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{ }$ |
| 01.11 .2021 | 62 | 30 | 16 | 30 | 0.6 | N.D. |
| 06.11 .2021 | 54 | 26 | 14 | 28 | 0.9 | N. D. |
| 08.11 .2021 | 50 | 28 | 16 | 22 | 0.8 | N. D. |
| 13.11 .2021 | 48 | 30 | 12 | 28 | 0.9 | N. D. |
| 15.11.2021 | 44 | 24 | 18 | 24 | 0.6 | N. D. |
| 20.11 .2021 | 52 | 22 | 10 | 30 | 0.8 | N. D. |
| 22.11 .2021 | 54 | 26 | 14 | 26 | 0.6 | N, D. |
| 27.11.2021 | 42 | 28 | 12 | 24 | 0.8 | N.D. |
| Remarks: * Duration of sampling for CO-1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

Terms \& conditions



-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 I Email : ultimatenviro@gmail.com

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

| ```Nmese A Alobves ov Maw Coutomem TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) }49610``` |  | REPCORT NO | UES/TR/21-22/04913 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REE NO | UES/21-22/AAGM/08745-08752 |  |  |
|  |  | Date or sameliznc | 04/12/2021 to $27 / 12 / 2021$ |  |  |
|  |  | DATE of RUCEETPT | 05/12/2021 to 28/12/2021 |  |  |
|  |  | DATE OF REPORT | 01/01/2022 |  |  |
|  |  | Hazi of analysts | START: 05/12/2021 |  | 1000+30/12/2021 |
| SAMPLE DETAIIS |  |  |  |  |  |
| MCNITCORTNG TOR | ANEIENT AIA glCaLTTY MCNITORING | CUSTOMER REY, NO, \& DATE |  | $\begin{aligned} & \text { N/PO/sRV/2122/0045, } \\ & \text { DFD. 24-JULY-2022 } \end{aligned}$ |  |
| SMOLIME LOCATION | PIT OFFICE AREA, BANKHETA |  |  |  |  |
| DURATION OF SAMPLING | 24 mouns | SAMPIE COLLESCEED EY | LABCRATCAY CHanctst |  |  |
| SAMPLING PROCEDURE | AS PER METINOD REEERENCT |  |  |  |  |
| Saleplat <br> QUNNETTY/PACKING |  $\mathrm{SO}_{2}$ : 3OMLXI NO. PVC BOTTLS, NO RUREER BLADDER: IKI NO. |  |  |  |  |


| Parameter | Method Reference | NAAQM |
| :---: | :---: | :---: |
| Particulate Matter size leas than 10 microns ( $\mathrm{PM}_{\mathrm{ta}}$ ) | 1551 122 \{Part 23\}: 2006 \& CPCB Guidelines Vol,-1 | $\frac{\text { Standard }}{100}$ |
| Particulate Matter size less than 2.5 microns (EMb.s) | CPCE Guidelines Vol.-I | 60 |
| SuIphar Dioxide $\left(\mathrm{SO}_{2}\right)$ | IS 51B2 (Part 21 12001 , RA 2006 द CPCB Guidelines Vol.-I | 80 |
| Nitrogen Dioxide ( $\mathrm{WO}_{2}$ ) Carbon Monoxide (CO)* | IS. 5182 (Fart 6): 2006 CPCB Guidolines Vol.-I | 80 |
| Cazbon Monoxide (CO)* Mercury $\langle\mathrm{Hg}\}$ | IS 5182 (Part 10):1999, RA 2003 | 4.0 |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathbf{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| $\frac{04.12 .2021}{06.12 .2021}$ | 64 56 | 32 | 18 | 32 | 0.9 | N.D. |
| $\frac{06.12 .2021}{11.12 .2021}$ | 56 | 28 | 16 | 30 | 0.8 | N. D. |
| $\frac{11.12 .2021}{13.12 .2021}$ | 52 | 30 | 18 | 24 | 0.6 | N. D. |
| $\frac{18.12 .2021}{18.2021}$ | 50 46 | 32 | 14 | 30 | 0.8 | N. D. |
| 20.12 .2021 | 54 | 26 | 20 | 26 | 0.4 | N, D. |
| 25.12.2021 | 56 | 2 | 12 | 32 | 0.9 | N. D. |
| 27.12 .2021 | 44 | 30 | 16 | 28 | 0.8 | N. D. |
| narks: * Dur | - |  |  | 2 | 0.9 | N. D. |

Terms \& conditions




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

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

| ```TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) }49610``` |  | FEEPORT NO | UES/TR/21-22/05 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB REF ND | UES/21-22/AACM/ | 10284-010292 |
|  |  | DATE OF SAMPLING | 03/01/2022 to 2 | /01/2022 |
|  |  | DAEE OF RECEEIPT | 04/01/2022 to 2 | /01/2022 |
|  |  | DATE OF REPCORT | $02 / 02 / 2022$ |  |
|  |  | Date or amalysis | SITRT: 04/01/2022 | END: 01/02/2022 |
| SAMPLE DETAILS |  |  |  |  |
| MONITIRTNG FOR | NHBTENT AIR QUALTTY MONTTCORTNG | CUSTOAGAR REF, NO, $I$ DATE |  | $\begin{aligned} & \text { SRV/2122/0045, } \\ & 24 \text {-JuLY-2022 } \end{aligned}$ |
| SAMPLINE LOCATION | PTT OFFICE ARES, EAMKHKTA |  |  |  |
| DURUITION os SAMPZTNG | 24 HOURS | SAMPLE COLLECTED MY | LABCRATORY CHODISTY |  |
| SAMPLING PROCEDURE | As PER METHOD RESERENCE |  |  |  |
| SAMPLE <br> QUUNTITY/PACGCIMG |  <br>  mumer blanogr: $1 \times 1$ mo. |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Mattor size less than 10 microns $\left(\mathrm{PM}_{10}\right)$ | Is 5182 (Part 23): 2006 \& CPCB Guidelines Vol.-I | 100 |
| Particulate Matter siae less than 2.5 microns ( $P M_{1}, \frac{8}{}$ ) | CPCBGaidelinea Vol.-I | 60 |
| Sulptur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, RA 2006 \& CPCB Guidelines Vol,-I | 80 |
| Nitrogan Dfoxide $\left[\mathrm{NO}_{2}\right]$ | IS 5182 (Part 6): 2006 \& CPCB Guidelines Vol.-I | 80 |
| Carbon Monoxide (CO)* | I3 5182 (Part 10):1999, RA 2003 | 4.0 |
| Narcury ( Eg ) | EPA Method IO-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\underset{\mu \mathrm{PM} / \mathrm{m}_{10}^{3}}{\substack{\text { an }}}$ | $\begin{gathered} \mathrm{PM}_{2 \mathrm{~s}} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 03.01 .2022 | 60 | 20 | 14 | 24 | 0.7 | N. D. |
| 07.01 .2022 | 50 | 24 | 12 | 22 | 0.5 | N. D. |
| 10.01 .2022 | 58 | 22 | 16 | 26 | 0.8 | N. D. |
| 14.01 .2022 | 56 | 26 | 10 | 20 | 0.5 | N. D. |
| $\frac{17.01 .2022}{21.01 .2022}$ | 48 | 24 | 08 | 28 | 0.4 | N. D. |
| $\frac{21.01 .2022}{24.01 .2022}$ | $\frac{52}{58}$ | 28 | 16 | 24 | 0.7 | N. D. |
| 24.01. 2022 | 58 | 22 | 12 | 20 | 0.5 | N. D. |
| 28.01.2022 | 50 | 26 | 10 | 28 | 0.8 | N. D. |

## Terms \& conditions




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

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

|  <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/4, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST -MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REPPCRT NO | URS/祭/21~22/079 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | LAB fer NO | UES/21-22/AAGM/0 | 13099-013106 |
|  |  | AATE OF SAMPLING | 01/02/2022 to 25 | /02/2022 |
|  |  | DATE OEF Raxceipy | 02/02/2022 to 26 | /02/2022 |
|  |  | DATE OF RUEPCKT | 01/03/2022 |  |
|  |  | Bate of analysis | SIARP: 03/02/2022 | END:01/03/2022 |
| SAMPLE DETAIIS |  |  |  |  |
| MONZTORING FOR SAMPLIMG LOCATION | AMBIENY AIR QULUETY MCNITORTNGPIT ORETCE ARESA, EUNKHETA |  | MO. 4 DATE | $\begin{aligned} & \mathrm{N} / \mathrm{PO} / \mathrm{SRV} / 2122 / 0045 \text {, } \\ & \mathrm{DRD}, 24-J 0 \Sigma Y-2021 \end{aligned}$ |
|  |  |  | D22n, |  |
| DURATTION or suncling | PIT ONEICE ARESA, RUNKRHETA 24 MOURS | SMAPLE COLLECTED BY |  |  |
| SAMPLING PROCEDUTE | AS PXR MISMOD REEERENCE |  | Lhacautcrar Chancrst |  |
| SAMPLE QUKNITTYY/PACKING | ```SOH: ЗOMLXI NO. PVC BOTTLE, NO, 3OMEKI NO. DVC BOTNZS RUREESN MLADOER: IXI NO.``` |  |  |  |


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Mattor alze less |  |  |
| than 10 microns (PM 0 ) | Guidelfnes Vol.-1 2006 a CPCB | 100 |
| than 2.5 microns ( $\mathrm{PM}_{4}, \mathrm{~B}$ ) | 185182 (Part 24) : 2019CPCBGuidelinea Vol -1 | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2): 2001, RA 2006 \& CPCB Buidelines Vol.-I | 80 |
| Mitrogen Dioxide $\left(\mathrm{NO}_{2}\right)$ <br> Carbon Monoxide $(\mathrm{CO})^{*}$ | $155182 \text { (Rart 6): } 2006 \text { \& CPCB }$ Guidelines Vol.-I | 80 |
| Mercury ( Hg$)$ ) | IS 5182 (Part 201:1999, RA 2003 EPA Method IO-5 | 4.0 |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{array}{r} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{array}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \text { CO* } \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\underset{\mathrm{ng} / \mathrm{m}^{3}}{\mathrm{Hg}}$ |
| 04.02 .2022 | 68 | 22 | 14 | 28 | 0.6 | N.D. |
| 07.02.2022, | 64 | 26 | 18 | 20 | 0.8 | N. D. |
| 11.02 .2022 | 68 | 30 | 16 | 24 | 0.5 | N. D. |
| 14.02 .2022 | 58 | 28 | 12 | 28 | 0.9 | N. D. |
| 18.02 .2022 | 56 | 24 | 14 | 22 | 0.7 | N, D. |
| 21.02.2022 | 52 | 26 | 14 | 28 | 0.2 | N.D. |
| 25.02.2022 | 60 | 28 | 18 | 26 | 0.6 | N. D. |
| emarks: * Dura | samp | CO- | 16 | 22 | 0.8 | N.D. |

Terms \& conditions



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 1 Email uitimatenviro@gmail.com

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


| Parameter | Method Reference | NAAQM Standard |
| :---: | :---: | :---: |
| Particulate Matter sizo less than 10 microns ( $\mathrm{FM}_{10}$ ) | 155182 (Part 23) = 2006 \& CPCB Guidelines Val.-I | 100 |
| Particulate Mattar 5ize lass than 2.5 microns ( $\mathrm{PM}_{2 . a}$ ) | IS 5182 (Part 24) $+2019 \mathrm{CFCBGuldelines} \mathrm{Vol.-T}$ | 60 |
| Sulphur Dioxide ( $\mathrm{SO}_{2}$ ) | IS 5182 (Part 2) : 2001, RA 2006 6 CPC日 Guidelines Vol,-I | 80 |
| Nitrogen Dioxide $\left(\mathrm{NO}_{3}\right\}$ | IS 5182 (Part 6): 2006 \% CPCB Guidelinea Vol.-I | 80 |
| Carbon Monoxide (CO)* | IS 5182 (Part 10):1999, RA 2003 | 4.9 |
| Mercury (Hg) | EPA Method 10-5 | - |


| TEST REPORT |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date of Sampling | $\begin{gathered} \mathrm{PM}_{10} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{PM}_{2.5} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{SO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{NO}_{2} \\ \mu \mathrm{~g} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{CO}{ }^{*} \\ \mathrm{mg} / \mathrm{m}^{3} \end{gathered}$ | $\begin{gathered} \mathrm{Hg} \\ \mathrm{ng} / \mathrm{m}^{3} \end{gathered}$ |
| 02.03.2022 | 78 | 32 | 10 | 16 | 0.9 | N.D. |
| 07.03 .2022 | 80 | 36 | 16 | 18 | 0.4 | N. D. |
| 11.03 .2022 | 74 | 38 | 10 | 22 | 0.8 | N. D. |
| 14.03 .2022 | 78 | 40 | 18 | 24 | 0.6 | N. D. |
| 18.03 .2022 | 68 | 28 | 09 | 22 | 0.5 | N. D. |
| 21.03 .2022 | 66 | 34 | 12 | 26 | 0.8 | N. D. |
| 25.03.2022 | 82 | 36 | 16 | 24 | 0.4 | N. D. |
| 28.03.2022 | 70 | 38 | 12 | 28 | 0.9 | N.D. |
| Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected |  |  |  |  |  |  |

## Terms \& conditions


-------------------------End of the test report
AN ISO : 9001:2015 / ISO: $14001: 2015$ / ISO $45001: 2018$ CERTIFIED LABORATORY

Fixed type of water sprinklers GP IV/5 coal mine


Annexure-5


| Aome at Adiarens of Ther chatwoury <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST - MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | REFCRT MO. | UES/TR/21-22/3519 |
| :---: | :---: | :---: | :---: |
|  |  | LAB REF NO. | UES/21-22/N/6340-6349 |
|  |  | DAIE OF REPCRT | 01/11/2021 |
|  |  | DATE OE SAMPLTMG | $28 / 10 / 2021$ to 29/10/2021 |
| SMMPLE DETAILS |  |  |  |
| MONITIURING FOM | NOISE LEVEL MCNTTORTMG |  |  |
| CUSTCMER REF. MO. DATE | M/PO/SRV/2122/0049, DED,:24-2ULY-2021 |  |  |
| SAMELIMG LOCATHCN | INSIDE COAL MINE A OUTEIDE COAL MTNE (AS DESCRIBED BELOW) |  |  |
| SavPLE Conwsenep iy | zarcrarcory chimest |  |  |
| SANロL CUANTITX/ PACXIING | not applicable |  |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | UNIT | RESULT |  | LIMIT (INDUSTRIAL ZONE) |  |
| LOCATION |  | DAY <br> TIME | NIGHT TIME | DAY TIME | NIGHT TIME |
| OFFICE AMEA, NTLUPARA | $d B(A)$ | 56 | 49 | 75 | 70 |
| INCLIME AREA, MTLUEARA | $d B(A)$ | 60 | 50 |  |  |
| AUNGCER AREA, MTLDTPARA | $\mathrm{dB}(\mathrm{A})$ | 58 | 46 |  |  |
| DG Ser AREA, RCONDKEL | $\mathrm{dB}(\mathrm{A})$ | 54 | 44 |  |  |
| MEEGMMBIGE AREA, HILUPARS | $d B(A)$ | 50 | 48 |  |  |
| OFTICE AREA, RONDREL | $d B(A)$ | 56 | 50 |  |  |
| BUNDOER-AREA, MONDREEL | $d B(A)$ | 60 | 52 |  |  |
| LOCATION | UNIT | RESULT |  | LIMIT (RESIDENTIAL ZONE) |  |
|  |  | DAY <br> TIME | NIGHT <br> TIME | DAY TIME | NIGHT TIME |
| Outside Plant |  |  |  | 55 | 45 |
| STMARPARA VILIAGE (COVT. School.) | $d B(A)$ | 49 | 40 |  |  |
| HTL COLONY, NOWREEEL | $\mathrm{dB}(\mathrm{A})$ | 42 | 39 |  |  |
| HIL STASY QUARTER, MILUEARA | $\mathrm{dB}(\mathrm{A})$ | 48 | 36 |  |  |

## REMARKS: RESULTS ARE AS ABOVE

## Terms \& conditions

> The report for publication, arbitration or as lepal dispoute is forbioldert
$>$ Test sample will be recamed for 15 days after Bswe of rest repoort unless orhenvise algreed with customer




| nomer a Adiurvas af The Courtamer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST - MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | HEPPORT mo, | UES/TR/21-22/04209 |
| :---: | :---: | :---: | :---: |
|  |  | LAB REF MO, | UES/21-22/N/07560-07569 |
|  |  | DATE OF REPCRT | 01/12/2021 |
|  |  | DATE OF SAMPLING | 24/11/2021 to 25/11/2021 |
| SAMPLE DRTAILS |  |  |  |
| MONITCRINA FOR | NOISE LEVEL MONITORING |  |  |
| CUSTOMER REES, NO. 6 DATs: | M/PO/SRV/2122/0049, DRD, : 24 -TULY-2021 |  |  |
| SAMPLIMG LOCAFTON | INSIDE COAL MTNE 6 OUFSTLE COAL MTNE (AS DESCRIMUD BELOW) |  |  |
| SAMPLE COLLECTED AY | LABCRATCASY CHEPTST |  |  |
| SAHPLE <br> GOLNTIETY/ PACFCTNG | NOT APPLICABLE |  |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | UNIT | RESULT |  | LIMIT (INDUSTRIAL ZONE) |  |
| OGATION |  | DAY <br> TIME | NIGHT TIME | DAY TIME | NIGHT TIME |
| OEETCE ARUEA, mILUPARA | $d B(A)$ | 54 | 48 | 75 | 70 |
| INCLINE AREA, NGLUPARA | $d \mathrm{~B}(\mathrm{~A})$ | 62 | 52 |  |  |
| BUTKFER ANESA, NELUPARA | $d B(A)$ | 56 | 48 |  |  |
| DG SET AREA, KONCHEL | $d B(A)$ | 52 | 46 |  |  |
| HETGHERICE ARES, MILUPARA | $d B(A)$ | 54 | 44 |  |  |
| OPFICE AREA, KONDMESL | $d B(A)$ | 58 | 52 |  |  |
| BUNKER AREA, KCNDPCEL | $d B(A)$ | 62 | 50 |  |  |
| LOCATION | UNIT | RESULT |  | LIMIT (RESIDENTIAL ZONE) |  |
|  |  | DAY <br> TIME | NIGHT TIME | DAY TIME | NIGHT TIME |
| Outside Plant |  |  |  | 55 | 45 |
| SIDARPARA VILLAGE (GOVT. SCROOL) | $d B(A)$ | 48 | 34 |  |  |
| HIL COLONX, NONDRELL | $d B(A)$ | 43 | 36 |  |  |
| HIL SIPAIT QUARTER, MTLUPARA | $\mathrm{dB}(\mathrm{A})$ | 46 | 40 |  |  |

REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions
7 The report for pubWcation, arbitration or as iegal clispute is forbidden.
Test sample wiff be relained for 15 chays aftor issue of test roport unleas otherwisu agreed with customer
< This is for information as the party has asked for ghove'factis) onty.


- 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 I Email : ultimatenviro@gmail.com
Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

| ```TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) }49610``` |  | Fappres NO. | UES/TR/21-22/04949 |
| :---: | :---: | :---: | :---: |
|  |  | LAB REF NO, | UES/21-22/N/08826-08835 |
|  |  | DATE OF REPCRT | 01/01/2022 |
|  |  | DATE OU SAMPLING | $23 / 12 / 2021$ to $24 / 12 / 2021$ |
| SAMPLE DETAILS |  |  |  |
| MOWITURIM FOM | NOISE HEVEZ MONT TORTNG |  |  |
| CUSTCNAKR REF. NO. 6 DATE | M/PO/SRV/2122/0049, DTD. :24-JULY-2021 |  |  |
| SAMPLING LOCAFION |  |  |  |
| SMAPLE COLLECTMO DY | LABORATORY CHEMEST |  |  |
| SAMPLE CUKNTITY/ PACKING | MOT APPLTCABLE |  |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | UNIT | RESULT |  | LIMIT (INDUSTRIAL ZONE) |  |
| LOCATION |  | DAY <br> TIME | NIGHT <br> TIME | DAY TIME | NIGHT TIME |
| OfFICE Area, milupara | $\mathrm{dB}(\mathrm{A})$ | 56 | 50 | 75 | 70 |
| TMCLINE AREA, MTLIPARA | $d B(A)$ | 60 | 54 |  |  |
| mumker area, milutara | $\mathrm{dB}(\mathrm{A})$ | 58 | 46 |  |  |
| DG set area, mowdrcel | $\mathrm{dB}(\mathrm{A})$ | 54 | 48 |  |  |
| HETCREATAK AREA, MTIUPARA | $d B(A)$ | 56 | 46 |  |  |
| OFFICE ARSS, MONDKEL | $\mathrm{dB}(\mathrm{A})$ | 54 | 50 |  |  |
| bunockr arka, kondoki | $\mathrm{dB}(\mathrm{A})$ | 64 | 52 |  |  |
| LOCATION | UNIT | RESULT |  | LIMIT (RESIDENTIAL ZONE) |  |
|  |  | DAY <br> TIME | NIGHT <br> TIME | DAY TIME | NIGHT TIME |
| Outside Plant |  |  |  | 55 | 45 |
| stimaphra village (Covi. scmool) | $\mathrm{dB}(\mathrm{A})$ | 46 | 36 |  |  |
| HIL COLONY, MONREEL | $d B(A)$ | 42 | 38 |  |  |
| MIL STAFY QUARTER, MILUPARA | $\mathrm{dB}(\mathrm{A})$ | 48 | 42 |  |  |

REMARKS; RESULTS ARE AS ABOVE
Torms \& conditions
7. The report for publication, arbitrution or as legal diapote ia formidden.

- Test sample wiff be ratained for 15 diays ather issiee of test raport unless othrrwise agreed with custorner.
- This is for imformation as the party has ashad fop fficher Iratr(s) only.

-End of the test report

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


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | RESULT |  | LIMIT (INDUSTRIAL ZONE) |  |
| LOCATION | UNIT | DAY <br> TIME | NIGHT <br> TIME | DAY TIME | NIGHT TIME |
| OFFICE AREA, MILUPARA | $\mathrm{dB}(\mathrm{A})$ | 50 | 46 | 75 | 70 |
| INCLINE ARKA, nTLUPARA | $d B(A)$ | 56 | 48 |  |  |
| EUNKER ARES, MILUPARA | $\mathrm{dB}(\mathrm{A})$ | 52 | 40 |  |  |
| DG SET ARESA, RCONDKEL | $d B(A)$ | 64 | 44 |  |  |
| WEIGHBRIGE AREA, MILIPARA | $d B(A)$ | 60 | 50 |  |  |
| OFFICE AREA, RCNOKELL | $d B(A)$ | 52 | 46 |  |  |
| מUNKER AJCEA, HCNTKEEI | $\mathrm{dB}(\mathrm{A})$ | 60 | 56 |  |  |
| LOCATION | UNIT | RESULT |  | LIMIT (RESIDENTIAL ZONE) |  |
|  |  | DAY <br> TIME | NIGHT <br> TIME | DAY TIME | NIGHT TIME |
| Outside Plant |  |  |  | 55 | 45 |
| strakpara village (govz. scroon) | $\mathrm{dB}(\mathrm{A})$ | 40 | 34 |  |  |
| HIL COLOMY, MCMDRES | $\mathrm{dB}(\mathrm{A})$ | 46 | 42 |  |  |
| hIL STAFE QUARTER, MCIUPARA | $\mathrm{dB}(\mathrm{A})$ | 42 | 36 |  |  |

REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions
> The report for publication, arbitrabion or as legal dispute is forbidden.
$\Rightarrow$ Test sample will be retained for 15 Sdays after issue of test report unless othenwise agreed with customer.
> This is for informasion as the party has asked for above test(s) only.

-End of the test report
AN ISO - $9001 \cdot 2015 /$ ISO $14001 \cdot 2015$ I ISO $45001: 2018$ CERTIFIED LABORATORY


| ```Name I Alifluss of Tho Gwalomur TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107``` |  | Remporr mo. | UES/TR/21-22/07909 |
| :---: | :---: | :---: | :---: |
|  |  | Las rear mo. | UES/21-22/E/013057-013066 |
|  |  | MATE OF REPORT | 01/03/2022 |
|  |  | SATE or samplimg | 25/02/2022 to 26/02/2022 |
| SAMPLE DETAILS |  |  |  |
|  | NOTSE LEVEL MEWITICRIME |  |  |
| CUSTCNER REF. NO. 6 baze | M/D0/axiv/2122/0049, DCD. :24-JuLY-2021 |  |  |
| Samplimg location |  |  |  |
| Shaple Columcted by | Lamoratorx Cammer |  |  |
| з 3MPLE gONNTITY/ MACKIMG | MOT APPLTCANLE |  |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LOCATION | UNIT | RESULT |  | LIMIT (INDUSTRIAL ZONE) |  |
|  |  | DAY <br> TIME | NIGHT <br> TIME | DAY TIME | NIGHT TIME |
| OSFICE AREA, MTLUPARA | $d B(A)$ | 55 | 42 | 75 | 70 |
| zuccinar Area, mitupasa | $d B(A)$ | 64 | 48 |  |  |
| bomock area, atudpara | $d B(A)$ | 57 | 44 |  |  |
| DC SET ARXA, RCOMDKEL | $\mathrm{dB}(\mathrm{A})$ | 54 | 42 |  |  |
|  | $\mathrm{dB}(\mathrm{A})$ | 59 | 52 |  |  |
|  | $d B(A)$ | 56 | 44 |  |  |
| bunecer ahea, \%ONCTKEL | $\mathrm{dB}(\mathrm{A})$ | 64 | 50 |  |  |
|  | UNIT | RESULT |  | LIMIT (RESIDENTIAL ZONE) |  |
| LOCATION |  | $\begin{aligned} & \text { DAY } \\ & \text { TIME } \\ & \hline \end{aligned}$ | NIGHT <br> TIME | DAY TIME | NIGHT TIME |
| Outside Plant |  |  |  | 55 | 45 |
| stmarpara viliacs (oovy. serbol) | $d B(A)$ | 51 | 38 |  |  |
| bil collony, kOndreat | $\mathrm{dB}(\mathrm{A})$ | 53 | 33 |  |  |
| BIL searl guartan, milupaia | $\mathrm{dB}(\mathrm{A})$ | 50 | 30 |  |  |

REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions
> The report for pubilication, urbirration or as logal dispufe is forbidden.
7. Teat sample will be retained for 15 days after issue of fest report unless otherwise agroed with customer.

- This is for information as the party hiss mated for above tent(s) anty.


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

| Marme is Aditrens of Then Sourtaumer <br> TO, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, COAL MINE, <br> VILLAGE - BANKHETA, <br> POST - MILUPARA, <br> DISTT. - RAIGARH (C.G.) 496107 |  | HEPGRT NO. | UES/TR/21-22/08949 |
| :---: | :---: | :---: | :---: |
|  |  | LAB REE NO. | UES/21-22/N/014652-014661 |
|  |  | DATE OF JXPORT | 02/04/2022 |
|  |  | DATE OF SAMPLTMG | 28/03/2022 to 29/03/2022 |
| SAMPLE DETAILS |  |  |  |
| MCNITORING FOR | NOTSE LEVVEL MONTECHING |  |  |
| CUSTOMER REF, NO. 6 DAEE | H/PO/SEV/2122/0049, DFD. :24-JULY-2021 |  |  |
| SAMPLING LOCATIOM | IMSIDE COAL MINE 4 OUTSIES COAL WTNS (AS DESCRTEED AELOW) |  |  |
| SMMPLE COLLECTED BY | Laboretiony crimast |  |  |
| SAMPLE QUANTITY/ PACFCIMG | NOF APDLICABLE |  |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LOCATION | UNIT | RESULT |  | LIMIT (INDUSTRIAL ZONE) |  |
|  |  | DAY <br> TIME | NIGHT TIME | DAY TIME | NIGHT TIME |
| OFTICE ARASA, MTLUPARA | $d B(A)$ | 62 | 58 | 75 | 70 |
| INCLINE AREA, MILIUPARA | $\mathrm{dB}(\mathrm{A})$ | 70 | 48 |  |  |
| BUNEGER AREA, MILUPARA | $d B(A)$ | 58 | 46 |  |  |
| DG SET AREA, MONDNESL | $d B(A)$ | 60 | 50 |  |  |
| WEIGHBRIGE AREA, MCTLIDARA | $\mathrm{dB}(\mathrm{A})$ | 64 | 58 |  |  |
| OFEICE AREA, NONDMGEL | $d B(A)$ | 66 | 52 |  |  |
| BUNKER AREA, NONDREEL | $d B(A)$ | 64 | 60 |  |  |
| LOCATION | UNIT | RESULT |  | LIMIT (RESIDENTIAL ZONE) |  |
|  |  | DAY <br> TIME | $\begin{aligned} & \text { NIGHT } \\ & \text { TIME } \end{aligned}$ | DAY TIME | NIGHT TIME |
| Outside Plant |  |  |  | 55 | 45 |
| STIAAPPARA VIZLAGE (GOVZ. SCHDOL) | $d B(A)$ | 50 | 38 |  |  |
| HIL COLONX, RONOREEE. | $d B(A)$ | 54 | 42 |  |  |
| HIL STAPF GUAATER, MITLUPARA | $\mathrm{dB}(\mathrm{A})$ | 52 | 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 isswe of test report unfess othervise agreod with customer.
$>$ This is for information as the party has ashed for above festi(s) only.

-End of the test report

Annexure-6

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HDD-272, Phase III - Near JP Chowk <br> timate <br> Ring Road No.-2, Kabir Nagar, Raipur (C, G.) - 492099 <br> Ph :0771-4027777 I Email : ultimatenviro@gmail.com |  |  |  |  |  |  |
| Recognized by Ministry of Environment Forest and Climate Change under EP act 1986 |  |  |  |  |  |  |
|  <br> To, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR DISTT. - RAIGARH (C.G.) 496107 |  |  | Report No | URS/TR/21-22/3520 |  |  |
|  |  |  | tab Ret No | UES/21-22/W/6350 |  |  |
|  |  |  | Date of Sampling | 28/10/2021 |  |  |
|  |  |  | Date of Rocoipt | 29/10/2021 |  |  |
|  |  |  | Date of Report | 01/11/2021 |  |  |
|  |  |  | Date of Analysis | START: 29 | 0/2021 | Snd: 01/ |
| SAMPLER DETAILS |  |  |  |  |  |  |
| sample fype | waste mater |  | Cuatomer Rof, No. 4 Date |  | $\begin{aligned} & M / \mathrm{PO} / S 3 \mathrm{~V} / 2222 / 0049, \\ & \mathrm{DPD}+: 24-J U 1 \mathrm{Y}-2022 \end{aligned}$ |  |
| Castaner sample ID | ETP maser, ncnticel |  | Sample Condition at Reocipt |  | O* |  |
| Packing of sample |  | Sealed | Sasplo Collected by |  | Laboratory Chemist |  |
| Sampling Procadure | $\begin{aligned} & \text { IS:3025 (PART-1) } 19987 \mathrm{RA} 2003 \text { y } \\ & \text { APHA } 22^{\circ} \mathrm{ED}, 2021,1060-\mathrm{B}, 1-39 \end{aligned}$ |  | Quantity Roceived |  | Approx. Sitr. |  |


| 58. No. | PARAMETER | UNIT | METHOD OF TEST | ```TRE ENVIRONMENT (PROTECTION) RULES, 1350 [SCHEDULE-VI] PART-A INLAND SUMFACE WATEM``` | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\frac{1}{8}$ | Colour | Maxen | APHA $22^{\text {sh }} \mathrm{Ed}$. 2012, 2120-3, 2-6 | See 6 of Annexure-I | $<1$ |
| 2 | Odour | - | APHA $22^{\text {a }} \mathrm{Bd}, 2012,2120-8,2-6$ | Sea 5 af Amnexure-1 | Agraable |
| 3 | Tomporature | "C | ADHA $22^{\text {mitEd, }} 2012,2130-8,2-13$ | Shall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 24.6 |
| 4 | pl | - | APFLA $22^{\text {nal }}$ Ed, 2012, $4500-\mathrm{H}^{+}-\mathrm{B}, 4-92$ | 5.5 to 9.0 | 7.44 |
| 5 | $\begin{aligned} & \text { Total Residual } \\ & \text { Chlorine } \end{aligned}$ | $\mathrm{mg} / \mathrm{h}$ | APTA 22** Ed.2012, 4300-C1-G, 4-69 | 1.0 | N.D. |
| 6 | Total Suspendod Solids | ning/ | APHA $22^{\text {d }}$ Ed.2012,2540- D, 2-66 | 100 | 84.0 |
| 7 | Dissolved Fhosphate (as P) | nig/L. |  | 5.18 | N.D. |
| 8 | Ylworido (as P) | mg/L | APLAA $22^{\text {mi }}$ End. 2012, 4500-F-B5D, 4-184. 6 E7 | 2.0 | 0.2 |
| 9 10 | Lead (as Pb ) Ring (as zn ) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{21}$ Ed. 2012, 3111-11, 3-18 | 0.1 | S.D. |
| $\frac{10}{11}$ | $\frac{\mathrm{Linc}}{\text { (as } \mathrm{za})}$ | $\frac{\mathrm{mg} / \mathrm{L}}{\mathrm{Hg} / \mathrm{L}}$ |  | 5.0 | 0.11 |
| $\frac{11}{12}$ | Copper (an Cu) Cadriun (as Cd) | ngr/L |  | 3.0 | N.D. |
| 13 | V6aroury (as Eg) | $\mathrm{ng} / \mathrm{L}$ |  | 2.0 | W, D. |
| 14 | Arsante (as As) | ng/L | APBA $22^{\text {mad }}$ EA. $2012,3116-\mathrm{E}_{\text {c }}$, 3-38 | 0.2 | N. ${ }^{\text {N, }}$ |
| 15 | Solomiun (as 5e) | mg/L | APU) $22^{\text {ra }}$ Ed, 2012, 3114-ç, 3-38 | 0.05 | N.D. |
| 16 | Fotal Chronium (as Cr) | mg/L | APHA $22^{\text {20 }}$ Ed, 2012,3500-Cr-日, 3-64 | 2.0 | N.D. |
| 17 | Chanical Oxygan Demand (COD) | tig/z | AP11 $22^{\text {24 }}$ Ed. 2012, 5520-B, 5-17 | 250 | 164.0 |
| 18 | \#lochenical Oxygen <br> Demand (BCD) | ng/s | IS 3025 (Fart 44):1993, PA. 2001 | 30 | 22.2 |
| 19 | 0115 Greasa | $n g / L$ | IS 3025 [Fart 39111991, 撸 2003 | 10.0 | S.D. |
| 20 | Phenolic <br> Compounds (as $\mathrm{C}_{2} \mathrm{H}_{3} \mathrm{OH}$ ) | ng/L | IS 3025 (Part 43) :1992, MA 2003 | 1.0 | W. D. |

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

Ferms \& conditions





End of the test report

## HDD-272, Phase III - Near JP Chowk <br> Ring Road No.-2, Kabir Nagar, Raipur (O. G.) - 492099 <br> Ph : 0771-40277771 Email : ultimatenviro@gmail.com

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

| ```To, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR DISTT. - RAIGARH (C.G.) 496107``` |  |  | Report No | UES/TR/2 | 1-22/04 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab Ref No | UES/21- | 2/w/075 |  |
|  |  |  | Date of Sampling | 24/11/2 |  |  |
|  |  |  | Date of Recoipt | 25/11/2 |  |  |
|  |  |  | Date of Report | 01/12/2 |  |  |
|  |  |  | Date of Analyaia | START: 25 | 1/2021 | Find:29/11/2022 |
| SAMPLE DETATLS |  |  |  |  |  |  |
| Sauple Type | Remste liazte |  | Cuatcmer Mef, No, \& Date |  | $\begin{aligned} & \mathrm{M} / \mathrm{PO} / \mathrm{sRV} / 2122 / 0049 \text {. } \\ & \mathrm{DPD}, \cdot 24-\pi 14 \mathrm{Y}-2021 \end{aligned}$ |  |
| Cusbomar sample ID | BTP INLET, MONDIESL |  | Sample Condition at Renceipt |  | ok |  |
| Packing of Somple |  | Sealed | Sanple Colleoted by |  | Laboratory Chemiat |  |
| Sanpling Procecture | IS:3025(PART-I) 11987 RA 2003; <br> APRA $22^{\circ}$ ED. $2021,1060-\mathrm{B}, \mathrm{I}-39$ |  | guantity Received |  | Approx. 51tr, |  |


| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PROTECTION RULES, 18 BE [SCHEDULE-vI] PART-A inLAND SURFACE WATER | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | Hazen | APHA $23^{\text {41 }} \mathrm{ED}, 3012,2120-8,2-6$ | Bee fi of Annoxure-I | $<1$ |
| 2 | Odour | $\checkmark$ | APHA $22^{\text {-1 }}$ Ed. $2012,2120-$ -, $2-$ - | Sae if at Anseatwes-1 | Agresable |
| 3 | Temperatiure | ${ }^{\circ} \mathrm{C}$ | APHA 22-6d. $2012,2130-\mathrm{B}, 2-13$ | Shall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 24.8 |
| 4 | plla | $\checkmark$ | APHA $22^{\text {mi }}$ Ed. $2012,4500-\mathrm{H}^{\mathbf{4}-3,4-92}$ | 5.5 to 9.0 | 7.49 |
| 5 | Total fealdual chlerine | ma/sif | APHA 2204 Sd. 2012,4500-C1-G. 4 -69 | 1.9 | N. D. |
| 6 | Total Suspanded Bolids | mg/L | APHA $22^{\text {mi }}$ Sd. $2012,2540-\mathrm{D}, 2066$ | 100 | 88.0 |
| 7 | Dassolvod Phomphate (an E) | $\mathrm{nim} / \mathrm{L}$. | APHA $22^{\text {2id }}$ Ed. $2012,45000-\mathrm{p}-\mathrm{C}, ~ 4-153$ | 5.0 | N. ${ }^{\text {B }}$ |
| 8 | Fluoride (an F) | ng/L |  | 2.0 | 0.3 |
| 9 | Laad (as pb) | ng/4. |  | 0.1 | \%. ${ }_{\text {d }}$ |
| $\frac{10}{11}$ | zinn ( an Zn ) | ne/h |  | 5.0 | 0.13 |
| 11 | Copper (as Cu) | nifl. |  | 3.0 | 8. D. |
| 12 | Cadniunt (as Cd) | ng/L |  | 2.0 | S.D. |
| 13 | Mercury (as Hg ) | 3g/L | AP明 $22^{\text {ªd }}$ Ed. 2012, 3112-E, 3-23 | 0, 01 | M.D. |
| $14$ | Arbenic (as Aa) | Eig/L | APGA $22^{\text {2 }}$ Ed. $2012,3114-6,3-38$ | 0.2 | H.D. |
| 15 | Selenium (am Be ) | ne/L | APFIA $22^{\text {² }}$ Ed, 2012, 3114-C. 3-38 | 0.05 | \%. $\mathrm{D}_{4}$ |
| 16 | Total Chromiun (as Cr) | 18/L | Apha $22^{\text {² }}$ Ed.2012, 3500-Cr-18, 3-69 | 2.0 | N. D. |
| 17 | Chenical Oxygen Desand (COD) | ng/L |  | 250 | 160.0 |
| 18 | Biochanical Oxyyen Demand (BCD) | mg/L | Is 3025 (Part 441 51993 , Ph 2003 | 30 | 20.4 |
| 19 | 0115 Grease | \#\#/L | Is 3025 (Patt 39) 19991 , 3 (ha 2003 | 10.0 | W. D. |
| 20 | Phenolic <br> Compounds $\left\{\begin{array}{l}\text { an } \\ \mathrm{C}_{5} \mathrm{H}_{4} \mathrm{OH} \text { ) }\end{array}\right.$ | $\mathrm{mg} / \mathrm{L}$ | IS 3025 (Part 43) 21992 , RA 2003 | 1.0 | M.D. |

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

## RENARK8: RESULTE AIT AS ADOVE

Terms \& conditions



-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 I Email : ultmatenviro@gmail.com |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Recognized by Ministry of Environment Forest and Climate Change under EP act 1986 |  |  |  |  |  |  |
| 30 Aomer a Adiress iov her fiushamar <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Repart No | UES/TR/21-22/04950 |  |  |
|  |  |  | Lab Rer No | UES/21-22/W/08836 |  |  |
|  |  |  | Date of Banpling | 23/12/2021 |  |  |
|  |  |  | Date of Aocelpt | 24/12/2021 |  |  |
|  |  |  | Date of Report | 01/01/2022 |  |  |
|  |  |  | Date of Analysis | START: 24/12/2021 |  | End: 28/12/2021 |
| 8AMPLE DETAILS |  |  |  |  |  |  |
| Saxple Type | WASTE MATER |  | Cuatomar Ref. No, s Date |  | $\begin{aligned} & 10 / 200 / 5 \pi V / 2122 / 0049, \\ & \mathrm{DRD},: 24-31 \mathrm{z} 4-2021 \end{aligned}$ |  |
| Cuatcmar Sample to | exp znLer, konmices |  | Sample Condition at Eaceipt |  | ok |  |
| Packing of sample |  | Sealed | Sample Collected by |  | Laboratoxy Chemist |  |
| Sampling Procedare | $\begin{aligned} & \text { IS: } 3025(\text { PART-I) }=1987 \text { RA 2003; } \\ & \text { ADHA } 22^{\circ 0} \text { ED. } 2021,1060-B, 1-39 \end{aligned}$ |  | Quantity Receivad |  | Approx, 5tte, |  |

TEST REPORT

| 58. NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIGONMENT (PMOTECTION) RULES, 19ais [SChEDULE-NI] PART-A INLAND SUMFACE WATER | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | lsamen |  | San 6 or Annexure-I | $<1$ |
| 2 | Odous | - | AFHA 22"Ed. 2012, 2120-8, 2-6 | Senf 6 of Annmxarm-1 | Agranabia |
| 3 | Temperature | ${ }^{4} \mathrm{C}$ | APHA 229484, $2012,2130-8,2-13$ | Shall not exceed $5^{\circ} \mathrm{C}$ above the recolving water temperature | 25.2 |
| 4 | pH | - |  | 5.5 to 9.0 | 7.51 |
| 5 | Total Residaal Chlorine | 80/f | APHA $22^{\text {ind }}$ EA. $2012,4500-\mathrm{Cl}-6,4-69$ | 1.0 | 8. D. |
| 6 | Total Suapended Solifa | ng/L | APHA $22^{\text {at }}$ FA. 2012,2540-D, 2-66 | 100 | 86.0 |
| 7 | Diasolved Thosphata (as P ) | nq/L | APHA $22^{\text {mi }}$ Ed. $2012,4500-\mathrm{B-C} 4-$, | 5.0 | N, D. |
| \# | Fluorido (as F) | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {nd }}$ Ed. $2012,4500-\mathrm{F}-35 \mathrm{D}, 4-\mathrm{E} 4687$ | 2.4 | 0.4 |
| 9 | Lead (as Eb) | nig/L | APHA $22^{\text {i }}$ Ed. Ed. $2012,3131-\mathrm{B}, 3-1 \mathrm{f}$ | 0.1 | N.D. |
| 10 | zinc ( ses za ) | mg/L | APHR $22^{\text {a }}$ Ed.2012, 3111- ${ }^{\text {E }}$, 3-18 | 5.0 | 0.12 |
| 11 | Coppar (as Cu) | 39/L | APITA $22^{\text {ta }}$ Ed. $2022,3111-\mathrm{Br}_{\mathrm{r}}$, 3-18 | 3.9 | N.D. |
| 12 | Cadniun (as ca) | $\mathrm{mg} / \mathrm{L}$. | APHA $22^{\text {L4 }}$ Ed. $2012,3500-\mathrm{Cd}, 3-105$ | 2.0 | N.D. |
| 13 | Hercury (ss Hg) | mg/L | APHA $22^{\text {ci }}$ Ed, 2012, 3112-B, 3-23 | 0.01 | \%i, D , |
| 14 | Arsanic (all As) | $\mathrm{mg} / \mathrm{L}$ | APHIA $22^{20}$ Ed, 2012,3114-C, $3-31$ | 0.2 | N, D. |
| 15 | Solonium (an 3o) | $\mathrm{mg} / \mathrm{L}$ | APHTA $22^{\text {al }}$ Ed, 2012,3111-C, 3-38 | 0.05 | N, D. |
| 16 | Fotal Chronium (as Cr) | $\mathrm{mg} / \mathrm{l}$ | APHA $22^{\text {aid }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | N, D. |
| 17 | Cheaical Orygen Demand (COD) | $\mathrm{mg} / \mathrm{L}$ | APGA $22^{-1}$ Ed. $2012,5520-3,5-17$ | 250 | 164,0 |
| 1. | Biochenical Oxygen Damand (BOD) | Hg/b | I3. 3025 (Patt 44):1993,801 2003 | 74 | 18.2 |
| 15 | 0115 Grease | tgiz | 193025 (Fart 39) 21991 , RA 2003 | 10.0 | W. D. |
| 20 | Phonolie <br> Compounds (as $\mathrm{C}_{8} \mathrm{ll}$, O ( $)$ | ng/4 | IS 3025 (Part 431:1992, RA 2003 | 2.8 | E.D. |

Note: $\mathrm{mg} / \mathrm{llt.t}$ milligram per liter, N.D. - Not Detected.

## 

Terms \& conditions




End of the test report


| he Nanur 2 Adhbuas of The Cuisfinmer <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Report No | UES/TR/ | 1-22/060 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab Ret No | UES/21- | 2/W/010 |  |
|  |  |  | Date of Sanpling | 24/01/2 |  |  |
|  |  |  | Date of Roceipt | 25/01/2 |  |  |
|  |  |  | Date of Report | 02/02/2 |  |  |
|  |  |  | Date Of Ansiysis | START:25 | 01/2022 | SND: 29/01/2022 |
| SAMPLE DETAITS |  |  |  |  |  |  |
| Sample Type | WASTE MKATER |  | Customer Ref. No. 4 Date |  | $\begin{aligned} & \text { M/PO/SRV/2122/0049, } \\ & D 2 D . ; 24-\pi / 2 Y-2021 \end{aligned}$ |  |
| Customer sample ID | \%IP INLET, KOMDRESL |  | Sanple Condition at teceipt |  | Ok |  |
| Paoking of sample | y z xi 10 . rye cas <br> I ITXI Mo. The cas <br> I I K 1 ma Guse Burfue | Soaled | Saxple Collected by |  | Laboratory Chemist |  |
| Sampling Procedure | IS: 3025 (PART-I) ; 2987 RA 2003; APRA $22^{\text {" }}$ ED. 2021, $1060-3$, 1-39 |  | Quantity Received |  | Apprax. 52tz, |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PROTECTION) RULES, 10EE ISCHEDULENTI PART A INLAND SURYACE WATER | RESULT |
| 1 | Colout | Hazen | 2.PRA $22^{\text {mid }}$ Ed, $2012,2120-\mathrm{B}, 2-6$ | See 6 of Annexare-1 | $<1$ |
| 2 | Odouar | - | 2.PHA $22^{\text {5/ }} \mathrm{EL}$ d $2012,2120-\mathrm{B}, 2-6$ | See 6 of Annexare-1 | Agrooable |
| 3 | Tomperatura | ${ }^{\circ} \mathrm{C}$ | APHA $32^{\text {50 }} \mathrm{Ed} .2012,2130-5,2-13$ | Shall not exceed $5^{\prime} \mathrm{C}$ above the receiving water temperature | 25.4 |
| 4 | pll | $\sim$ | APREA $22^{\text {¹ }}$ Ed. $2012,4500-8^{4}-3,4-92$ | 5.5 to 9.0 | 7.46 |
| 5 | Total Reaidual Chlerine | $\mathrm{ng} / \mathrm{tm}$ | ADHA $22^{\text {De }}$ Ea. $2012,4500-\mathrm{Cl}-\mathrm{G}, 4-69$ | 1.0 | N, D. |
| 6 | Total Buspended Solida | ng/L | AMHA $22^{\text {E/ }}$ Ed. $2012,2540-$ D, 2-66 | 100 | 88.0 |
| 7 | Dirmolved Phosphate (as P) | 715/5 | APHA $22^{\text {** }}$ Ed, 2012, 4500-E-C, 4-153 | 5.0 | N.D. |
| 8 | Eluoride (8s Y) | ng/L | APHA $22^{\text {"17 }}$ Ed.2012, $4500-$ F-G8D, 4-86887 | 2.0 | 0.6 |
| 9 | Lead (as Pb) | mg/L | APHA $22^{\text {T }}$ Ed, 2012, 3111-8, 3-10 | 0.1 | N.D. |
| 10 | Zinc (as Zn ) | $\mathrm{mq} / \mathrm{L}$ | AEHA $22^{\text {E1 }}$ Ed, 2012, 3111-B, 3-18 | 5.0 | 0.13 |
| 11 | Copper (ss Cu) | mig/h | APFA $22^{\text {ax }}$ Ed. $2012,3111-\mathrm{E}, 3-14$ | 3.0 | M.D. |
| 12 | Cadnium (as ca) | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {si }}$ Ed. 2012, 3500-Cd, 3-105 | 2.0 | M.D. |
| 13 | Marcury (as Hg) | ng/L | APHA $22^{\text {² }}$, 8 d. $2012,3112-\mathrm{B}, 3-23$ | 0.01 | N.D. |
| 14 | Arsenid (as As) | $\mathrm{n} / \mathrm{L} / \mathrm{L}$ | AEHA $22^{\text {E2 }}$ Ed, 3012, 3114-C, $3-38$ | 0.2 | N. ${ }^{\text {N, }}$ |
| 15 | Selenium (as So) | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {*i }}$ Ed. $2012,3114-\mathrm{C}, 3-3$ A | 0.05 | N.D. |
| 16 | Total Chronium (as Cr) | $\mathrm{mg} / \mathrm{L}$ | ATHA $22^{\text {nd }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | N. D. |
| 17 | Chomical Oxygen Denand (OOD) | ng/L | APHA $22^{\text {th }}$ Ed. $2012,5520-3,5-17$ | 250 | 168.0 |
| 18 | Biochenicsl Oxygen Denand (BCD) | $\mathrm{mg} / \mathrm{L}$ | IS 3025 (Part 44):1993, RA 2003 | 30 | 16.4 |
| 19 | 0115 Grease | $\mathrm{mg} / \mathrm{L}$ | Is 3025 <Rart 39) : 1991, 2 A 2003 | 10.0 | N, D. |
| 20 | Phonolia <br> Compounds (an $\mathrm{C}_{6} \mathrm{H}_{2} \mathrm{OA}$ ) | mg/l. | Is 3025 (Part 43):1992, RA 2003 | 1.0 | N.D. |

Note: $\mathrm{mg} /$ /it.imilligram per liter, N.D.- Not Detected.


End of the test report-
HDD－272，Phase III－Near JP Chowk
Ring Road No．－2，Kabir Nagar，Raipur（C．G．）－ 492099
Ph ：0771－40277771 Email ：ultimatenviro＠gmail．com
Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

| fo Monve \＆Adivazs iof The Cuntainer <br> To， <br> HINDALCO INDUSTRIES LIMITED， <br> GARE PALMA－IV／5， <br> MILUPARA U／G COAL MINE， <br> VILLAGE－MILUPARA，BLOCK－TAMNAR <br> DISTT．－RAIGARH（C．G．） 496107 |  |  | Report No | UES／TR／21－22／07910 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab Rer No | UES／21－22／W／013067 |  |  |
|  |  |  | Date of Saxpling | 24／02／2022 |  |  |
|  |  |  | Date of Receipt | 25／02／2022 |  |  |
|  |  |  | Date or Report | 01／03／2022 |  |  |
|  |  |  | Date of Analysias | Starti 25 | 2／2022 | END：01／03／2022 |
| SANPLE DETAILS |  |  |  |  |  |  |
| Sample Type | KASTE HATER |  | Customer Ref．，No． 4 Date |  | $\begin{aligned} & M / P O / S R V / 2122 / 0049 \\ & D \pi D, ~=24-J U L Y-2021 \end{aligned}$ |  |
| Custoner Sample ID | ETP INLET，HONLPESL |  | Sample Condition at Recelpt |  | Ok |  |
| Paeking of Sexpla | Yix1wo．FW cal <br> I I XI so．PNC CXI <br> II $x$ I No．auas notrse | Sealed | Sample Colleoted by |  | Laboratory Chemiat： |  |
| Sampling Procedura | IS： 3025 （PART－I）；1987 RA 2009； <br> APHA $22^{\text {सi }} \mathrm{ED} .2021,1060-\mathrm{B}_{2}$ 1－39 |  | Quantity Received |  | Approx．SLtr． |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SR． <br> NO． | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT（PAOTECTION） RULES， 1986 ［SCHEDULENTI PART－A bLand surface water | RESULT |
| 1 | Colour | Bazen | AFHA $22^{\text {53 }}$ Bd，2012， $2120-18,2-6$ | See 6 of Annexure－I | $<1$ |
| 1 | Odour | Basen | APHA $22^{-1 / \mathrm{Ed}}, 2012,2120-\mathrm{m}, 2-6$ | See 5 of Annexure－1 | Agreeable |
| 3 | Temparature | ${ }^{+} \mathrm{C}$ | АРН太 $22^{20} \mathrm{Ed} .2012,2130-8,2-13$ | Shall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 26.8 |
| 4 | PH | － | AFSth $22^{\text {² }}$ Ed． $2012,4500-\mathrm{H}^{4}-\mathrm{B}, 4-92$ | 5.5 to 9.0 | 7.38 |
| 5 | Total Reaiddual Chlorine | mg／L | APHA $22^{\text {24 }}$ EA，2012，4500－C1－G． $4-69$ | 1.0 | H．D． |
| 6 | $\begin{aligned} & \text { Total Suapendod } \\ & \text { Solids } \end{aligned}$ | nig／L | APHA $22^{\text {re }}$ Fa：2012，2540－D，2－66 | 100 | 82.0 |
| 7 | Dissolved Fhosphate （as P） | W7g／L | APHA $22^{\text {nd }}$ Ed，2012，4500－p－C，4－153 | 5.0 | M．D． |
| 8 | Gluorido（ aB V） | mg／L | APHA 22 ${ }^{\text {as }}$ Ed． $2012,4500-$ F－BaD, $4-84687$ | 2，0 | 0.4 |
| 9 | Lead（89 Pb） | mg／L． |  | 0．1 | $\frac{\text { N．D }}{0.23}$ |
| 10 | zinc（as za ） | mg／L |  | $\frac{5.0}{3.0}$ | N．D． |
| 11 | Coppor（as Cu） | ng／s |  | 2.0 | S．D． |
| 12 | Cadmiun（as Cd） | $\frac{\mathrm{mg} / 1}{\mathrm{mg} / \mathrm{L}}$ | APHA $22^{\text {ch }}$ Ed． $2012,3500-\mathrm{Cd}, 3-105$ | 0.01 | N，D． |
| $\frac{13}{14}$ | Mercury（as Hg） | $\mathrm{mg} / \mathrm{L}$ | AEHA ． $22^{\text {ad }}$ Ed． $\mathrm{Ed}, 2012,3114-\mathrm{C}, ~ 3-3 \mathrm{~B}$ | 0.2 | H．D． |
| 14 | Arsonic（as As） | ng／L |  | 0.05 | H．D． |
| 16 | Total Chroasum（as Cr） | mg／h | 21PA $22^{\text {eil }}$ Ed，2012，3500－Cr－8，3－69 | 2.0 | N．D． |
| 17 | Chamical Oxygon Demand（COD） | mg／L | APMIA 22 ${ }^{\text {ºil }}$ Ed．2012，5520－B，5－17 | 250 | 184.0 |
| 18 | Biochenical Oxygen Demand（BCD） | ng／L | IS 3025 （Part 44） 41993 ， Kd 2003 | 30 | 14.8 |
| 19 | 0514 Granso | mg／L | If 3025（Part 39）$: 1991$ ，RA 2003 | 10．0 | N．D． |
| 20 | Phanolic Compounds（as $\mathrm{C}_{6}$ 险OH） | mg／L | Is 3025 （Part 43）：1992，RA 2003 | 1.0 | M．D． |

Note：mi／lit：milligram per lifter，N．D．－Not Detected．
RसMARE天：सESELLT8 ARE AS ANOVE
Terms \＆condifions


－Tis is for infamation as me party has anded for above ions ly mily．

REVIEWED BY

or ULTIMATE ENVIROLYACAL SOLUTIONS

End of the test report－

HDD-272. Phase III - Near JP Chowk
Ring Road No - 2. Kabir Nagar, Raipur (C. G.) - 492099
Ph .0771-40277771 Email :uitmatenviro@gmail.com

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

| The Name A Adifiver of The Enspopmer <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Report No | UES/TR/ | 1-22/08 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab Ref No | UEs/21-2 | 2/W/014 |  |
|  |  |  | Date of Sasppling | 28/03/2 |  |  |
|  |  |  | Date of Recelipt | 29/03/2 |  |  |
|  |  |  | Date of Report | 02/04/2 |  |  |
|  |  |  | Date of Analyais | START: 29 | 3/2022 | END: 02/04/2022 |
| 8AMPLE DETAILS |  |  |  |  |  |  |
| Sample Type | WASTE WATEXR |  | Customer Aor. No. 4 Date |  | $\begin{aligned} & \text { M/PO/SRV/2122/0049, } \\ & \text { D2D. : 24-JULY-2021 } \end{aligned}$ |  |
| Customer Sample ID | ETw INLaET, Howtuce |  | Sample Condition at Rocaipt |  | Ok |  |
| Paoking of Sampla |  | Sesled | Sample Collected by |  | Laboratory Chenist |  |
| Sampling Procoduro | 15; 3025 (PART-I) : 1997 RA 2003; APRA $22^{\text {0 }}$ ED, 2021, $1060-B, 1-39$ |  | Quantity Recelved |  | Approx. SEtr. |  |


| $\begin{aligned} & \text { SR. } \\ & \text { NO. } \end{aligned}$ | PARAMETER | UNIT | METHOD OF TEST | ```THE ENVIRONMENT (PROTECTION) HULES, 1986 ISCHEDULE-VI] PART-A INLAND SURFACE WATEA``` | REsult |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | Hazen | APRA 22wEd. 2012, $2120-8,2-6$ | See 6 of Annexure-1 | Cl |
| 2 | Odour | - | AFHA $22^{24} \mathrm{E}$ d, $2032,2120-\mathrm{B}, 2-6$ | See 6 of Annemura-1 | Agreanble |
| 3 | Tomperature | ${ }^{*} \mathrm{C}$ | APHA 2209Ed.2012,2130-8, 2-13 | shall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 25.6 |
| 4 | pH | - |  | S.5 to 9.0 | 7.42 |
| 5 | Total Resichual Chlorine | mgris |  | 1.0 | A.D. |
| 6 | Total Suspended Solids | 日 8 /L |  | 100 | 96.0 |
| 7 | Disaolved Ftrosphate (aa D) | mg/L | APHA $22^{\text {k4 }}$ Ed,2012, 4500-p-C, 4-153 | 5.0 | N.E. |
| 8 | Fluoride (as y) | 31/L | APHA $22^{\text {m }}$ Ed. $2012,4500-\mathrm{F}-\mathrm{B6} \mathrm{D}, 4-84697$ | 2.0 | 0.5 |
| $\frac{9}{10}$ | Lead (as Pb) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {sid }}$ Ed. 2012, 3121-B, 3-18 | 0.1 | N. D. |
| 10 | gine (as Zn ) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {ad }}$ E4. 2012, 3111-B, 3-18 | 5.0 | 0.18 |
| 11 | Copper (as Cu) | $\mathrm{mg} / \mathrm{L}$ | APAA $22^{\text {ad }}$ Ed. $2012,3111-3,3-18$ | 3.0 | \%.D. |
| 12 | Cadtium (as Cd) | $\mathrm{mg} / \mathrm{L}$ | APHA 22 ${ }^{\text {cot }}$ Ed. $2012,3500-\mathrm{Cd}, 3-205$ | 2.0 | H.D. |
| 13 | Marcury (as Hg) | $\mathrm{mg} / \mathrm{L}$ | APHA 22 ${ }^{\text {mad }}$ Ed. 2012,3112-B, $3-23$ | 0,01 | H.D. |
| 14 | Arsenic (as As) | $\mathrm{mg} / \mathrm{h}$ | APGA $22^{\text {ºd }}$ Kd. $2012,3114-\mathrm{C}, ~ 3-38$ | 0.2 | N.D. |
| 15 | Solenium (an So) | mg/h | APHA 22 ${ }^{\text {cod }} \mathrm{Ed}, 2012,3114-\mathrm{C}, ~ 3-3 \mathrm{~A}$ | 0.05 | N.D. |
| 16 | Total Chroniun (as C5) | ng/L | APHA $22^{\text {od }}$ Ed.2012,3500-Cr-3, 3-69 | 2.0 | N.D. |
| 17 | Chemical Oxygan Demand (COD) | melt | APHA 22 ${ }^{\text {Re }}$ Ets. 2012, 5520-1, 5-17 | 250 | 292.0 |
| 18 | Biocheaical oxyyen Desand (BOD) | ng/L |  | 30 | 16.2 |
| 19 | 0114 Granse | $\mathrm{mg} / \mathrm{L}$ | IS 3025 (Ratt 39) 51991 , RA 2003 | 10.0 | H.D. |
| 20 | Phenolic <br> Compounds (as $\mathrm{C}_{4} \mathrm{H}_{2} \mathrm{OH}$ ) | $\mathrm{mg} / \mathrm{L}$ | Is 3025 (Part 43) 19992 ,RA 2003 | 1.0 | n, D. |

Note: my/liti: milligram per iliter, N.D.- Not Detected.

## REMAKKE: RESUTTE ARE AEAROVE <br> Terms \& conditions






| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SR． <br> NO． <br> 1 | PARAMETER Colour | UNIT Hayon |  | THE ENVIRLONMENT（PGOTECTION） RULEE， 1086 ［SCHEDULE－VI］PASTT－A INLANB BURIFACE WATER | RESULT |
| $\frac{2}{2}$ | Colour | Hazon | APHA 22mbd．2012，2120－\＃，2－6 | See 6 of Anneirure－I | ＜1 |
| 2 | Odour | － |  | See fi of Anmekurs－I | Agreeabla |
| 3 4 | Temperature pH | ${ }^{*} \mathrm{C}$ | APHA $22^{\text {tal }}$ Ed． $2012,2130-8,2+13$ | Shall thot exceed $5^{\circ} \mathrm{C}$ above the receiving watar temperature | $\frac{24.2}{}$ |
| 4 | $\frac{\mathrm{pH}}{\text { Fotal Residual }}$ | － | AFHA 22 ${ }^{\text {at }} \mathrm{Ed} 20012,4500-\mathrm{HE}^{+}-18,4-92$ | 5.5 to 9.0 | 7.22 |
| 5 | Chlorine | motu | APHA $23^{\text {a4 }}$ Ed．2012，4500－CI－G，4－69 | 1.0 | \％．D． |
| 6 | Total Suepended Solids | mg／L | APEA 22 ${ }^{\text {tat }}$ Ed． $2012,2540-\mathrm{D}, 2-66$ | 100 | 24.0 |
| 7 | Dinsolved Phosphate （as D） | 斯／ 1 | APHA $22^{\text {6 }}$ Ed， $7022,4500-\mathrm{p}-\mathrm{C}, 4-153$ | 5.0 | N．D． |
| 8 | Plucride（as $\overline{7}$ ） Lead（as PD） | mg／L | APHA $22^{\text {\＃1 }}$ ED． $2012,4500-\mathrm{F}-\mathrm{BED}, 4-844$ 87 | 2.0 | 0.1 |
| $\frac{9}{10}$ | Lasd（as PD ） Zince（as zn ） | $\frac{\mathrm{mg} / \mathrm{h}}{\mathrm{mg} / \mathrm{L}}$ | APHA $22^{\text {m }}$ Ed， $2012,3111-\mathrm{B}, 3-18$ | 0.1 | N．D． |
| $\frac{11}{12}$ | Coppar（as Cu） | mg／L |  | 5.0 | 0.06 |
| 12 | Cadxiun（as Cd） | 部／L |  | 3.0 | \％．D． |
| 13 | Marcury（as Hg） | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {s\％}} \mathrm{Fd}, 2012,3112-\mathrm{B}, 3-23$ | $\frac{2.0}{0.01}$ | W．D． |
| 14 | Arsanie（as ha） | mg／i | APIA 22m Ed．2012，3114－C，3－3日 | 0.2 | N．D． |
| 15 | Seloniua（as Se） | mg／L | APHR 22\％Ed．2012，3114－C， $3-38$ | 0.05 | N，${ }_{\text {N，}}$ |
| 16 | Total Chronitus（as $(x)$ | ng／L | APRA $22^{\text {ei }} \mathrm{Ed}, 2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | N．D． |
| 17 | Chemical Oxygen Demand（COD） | ng／L | APHA $22^{\text {sid }}$ Ed．2012，5520－3，5－17 | 250 | 64.0 |
| 18 | Biochenical Oxygen Damand（BOD） | $\mathrm{mg} / \mathrm{h}$ | If 3025（Part 44）：1993，RA 2003 | 30 | 6.8 |
| 19 | Oil 4 Greaso | $\mathrm{mog} / 2$ | Is 3825 （Part 391 $\ddagger 1993$ ，RA 2003. | 10.0 | N，D． |
| 20 | Compounds（as $\mathrm{C}_{3} \mathrm{H}_{3} \mathrm{OH}$ ） | ngi／L | Is 3025 （Part 43i＋1992，RA 2003 | 1.0 | N．D． |

Note：mg／lit．imisgram per liter，N．D．－Not Detected．
REMARKS；RESULTS ARE AS ABOVE

## Terms \＆conditions





－End of the test report
AN ISO ： $9001: 2015$／ISO：14001：2015／ISO $45001: 2018$ CERTIFIED LABORATORY

| HDD-272, Phase III - Near JP Chowk Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099 Ph:0771-40277771 Email : ultimatenviro@gmail.com <br> ExNRCLITEA socutions |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Recognized by Ministry of Environment Forest and Climate Change under EP act 1986 |  |  |  |  |  |  |
|  <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Report Mo | UES/TR/21-22/04211 |  |  |
|  |  |  | Lab far No | UES/21-22/w/07571 |  |  |
|  |  |  | Data of Sampling | 24/11/2021 |  |  |
|  |  |  | Date or Receipt | 25/11/2021 |  |  |
|  |  |  | Date of Report | 01/12/2021 |  |  |
|  |  |  | Date of Analyats | START: 25/11/2021 |  | Fnd: 29/11/2021 |
| SAMPLE DETAILS |  |  |  |  |  |  |
| Sasple Type | WASTE MATER |  | Cuatomer Ref. No, 6 Date |  | $\begin{aligned} & \text { M/PO/sRV/2122/0049, } \\ & \text { DED. : 24-JuLY-2021 } \end{aligned}$ |  |
| Customer sauple ID | ETP OUTLET, NOMmati |  | Sample Condition at Recespt |  | Ok |  |
| Packing of Sample |  | Sesied | Sample Collected 等 |  | Laboratory Cheniat |  |
| Saipilag Vrocedure | IS: 3025 ( PART -I) 11937 RA 2003: <br> AFHA $22^{\circ 0}$ ED. $2021,1060-\mathrm{B}, 1-39$ |  | Quantity meceived |  | Apprex. 5Ltr. |  |




| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PROTECTBON) RULES, 1 \$3 [SCHEDULE-VT] PART-A INLAND SURFACE WATER | RESULT |
| 1 | Colour | Hasen |  | See 6 of Amnexure-1 | $<1$ |
| 2 | Odour | - | APPA $22^{\text {an }}$ Ed. $2012,2120-8,2-6$ | See 6 of Amparate-1 | Ingreaabla |
| 3 | Temperature | ${ }^{*}$ c | APHA $22^{\text {Het }} \mathrm{Ed} .2012,2130-\mathrm{B}, 2-13$ | shall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 24.2 |
| 4 | pif | - |  | 5.5 10 9.0 | 7.49 |
| 5 | Total flesidual chlorine | mg/L | APHA $22^{\text {tot }}$ Ed. 2012,430n-C1-a, 4-69 | 1.0 | H.D. |
| 6 | Total Suspendod solids | 男/5 |  | 100 | 28.0 |
| 7 | Disselved Phomphate (as P) | \#19/4: | AP\%A $22^{\text {ªt }} \mathrm{Ed} .2012,4500-\mathrm{F}-\mathrm{C}$, 4-153 | 5.0 | H.D. |
| \# | Fluorida (as F) | $n \underline{n} / \mathrm{L}$ | $\qquad$ 8 ? | 2.0 | 0.3 |
| 9 | Lead (as Db) | $\mathrm{ng} / \mathrm{L}$ |  | 0.1 | R,D. |
| 10 | zino (as Zn ) | ng/L |  | 5.0 | 0.08 |
| 11 | Coppor (as Cu) | ng/L |  | 3.0 | N.D. |
| 12 | Cadnium (as Cd) | ng/L | APHA $22^{\text {² }}$ Ed. $2012,3500-\mathrm{Cd}, 3-105$ | 2.0 | M.D. |
| 13 | Marcury (as Hg) | ng/L | APHA $22^{18}$ Ed, 2012,3112-B, 3-23 | 0.01 | \%.D. |
| 14 | Arsonic (as Ms) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {I2 }}$ Ed, $2012,3114-\mathrm{C}, 3-3$ If | 0.2 | N. D. |
| 15 | Seleniun (as Sa) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {sh }}$ Ed, $2012,3114-\mathrm{C}, 3-3 \mathrm{f}$ | 0.05 | N.D. |
| 16 | Fotal Chronium (a\% (c) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {at }}$ Ed.2012,3500-Cr-B, 3-69 | 2.0 | W. D. |
| 17 | Chemical oxygen Denand (COD) | $\mathrm{mg} / \mathrm{L}$ |  | 250 | 64.0 |
| 16 | Blochonical Oxygen Denand (BOD) | $\mathrm{mg} / \mathrm{L}$ | Is 3025 (Fart 44) $: 1993$, RA 2003 | 30 | 6.4 |
| 19 | 011 L Grease | mg/L | 18 3025 (Part 39) $=1991$, RA 2003, | 10.0 | W.D. |
| 20 | Phenolic <br> Compounds (as $\left.\mathrm{C}_{6} \mathrm{H}_{4} \mathrm{OH}\right)$ | $\mathrm{mg} / \mathrm{L}$ | -18 3025 (Fart 43) 11992 , RA 2003 | 1.0 | H, D, |

Note: mg/it.imilligram per liter, N.D.- Not Detected.

## REMARES: RESULTS ARE AS ABOVE

## Terms \& conditions




-End of the test report


| to Nonme IA Addrives of The Cuuthower <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Heport No | UES/TR/2 | 1-22/06 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab Ref Ho | UES/21-2 | 2/w/010 |  |
|  |  |  | Date of Sanpling | 24/01/20 |  |  |
|  |  |  | Date of Recoipt | 25/01/20 |  |  |
|  |  |  | Date of Report | 02/02/20 |  | * |
|  |  |  | Date of Anaiysis | START: 25 | 01/2022 | END: 29/01/2022 |
| SAMPLE DETALLS |  |  |  |  |  |  |
| Sample Type | MASTEE WAEER |  | Cugtomer Ref. No. \& Date |  | $\begin{aligned} & \text { M/PO/5RV/2122/0049, } \\ & \text { DRD. :24-JUKY-2021 } \end{aligned}$ |  |
| Customer sample ID | ETP COTLEET, RONLKEL |  | Sample Condition At Receipt |  | $O_{k}$ |  |
| Dacking of sample | 3Axino. juc cis <br> I ITXI INO. wer CN <br> I $\mathrm{f} \pi 1$ mo, guse sorfus | Sesled | Saxple Colleated By |  | Laboratory Chemiat |  |
| Sampling Procedure |  |  | Quantity Received |  | Apprax, 5ttr, |  |


| $\begin{aligned} & \text { SR. } \\ & \text { NO. } \end{aligned}$ | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PROTECTION) MuLES, 1936 [SCHEDULEVM] PARTA INLAND SURFACE WATEA | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | Hazen | APHA $22^{\text {TE Ed. }} 2012,2120-\mathrm{B}, 2-6$ | See 6 of Annexure-I | $<1$ |
| 2 | Odeaz | - | APHA $22^{\text {/Ed. }}$ 2012, 2120-B,2-6 | Bee 6 ot Annoxure-1 | Agreeable |
| 3 | Temperaturo | ${ }^{*} \mathrm{C}$ | APHA $22^{\text {th }} \mathrm{Rd}$. $2012,2130-8,2-13$ | Shall not exceed $5^{\prime} \mathrm{C}$ above the receiving water temperature | 24.8 |
| 4 | PR | $*$ |  | 5.5 to 9.0 | 7.56 |
| 5 | Total Residual Chlorine | mg/te | APHA $22^{\text {24 }}$ Ba. 2012,4500-Cl-G, $4-69$ | 1.0 | N.D. |
| 6 | Total suspended Solida | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {st }}$ Ed. $2012,2540-\mathrm{D}, 2-66$ | 100 | 26.0 |
| 7 | Dissolved Phosphat* (ss p) | nig/L | APHA $22^{\text {st }}$ Ed. $2012,4500-\mathrm{P}-\mathrm{C}, ~ 4-153$ | 5.0 | N.D. |
| 8 | Fluoride (as F) | mg/L | AFHK $22^{64}$ Ed.2012, 4300-F-BLD, 4-34 \& 87 | 2.0 | 0.4 |
| 9 | Load (as Pb) | mg/L |  | 0.1 | \%. D . |
| 10 | Rino ( as 8 zn ) | $\mathrm{mg} / \mathrm{L}$ | APHA 22 Ed, 2012, 3111-7, 3-18 | 5.0 | 0.09 |
| 11 | Copper (as Cu) | $\mathrm{mg} / \mathrm{l}$ |  | 3.0 | N.D. |
| 12 | Cadaium (as Cd) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {²a }}$ Ed. $2012,3500-$ Ct, $3-105$ | 2.0 | N, D. |
| 13 | Mercusy (ss Hg) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {aid }} \mathrm{Ed} .2012,3112-8,3-23$ | 0.01 | H.D. |
| 14 | Araenic (as As ) | $\mathrm{mg} / \mathrm{I}$ | APHA $22^{\text {mi }}$ Ed. $2012,3114-\mathrm{C}, 3-38$ | 0.2 | H.D. |
| 15 | Solanium (as 8a) | $\mathrm{mg} / \mathrm{I}$ | APGA $22^{\text {®- }}$ Ed. $2012,3114-\mathrm{C}, 3$ 3-38 | 0.05 | H.D. |
| 16 | Total Chroniun (as Cr) | ing/h | APHA $22^{\text {nid }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | E.D. |
| 17 | Chenical Oxygen Denand (COO) | $\mathrm{mg} / \mathrm{l}$. | APAR $22^{\text {nd }}$ \#d. 2012 , 5520-6, 3-17 | 250 | 68.0 |
| 18 | Biochenical Oxygen Demand (BCO) | mg/2 | 18 3025 (Part 44):1933, fA 2003 | 30 | 6,2 |
| 19 | 0114 Grazas | $m \mathrm{mg} / \mathrm{L}$ | IS 3025 (Part 39) +1991 , PA 2003. | 10.0 | N. ${ }_{\text {+ }}$ |
| 20 | Phanalic <br> Compounds (as $\mathrm{C}_{6} \mathrm{H}_{3} \mathrm{OH}$ ) |  | IS: 3025 (Part 431 \% 1992, RA 2003 | 1.0 | N, D. |
| Note: me/lit.: miligram per liter, N.D. - Not Detected. |  |  |  |  |  |
| REMARKS: RESULTS ARE AS ABOVE |  |  |  |  |  |
| Terms \& conditions <br>  <br>  <br> > This fo for hiformainon in me party har abksd for absve frev(a) Einly |  |  |  |  |  |
|  |  |  |  | For ULTIMATE ENVIROLYTICAL SOLUTIONS <br> AUTHORIZED SIGNATORY |  |


| HDD-272, Phase III - Near JP Chowk Ring Road No.-2. Kabir Nagar, Raipur (C.G.) - 492099 $\mathrm{Ph}: 0771$ - 40277771 Email : ultimatenviro@gmail.com |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Recognized by Ministry of Environment Forest and Climate Change under EP act 1986 |  |  |  |  |  |  |
| fo Mumer a Aldirezs of The Covefumer <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT, - RAIGARH (C.G.) 496107 |  |  | Haport No | UES/TR/21-22/07911 |  |  |
|  |  |  | Lab Ref No | UES/21-22/W/013068 |  |  |
|  |  |  | Date of Sampling | 24/02/2022 |  |  |
|  |  |  | Date of Receipt | 25/02/2022 |  |  |
|  |  |  | Date of Raport | 01/03/2022 |  |  |
|  |  |  | Date of Analysis | STARx:25 | 2/2022 | END:01/03/2022 |
| SAMPLE DETATLS |  |  |  |  |  |  |
| Sample type | HASEE MAIER |  | Custamer Ref. No, 6 Date |  | $\begin{aligned} & \text { M/PO/SRV/2122/0049, } \\ & \text { DRD. } 24-\pi 0 \Sigma Y-2021 \end{aligned}$ |  |
| Cuatoner Sample ID | ETP OUTLET, KONDKEL |  | Smple Condition At Receipt |  | or |  |
| Packing of Sample |  | Scaled | Sample Collected by |  | Laboratory Chemist |  |
| Sampling Prooedure | $\begin{aligned} & \text { IS: } 3025 \text { (PART-I):1987 RA } 20037 \\ & \text { APRA } 22^{\circ} \text { ED. } 2021,1060-\mathrm{B}, 1-39 \end{aligned}$ |  | Ouantity Rooeived |  | Approx. 5Ltr. |  |


| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIAONMENT (PROTECTION) RULES, 1936 ISCHEDULEVII PART-A BLLOND SURFACE WATER | result |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | Bazen | APHA $22^{\text {ro }}$ Ed. $2012,2120-\mathrm{D}, 2-6$ | See 6 of Annexure-I | $<1$ |
| $\frac{1}{2}$ | Odaur | $\cdots$ | JEHA $22^{\circ 9 \mathrm{Ed}} \mathrm{Ed}$. $2012,2120-71,2-6$ | Bee 5 of Annexure-1 | Agroeable |
| 3 | тexperature | "C | APHA 22 ${ }^{\text {mi }} \mathrm{Ed}, 2012,2130-\mathrm{B}, 2-13$ | Sball not exceed $5^{\circ} \mathrm{C}$ above the recefving water temperature | 25.2 |
| 4 | pll | - | APHA $22^{\text {ar }}$ Ed, 2012, 4500- $\mathrm{H}^{+}-\mathrm{B}, 4-92$ | 5.5 to 9.0 | 7,62 |
| 5 | Total Residual chlorine | ng/t | APHA $22^{\text {nt }} \mathrm{Ed} .2012,4500-\mathrm{Cl}-\mathrm{G}, 4-69$ | 1.0 | N.D. |
| 6 | Total Buspended Sollda | ng/2 | APRA $22^{\text {ed }}$ Ed. $2012,2540-\mathrm{D}, 2-66$ | 100 | 22.0 |
| 7 | Dissolvad Phosphate $(\text { an } 1)$ | m/2/2 | APGA $22^{\text {nid }}$ Ed. $2012,4500-\mathrm{p}-\mathrm{C}, ~ 4-153$ | 5.0 | H.D. |
| 8 | Flworide (as. N ) | mg/L | APHA 22 FA. $2012,4500-\mathrm{F}-\mathrm{B6} 0,4-84$ b 8. | 2,0 | 0.3 |
| 9 | Leact (as Pb) | ng/L | APHA $22^{\text {si }}$ Ed, 2012, 3111-7, 3-18 | 0.1 | N.D. |
| 10 | Zino (as Zn ) | ng/L | APHA $22^{\text {or }}$ Ed. 2012, 3111-1, ${ }^{\text {a }}$, 3-18 | 5.0 | 0.08 |
| 11 | Copper (ail Cu) | ne/L | APHA $22^{\text {ad }} \mathrm{EG}, 2012,3111-\mathrm{B}, 3-18$ | 3.0 | N. ${ }^{\text {d }}$. |
| 12 | Cartnium (as Cd) | mg/L. | APUA $22^{\text {ar }} \mathrm{Ed} .2012,3500-\mathrm{Cd}$, 3-105 | 2.0 | N, ${ }_{4}$ |
| 13 | Mercury (as lig) | 如/5 | APPA $22^{\text {min }}$ Ed, 2012, 3112-B, $3-23$ | 0.01 | N.D. |
| 14 | Arsenic (an As) | mg/a | APHA $22^{\text {ad }}$ Ed. $2012,3114-\mathrm{C}_{2}, 3-38$ | 0.2 | n. $\mathrm{D}_{+}$ |
| 15 | Seleniun (as Se) | $\mathrm{mg} / 2$. | APHA $22^{\text {mim }} \mathrm{Ed} .2012,3114-\mathrm{C}, 3-38$ | 0,05 | N, D. |
| 16 | Total Chroniun fas cr) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {nd }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3 \sim 69$ | 2.0 | W.D. |
| 17 | Chenical Oxygen Demand (COD) | mg/L |  | 250 | S4.0 |
| 18 | Blochemical Orygen Demand (BCD) | $\mathrm{mg} / 4$ | 1f 3025 (Paxt 44) 51993 , RA 2003 | 30 | 8.4 |
| 19 | 0114 Grosse . | ng/L | Is 3025 (Patt 39):1991,RA 2003, | 10.0 | N.D. |
| 20 | Phenolie <br> Compounds (ss $\mathrm{C}_{8} \mathrm{ll} \mathrm{H}_{4} \mathrm{OH}$ ) | 8g/L |  | 1.0 | W.D. |

Note: mg/lit. : mililigram per liter, N.D.- Not Detected.
REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions






| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIMONMENT (PROTECTION) RULE5, 19as [SCHEDULE-VI] PART-A INLAND SURFACE WATER | RESULT |
| 1 | Colour | Hazeo | APHA $22^{\text {® }} \mathrm{Ed}$. $2012,2120-\mathrm{B}, 2-6$ | See 6 of Aanexure-1 | <1 |
| 2 | Odour | - | APHA $22{ }^{\text {¹ }} \mathrm{Ed} .2012,2120+8,2-6$ | See 6 af Annuxure-1 | Agroeable |
| 3 | Temperature | ${ }^{*} \mathrm{C}$ | APHR $22^{44} \mathrm{Bd}, 2012,2130-\mathrm{B}, 2-13$ | Shall not exceed 5\% above the racolving water temperature | 25.6 |
| 4 | plt | - |  | 5.5 to 9.0 | 7.24 |
| 5 | Total Realdual chlorina | mg/L | APAA $22^{\text {nd }}$ Dd. $2012,4500-\mathrm{Cl}-6,4-69$ | 1.0 | A.D. |
| $E$ | Total Suspended Solids | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {ºd }}$ Ed. $2012,2540-\mathrm{D}, 2-66$ | 100 | 18.0 |
| 7 | Dissolved Phosphate (as D) | Heg/is | A2HA $22^{\text {Nat }}$ Ed. $2012,4500-\mathrm{p}-\mathrm{C}, ~ 4-153$ | 5.0 | N.D. |
| 8 | Muoride (as E) | Hgft | $\begin{aligned} & \text { AE1RA } 22^{\mathrm{E}} \text { Ed. } 2012,4500-\nabla-118 \mathrm{D}, 4-84 \mathrm{~S} \\ & 87 \end{aligned}$ | 2.0 | 0.2 |
| 9 | Load (as Pb) | mg/L | APHA $22^{\text {*i }}$ Ed. 2012, 3111-B, 3-18 | 0.1 | 8, D. |
| $\frac{10}{11}$ | zino (as 2 n ) | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {ar }}$ Ed, 2012,3111-B, 3-18 | 5.0 | 0.12 |
| 11 | Copper (as Cu) | ng/L | APHA $22^{\text {a1 }}$ Sd. $2012,3111-\mathrm{B}, 3-18$ | 3.0 | 8. D. |
| $\frac{12}{13}$ | Cadnium (as Cd) | ng/L | APHA $22^{\text {s/ }} \mathrm{Ed} .2012,3500-\mathrm{Cd}, 3-105$ | 2.0 | H.D. |
| 13 14 15 | Morcury (as Hg$)$ Argmice (as Ag ) | $\frac{\mathrm{mg} / \mathrm{L}}{\mathrm{mg} / \mathrm{L}}$ | $\frac{\text { APHA } 22^{\text {med }} \text { Ed. } 2012,3112-8,3-23}{\text { APIA } 22^{\text {ma }}}$ | 0.01 | R.D. |
| 14 15 | Arsminc (as As) Selealum (as Se) | mg/L. |  | 0.8 | N.D. |
| 16 | Total Chroniun (as Cr) | $\mathrm{mg} / \mathrm{h}$ |  | 2.0 | N, D. |
| 17 | Chamical Oxygen Demand (COD) | mg/a | APRA $22^{\text {24 }}$ Eti. $2012,5520-8,5-17$ | 250 | 64.0 |
| 16 | Biochamical Oxygen Damand (BCO) | ng/L | I5 3025(Patt 44) :2993, HA 2003 | 30 | 9.6 |
| 19 | Oil \& Gresse | 3g/L | 15 3025 (Part 39):1991, 隹 2003, | 10.0 | M.D. |
| 20 | Fhanolic <br> Compounda (as $\mathrm{C}_{6} \mathrm{H}_{3} \mathrm{OH}$ ) | H0/L | I5 3025 (Part 43) 11992, \&B 2003 | 1.0 | M.D. |

Note: mg/lit: milligram per liter, N.D.- Not Detected.
REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions





Photographs of Treatment facilities



SETTLING POND NO - 5


Water Treatment Plant (WTP) - Kondkel - 5 X 5 Cum / Hrs


Effluent Treatment Plant - Kondkel - 200 Cum /Hrs X 2


Reverse Osmosis Plant (RO Plant)-Kondkel $2 \times 2 \mathrm{Cum} / \mathrm{Hrs}$


Reverse Osmosis Plant (RO Plant) - Milupara - 5 Cum / Hrs


Iron Removal Plant (IRP Plant) - Milupara - 5 Cum / Hrs


## Annexure-6AA



| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PROTECTION) RULES, 12EE [SChEDULE-VI] PART-A INLAND SUMYACE WATER | RESULT |
| 1 | Colour | Bazen | AFIG 22-Ed, 2012, 2120-1, 2-6 | See 6 of Annexure-I | $<1$ |
| 2 | Odour | - | APMA $22^{\text {¹ }} \mathrm{EA}, 2012,2120-3,2-6$ | Stae 6 of Anneluare-1 | Igrooabla |
| 3 | Terperatura | * C | APGA 22 ${ }^{\text {tit } \mathrm{Ed}}$. $2012,2130-\mathrm{Br,2-13}$ | Shall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 26.4 |
| 4 | pli | - | APHA $22^{\text {- }} \mathrm{Ed} .2012,4500-\mathrm{H}^{+}-\mathrm{B}, 4-92$ | 5.5 20.9 | 7.40 |
| 5 | Total Pusidual ChIorine | ng/t | APRA $22^{* 4}$ Ed. $2012,4500-\mathrm{Cl}-\mathrm{G}, 4-69$ | 1.0 | H. D. |
| 6 | $\begin{aligned} & \text { Total sukpended } \\ & \text { Solida } \end{aligned}$ | mgh/h | APHA 22** Ed. $2012,2540-\mathrm{D}, 2-66$ | 100 | 26.0 |
| 7 | Dissolvad Dhosphate $\tan P)$ | m9/L/ | APHA 220\% Ed. 2012, 450010-T-C, 4-153 | 5.0 | *.D. |
| 8 | Fluorife (as \#) | $\mathrm{mg} / \mathrm{L}$ | APHA 22-1 Ed.2012,4500-F-B5D,4-84 \& 07 | 2.0 | 0.2 |
| 9. | Lasd (as Pb) | mg/h | APtS $22^{\text {- }}$ Ed. $2012,3111-\mathrm{B}, 3-18$ | 0.1 | W, D. |
| 10 | Zind (as 8 za ) | $\mathrm{ng} / \mathrm{L}$ | ADHA $23^{\text {Ha }}$ Ed. $2012,3111-\mathrm{B}, 3-18$ | 5.0 | 0.16 |
| $\frac{11}{12}$ | Copper (as Cu) | mg/4 | APHA $22^{\text {™ }}$ E1, 2012, 3111-B, $3-18$ | 3.0 | N.D. |
| $\frac{12}{13}$ | Catmitan (as Od) | Hg/L | APlin $22^{\text {ma }}$ Ed, 2012, 3500-Cd, 3-105 | 2.0 | N, D. |
| $\frac{13}{14}$ | Marcury (as Hg ) Aramida (as Ag$)$ | $\frac{\mathrm{ng} / \mathrm{L}}{\mathrm{mig} / \mathrm{L}}$ |  | 0.01 | N. D. |
| $\frac{17}{15}$ | Aramide (as Ag) | $\frac{\mathrm{nig} / \mathrm{L}}{\mathrm{ng} / \mathrm{L}}$ | APGA $22^{\text {a }}$ EA, $2012,3114-\mathrm{C}, ~ 3-38$ | 0.2 | N.D. |
| 16 | Sotal Chroniun (as Cr) | min/L | APHA $22^{\text {-4 }} \mathrm{Ed}, 2012,3500-\mathrm{Cr}-\mathrm{Bj}, 3-69$ | 0.05 | H, D. |
| 17 | Cheasioal Oxygen Demand (COO) | mg/t | APHA $22^{\text {nid }}$ Id. $2012,5520-\mathrm{B}, 5-17$ | 250 | 174.0 |
| 18. | Miochentcal Oxygen Demand (BCO) | ngi/h | IS 3025 (Part 44] 19933 , Ph: 2003 | 30 | 26.2 |
| 19 | Oil \& Crease | $\mathrm{ng} / \mathrm{L}$ | I8. 3025 (Paxt 39):1991, PA 2003, | 10.0 | M.D. |
| 20 | Phenelie <br> Compotands (an $\mathrm{C}_{4} \mathrm{H}_{4} \mathrm{OM}$ ) | \#g/L | Is 3025 (Part 43) 51992 , 4A 2003 | 1.0 | *. D. |

Note: mg/lit.imilligram per liter, N.D. - Not Detected.
REMARKS: RESULTS ARE AS ABOVE

## Terms \& conditions




End of the test report
AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| se． No． | Paramerter | UNIT | METHOD OF TEST | THE ENVIMONMENT（PMOTEETION）㩆ES， 18 A8 ［TCHEDULE－VI］PART－A BLAMD SURFACE WATER | RESULT |
| 1 | Colour | Hazen | APHA 2208d，2012，2120－3，2－6 | See 6 of Annexure－1 | $<1$ |
| 2 | Odour | － | APMA 22 － 18 d． $2012,2120-8,2-6$ | Sees 6 of Anhexute－1 | Agreeable |
| 3 | Temperature | ${ }^{\prime} \mathrm{C}$ | APHA $22^{-1} \mathrm{Ed}$ ，2012，2130－B，2－13 | shall not exceod $5^{\circ} \mathrm{C}$ above the roceiving water tomperature | 25.6 |
| 4 | pil | － | AVIUN $22^{\text {2 }}$ Ed． $2012,4500-11^{+}-18,4-52$ | 5．5 to 9.0 | 7.47 |
| 5 | Total Rasidual Chlorine | mig／L | APHA $22^{\text {24 }}$ Ed．2012，4500－C1－6，4－69 | 1.0 | N．D． |
| 6 | Total suspended Solids | mg／L | AFHE 22＊＊ES，2012，2540－D，2－66 | 100 | 28.0 |
| 7 | Disaolved Mosphate $\text { (as } \mathrm{F})$ | mg／t | APlit $22^{\text {24 }}$ 韦d． $2012,4500-\mathrm{p}-\mathrm{C}, ~ 4-1.53$ | 5.0 | 校．D． |
| 8 | P1uaride（en 7 ） | $\mathrm{mg} / \mathrm{l}$ | 时 | 2.0 | 0.5 |
| 9 | Lead（as Pb） | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {de }}$ Ed．2012，3111－17，3－111 | 0.2 | S．D． |
| 10 | Iinc（as Zn ） | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {＋}}$ Ed． $2012,3111-\mathrm{B}, 3-18$ | 5.0 | 0.17 |
| 11 | Coppar（as Cu） | $\mathrm{mg} / \mathrm{L}$ | AFITA $22^{\text {a }}$ b4，2012，3111－8，3－18 | 3.0 | N．D． |
| 12 | Cadmiun（as Cd） | $\mathrm{mg} / \mathrm{L}$ | AFHit $22^{\text {m }}$ Ed． $2012,3500-\mathrm{Cd}, 3-105$ | 2.0 | N．D． |
| 13 | Mercury（an Hg） | $\mathrm{mg} / \mathrm{L}$ | APlith $22^{-5}$ 车d．2012，3112－Br，3－29 | 0.01 | N．D． |
| 14 | Araminle（as As） | mg／L | APliA $22^{\text {² }}$ E． $5.2012,3114-\mathrm{C}, 3-38$ | 0.2 | N．D． |
| 15 | Solenium（ay So） | $\mathrm{mg} / \mathrm{L}$ | APHA $222^{\text {－6 }}$ Ed．2012，3114－C，3－3日 | 0.05 | N．${ }^{\text {d }}$ ． |
| 16 | Fotal Chroatum（as Cr） | Wg／L | AFHR 22 ${ }^{\text {4 }}$ Ed．2012，3500－Cr－B，3－69 | 2.0 | H．D． |
| 17 | Chemical Oxygen Demand（COD） | mighi | APHA $22^{\text {ot }} \mathrm{EH}$－ 2012 ，5820－8，5－17 | 250 | 172.0 |
| 10 | Biochesical Oxygen Demand（BOD） | $\mathrm{mg} / \mathrm{L}$ | IS 1025 （Part 44）：1993，PA 2003 | 30 | 24.1 |
| 19 | 0116 Greane | m9 | If 3025（Part 39）：1991，RA 2003， | 10.0 | S．D． |
| 20 | Phonolic <br> Compounda（ain C． $\mathrm{C}_{4} \mathrm{H}$ Oin） | mg／L | Is 3025（Part 43）11992，RA 2003 | 1.0 | 3．D． |

Note：me／lit．miligram per liter，N．D．－Not Detected．
REMARKS：RESULTS ARE AS ABOVE
Terms \＆conditions




End of the test report－


| SR. <br> NO. | PARAMETER | UNIT | METHOD OF TEST | ```THE ENVIHONMENT (PROTECTION) RULES, 185 [SCHEDULE.VI] PART-A INLAND SURTACE WATER``` | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | Hazen | APHA 2201Ed. 2012,2120-7,2-6 | See 6 of Annexure-1 | C1 |
| 2 | Odour | - | ADSth 22digit. 2012,2120-8,2-6 | See 6 of Annexurb-1 | Agreeable |
| 3 | Temperature | 'c | APHA 22nesd. 2012,2130-B,2-13 | Shall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 25.1 |
| 4 | $\mathrm{p}^{\text {P1 }}$ | $\checkmark$ |  | 5.5 to 9.0 | 7.49 |
| 5 | Total Realdiaal Chlerine | $\mathrm{mg} / \mathrm{L}$ |  | 1,0 | \%. D. |
| 6 | Total Suspended Bolida | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {nt }} \mathrm{Ed} .2012,2540-\mathrm{B}, 2-66$ | 100 | 34.0 |
| 7 | Dissolved ibsosphate (an P) | nig/L | APHR $22^{\text {bid }}$ Ed. $2012,4500-\mathrm{P}-\mathrm{C}, ~ 4-153$ | 5.0 | H.D. |
| \# | Fluortile (sa F ) | no/t | कसHA 22 ${ }^{\text {Wii }}$ Ed. 2012, 4500-F-B6D, 4-84 6 BT | 2.0 | 0.3 |
| 9 | Lead (as Fb) | ng/L | APHA $22^{* 3} \mathrm{Ed}, 2012,3111-\mathrm{B}, 3-19$ | 0.1 | N, D. |
| 10 | Zinc ( as \% Zn ) | n¢/L | APKA $22^{\text {2a }} \mathrm{Ed} .2012,3111-\mathrm{B}, 3-18$ | 3.0 | 0.10 |
| 11 | Copper (an Ca) | ng/L | APHA $22^{\text {ar }}$ Ed. $2012,3111-\mathrm{B}, 3-10$ | 3.0 | N.D. |
| 12 | Cadtriun (sa Cd) | nip/L. | APHA $22^{\text {a }}$ Ed. $2012,3500-\mathrm{Cd}$, 3-105 | 2.0 | N,D. |
| 13 | Mercury (as Hg) | mg/L | APHA $22^{\text {ax }}$ Ed. 2012, 3112- $\mathrm{B}, 3-23$ | 0.01 | N.D. |
| 14 | Arsenio (as As) | 明/L | APHEA $22^{\text {ax }}$ Ed, $2012,3114-\mathrm{C}, 3-38$ | 0.2 | X.D. |
| 15 | Selenitan (ss Jo) | ng/L | APHA $22^{\text {² }}$ Ed, 2012, 3114-C, 3-38 | 0.05 | N. D. |
| 16 | Total Chronium (as Cr) | 2g/L | ADHA $22^{\text {nt }}$ Ed. 2012,3500-Ct-B, 3-69 | 2.0 | N. D. |
| 17 | Chamical Oxygen Deanand (COD) | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {at }}$ 5d. 2012 , 5520-8, 5-17 | 250 | 172.0 |
| 1 IF | Blochemical Oxygen Dearand (BCD) | mg/i | IS: 3025 (Part 44):1993, RA 2003 | 30 | 19. 8 |
| 19 | 011 \% Greasa | mg/l | If 3025 (Part 39k:1991, RA 2003, | 10.0 | N.D. |
| 20 | Phenolic <br> Compounds (aa $\mathrm{C}_{6}$ 豇OH) | mig/L | Ia 3025 (Part 431:1992, RA 2003 | 1.0 | N, D. |

Note: $\mathrm{mg} /$ /it: milligram per fiter, N.O.- Not Detected.
REMARKS: RESULTS ARE AS ABOVE
Torms \& conditions






| for Nomin it Aidalcess of The Gasinmer <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE -MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Report No | UES/TR/21-22/06036 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab Ref Ho | UES/21-22/W/010442 |  |  |
|  |  |  | Date of Sampling | 24/01/2022 |  |  |
|  |  |  | Date of Reccipt | 25/02/2022 |  |  |
|  |  |  | Date of report | 02/02/2022 |  |  |
|  |  |  | Date of Analyais | START: 25/01/2022 |  | END: 29/01/2022 |
| SAMPLE DETAILS |  |  |  |  |  |  |
| Sasple Type | WASIE WAIE2R |  | Custoner गef. No. 6 Date |  | $\begin{aligned} & \text { M/PO/SRV/2122/0049; } \\ & \text { DID. :24-JULY-2021 } \end{aligned}$ |  |
| Customer sample ID. | STP InLES, Pontacabin |  | Sample Condition At Heceipt |  | Ok |  |
| Packing of Sample |  | Sesled | Sample Collacted EY |  | Laboratory chemist |  |
| Sampling Procodura | $\begin{aligned} & 1 S: 3025(P A M T-1): 1987 \text { RA } 2003 ; \\ & \text { APHA } 22^{\circ} \mathrm{ED} .2021,1060-\mathrm{B}, 1-39 \end{aligned}$ |  | Quantity Recoivod |  | Apprax. 5Ltx. |  |


| sR. NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PROTECTION) RULES, IEBE [SCHEDULENI] PART-A INLAND SURBACE WATEI | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | Hazen | APHA 220Ed. 2012,2120-E,2-6 | Seet 6 of Annexure-I | $<1$ |
| 2 | Odoux | - | APHA $22^{\text {ns }} \mathrm{Ed}$. 2012,2120-5,2-6 | See 6 of Annexure- 1 | Agraeablo |
| 3 | Texperature | ${ }^{4} \mathrm{C}$ | APHA $22^{\text {-1 }} \mathrm{Ed} .2012,21301-8,2-13$ | shall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 25.3 |
| 4 | pH | - |  | 5.5 to 9.0 | 7.43 |
| 5 | Total Residual Chlorine | mg/L | APHA 22*d Edi 2012,4500-Cl-G, 4-69 | 1.0 | N.D; |
| 5 | Total Suspenced Solids | ng/L | APHA $22^{\text {24 }}$ Ed. 2012,2540- 0, 2-66 | 100 | 38.0 |
| 7 | Dissolved Phosphate $(x) p)$ | ng/L | APHA 222d Ed. 2012,4500-p-C, 4-153 | 5.0 | N.D. |
| 8 | Fluorido (as F) | ng/L | APHA $22^{\text {si }}$ Ed. $2012,4500-\mathrm{F}-\mathrm{BED}, 4-84$ \& 87 | 2.0 | 0.4 |
| 9 | Load (as [b) | ng/L | APHA $22^{\text {di }}$ Ed. 2012, $3111-8,3-18$ | 0.1 | N. D. |
| 10 | Zind (ss Zn ) | ng/L | APIA $22^{\text {ot }}$ Ed. $2012,3111-0,3-1 \mathrm{f}$ | 5.0 | 0.12 |
| 11 | Copper (aas Ca) | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {s/ }}$ Ed. $2012,3111-1,3-10$ | 3.0 | S.D. |
| 12 | Cadrium (as Cd) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {¹ }}$ Ed. $2012,3500-\mathrm{Cd}, 3-105$ | 2.0 | N. D. |
| 13 | Mercary (as Mg) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {si }}$ Ed. $2012,3112-8,3-23$ | 0.01 | 8.D. |
| 14 | Arsonic (as Aa ) | $\mathrm{ng} / \mathrm{I}_{1}$ | APHA $22^{\text {¹ }}$ Ed. $2012,3114-\mathrm{C}, ~ 3-38$ | 0.2 | N.D. |
| 15 | Seleniun (as Se) | $\mathrm{mg} / \mathrm{L}$ | APHA $2.22^{\text {¹ }}$ Ed. $2012,3114-$ C, $3-38$ | 0.05 | N.D. |
| 16 | $\begin{aligned} & \text { Potal Chroniuie (afi } \\ & \text { Cf) } \end{aligned}$ | $\mathrm{mg} / \mathrm{L}$ | APHA 22 ${ }^{\text {2t }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | B.D. |
| 17 | Chomical Oxygon Demand (COD) | ng/L | APHA $22^{\text {nt }}$ E4. $2012,5920-8,5-17$ | 250 | 176.0 |
| 10 | Biochonical Oxygan Denand (BOD) | $\mathrm{ng} / \mathrm{L}$ | 153025 (Part: 44):1993, RA 2003 | 30 | 18.4 |
| 19 | 0118 Greane | ng/L | I5 3025 (Fart 39) 11991 , RA 2003, | 10.0 | N.D. |
| 20 | Phenolic <br> Compounds (an $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OA}$ ) | ngh/L | 19.3025 (Part 43):1992, RA 2003 | 1.0 | H.D. |

Note: me/lit: miligram par liter, N.D. Not Detected.
REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions


End of the test report


| 58. NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PROTECTION) RULES, 1世ES [SCHEDULE-VI] PAAT-A INLAND SUAFACE WATER | RESULT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | Hazen | AVHA 220Ed, 2012,2120-8,2-6 | Sep 6 of Annexure-I | $<1$ |
| 2 | Odour | - | APIIA $2.2{ }^{\text {20] }} \mathrm{Ed}, 2012,2120-7,2-6$ | See 6 of Annuxurs-1 | Agreeable |
| 3 | Temperatura | ${ }^{\circ} \mathrm{C}$ | APHR 22micd, 2012,2130-B,2-13 | 3 hall not exceed $5^{\circ} \mathrm{C}$ above the receiving water temperatiure | 25.5 |
| 4 | ph | - | APHA $22^{\text {ia }}$ Ed. $2012.4500-\mathrm{H}^{4}-\mathrm{B}, 4-92$ | 5.3 to 9.0 | 7.28 |
| 5 | Total Residual chlorine | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {cid }}$ Ed. $2012,4500=\mathrm{CL}=\mathrm{G}, 4-69$ | 1.0 | N.D. |
| 6 | Total Buspended Solida | $\mathrm{mg} / \mathrm{h}$ | APFA $22^{\text {nd }}$ Ed. $2012.2540-$ D, 2-66 | 100 | 32.0 |
| 7 | Dissolvod Phosphate $(a s P)$ | mg/4 | APHA $22^{\text {id }}$ K4. $2012,4500-\mathrm{P}-\mathrm{C}, ~ 4-153$ | 5.0 | N, D. |
| $\theta$ | Fluoride (as F) | mg/If |  67 | 2.0 | 0.2 |
| 9 | Lead (as Plo) | $\mathrm{mg} / \mathrm{h}$ | APER $22^{\text {na }}$ Ed. $2012,3111-8,3-18$ | 0.1 | 2.D. |
| 10 | Zinc (as zn ) | $\mathrm{mg} / \mathrm{h}$ | APHR 22 ${ }^{\text {ma }}$ EA, 2012,3111-B, 3-18 | 5.0 | 0.22 |
| 11 | Coppar (as Cu) | $\mathrm{mg} / \mathrm{I}$ | APAIA $22^{\text {m }}$ Ed. $2012,3111-\mathrm{B}, ~ 3-18$ | 3.0 | N.D. |
| 12 | Cadniun (as Cd) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {Ta }} \mathrm{Ed}, 2012,3500-\mathrm{Cd}, \mathrm{J}-105$ | 2.0 | N.D. |
| 13 |  | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {id }}$ Fd. 2012,3112-8, 3-23 | 0.01 | S.D. |
| 14 | Araentc (as Aa) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {ma }}$ Ed. $2012,3114-\mathrm{C}, 3-318$ | 0.2 | N.D. |
| 15 | Seleniun (as So) | $\mathrm{mg} / \mathrm{L}$ | RPHA $22^{\text {da }}$ Ed, 2012,3114-C, 3-38 | 0.05 | N.D. |
| 16 | Totsl Chroniuns (as Cr) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {nd }}$ Ed, $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | N.D. |
| 17 | Chemical Oxygen Demand (COD) | $\mathrm{mg} / \mathrm{L}$ | תアHA $22^{\text {id }}$ Ed, $2012,5520-\mathrm{B}, 5-17$ | 250 | 148.0 |
| 10 | Blochenical Cxygen Damand (BOD) | mg/L | Is 3025 (Part 44) $=1993$, RA 2003 | 30 | 22.4 |
| 19 | 011 \& Groame | $\mathrm{mg} / \mathrm{L}$ | Is 3025 (Part 39) $\ddagger 1991$, Rn 2003, | 10.0 | N. D. |
| 20 | Phenolie Compounds (ss $\mathrm{C}_{6} \mathrm{H}, \mathrm{OH}$ ) | $\mathrm{mg} / \mathrm{L}$ | Is 3025 (Part 43y:1992, RA 2003 | 1.0 | 8. ${ }_{\text {d }}$ |

Notes mg/lit: milligram per liter, N.D.~ Not Detected.
REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions




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

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

|  <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE -MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Report No | UES/TR/21-22/08952 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab Ref No | UES/21-22/w/014664 |  |  |
|  |  |  | Date of Sampling | 28/03/2022 |  |  |
|  |  |  | Date of Receipt | 29/03/2022 |  |  |
|  |  |  | Date or Report | 02/04/2022 |  |  |
|  |  |  | Dite of Analysis | STEART:29/ | 3/2022 | END: 02 |
| SAMPLE DETATLS |  |  |  |  |  |  |
| Samplo Type | NASTE WAITCR |  | Customer Raf. No. \& Date |  | $\begin{aligned} & \text { M/DO/SRV/2122/0049; } \\ & \text { ETD. } 24-\pi U L X-2021 \end{aligned}$ |  |
| Custener Sample Io | STP INLET, PORTACABIN |  | Sample Condition At Receipt |  | Ok |  |
| Packing of saxple | I i X i no. PVC cas 1 1 | Sealed | Sample Colleoted By |  | Laboratory Chemiat |  |
| Sumpling Prooodure | IS:3025(DART-I) ; 1987 12A 2003. APHA $22^{\text {0 }} \mathrm{KD}, 2021,1060-\mathrm{B}, 1-39$ |  | Ouantity Recoived |  | Approx. 5Ltr. |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { SR. } \\ & \text { NO. } \end{aligned}$ | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PMOTECTION) MuLES, f0ns [इChfoulevil pant-A INLAND SURFACE WATER | RESULT |
| 1 | Colaur | Hazen | תPHA 22 Ed, $2012,2120-8,2-6$ | Soe 6 of Annexure-I | <1 |
| 2 | Odour | - | ADGA $22^{\text {2a }} \mathrm{EA}$. 2012, 2120-8,2-6 | See 6 of Amexmen-1 | Agreeable |
| 3 | Texperature | ${ }^{+} \mathrm{C}$ | APGA 22"Ed.2012,2130-B,2-13 | Shall not exceed $5^{\circ} \mathrm{C}$ above the receiving watar temperatire | 25.0 |
| 4 | pH | - | APEA $22^{\text {n }} \mathrm{Ed}, 2012,4500-\mathrm{H}^{+3}-8,4-92$ | 5.5 to 9.0 | 7.42 |
| 5 | Total Residual Chlorine | $\mathrm{ng} / \mathrm{t}$. | AEHA $22^{\text {ni }}$ Ed. $2012,4500-$ C1-G, $4-69$ | 1.0 | N.D. |
| 6 | Total Buapended Solides | ng/L | APHA 22 ${ }^{\text {he }}$ Ed,2012,2540- D, 2-66 | 100 | 46.0 |
| 7 | Bissolved Fhomphate (as P) | mg/L |  | 5.0 | N.D. |
| 1 | Fluorida (an F) | mg/L | $\begin{aligned} & \text { APHA } 22^{\text {Si }} \mathrm{Ed} .2012,45001-\bar{z}-\mathrm{B6D}, 4-84 \quad 6 \\ & 67 \end{aligned}$ | 2.0 | 0.6 |
| 9 | Load (al Mb) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {mit }}$ Ed.2012, 3111-B, 3-18 | 0.1 | H.D. |
| 10 | Finc (as zn ) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {isin }}$ Ed. $2012,3111-\mathrm{B}, 3-28$ | 5.0 | 0.42 |
| $\frac{12}{12}$ | Coppear (as Cu) | $\mathrm{mg} / \mathrm{s}$ |  | 3.0 | N, D. |
| 12 | Cadmiun (an Cd) | mg/L | APHA $22^{\text {ºd }}$ Ed. $2012,3500-\mathrm{Cd}$, 3-105 | 2.0 | W.D. |
| 13 | Mercury (as Hg) | $\mathrm{mg} / \mathrm{L}$ |  | 0.01 | N. D. |
| 14. | Arsanic (as As) Selanım (as Se) | $\frac{\mathrm{mg} / \mathrm{L}}{\mathrm{mg} / \mathrm{L}}$ |  | 0.2 | H.D. |
| 15 | Soloniun (as Be) | 昭/L | APRA $22^{\text {"II }} \mathrm{Ed}, 2012,3314-\mathrm{Cr}$, 3-38 | 0.05 | \%.D. |
| 16 | $\text { Total Chroaxium } \quad(a 5$ Cr) | ng/L | APHA 22 ${ }^{\text {2d }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | H.D. |
| 17 | Chemical Oxygen Denand (COD) | ng/L | APHA $22^{\text {at }}$ EA. $2012,5520-B, 5-17$ | 250 | 156.0 |
| 18 | Biochamical Oxygen Danand (EOD) | $\mathrm{mg} / \mathrm{L}$ | 13 3025 (Part 441:1993,FA 2003 | 30 | 24.6 |
| 19 | Oil 6 Grease | me) $/ \mathrm{L}$ | IS 3025 Part 391:1993, RA 2003. | 10.0 | N.D. |
| 20 | Phenolic <br> Compounds (as $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}$ ) | mg/L | If 3025 (Part 431:1992, RA 2003 | 1.0 | K.D. |

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

## REMARKS: RESULTS ARE AS ABOVE

## Terms \& conditions





AN ISO : 9001:2015 /ISO: 14001:2015 / IS

| HDD－272，Phase III－Near JP Chowk Ring Road No．－2，Kabir Nagar，Raipur（C．G．）－ 492099 Ph ：0771－49277771 Email ；ultimatenviro＠gmail．com |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Recognized by Ministry of Environment Forest and Climate Change under EP act 1986 |  |  |  |  |  |  |
| He Name A Aditress Dir The Conthemer <br> To， <br> HINDALCO INDUSTRIES LIMITED， <br> GARE PALMA－IV／5， <br> MILUPARA U／G COAL MINE， <br> VILLAGE－MILUPARA，BLOCK－TAMNAR <br> DISTT．－RAIGARH（C．G．） 496107 |  |  | Aeport No | UES／TR／21－22／3523 |  |  |
|  |  |  | Lab Rer No | UES／21－22／W／6353 |  |  |
|  |  |  | Date of saxpling | 28／10／2021 |  |  |
|  |  |  | Datu of Recinipt | 29／10／2021 |  |  |
|  |  |  | Date of Juport | 01／11／2021 |  |  |
|  |  |  | Date of Analyaia | STKRTI 29 | 10／2021 | End：01／11／2021 |
| SAMPLE DETAILS |  |  |  |  |  |  |
| Sample TYFe | RASTE WRIER |  | Cuatemer Ref．No，\＆Date |  | $\begin{aligned} & M / P O / S R V / 2122 / 0049, \\ & D 20 .: 24-\pi U L Y-2022 \end{aligned}$ |  |
| Customer Sanple ID | STP OUTLET，PORTA |  | Sample Condition At Recelpt |  | Ok |  |
| Facking of Sample |  | Sealed | Sample Collactad By |  | Laboratory Cheatiat |  |
| Smapling Proonctire | $\begin{aligned} & \text { IB: } 3025(P A R T-I)+1987 \text { RA } 2009, \\ & A P H A ~ 22^{00} \mathrm{ED}, 2021,1060-B, 1-39 \end{aligned}$ |  | Quantity Recelved |  | Apprax．SEtr． |  |


| SR． <br> No． | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT （PROTECTION）RULES， 1983 ［SCHEBULE－VIT PART－A INLAND SURFACE WATEA | SUMP WATER PIT－D |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Colour | Hazen | JFHA 22 ESd，2012，2120－8，2－6 | Siee 6 of Annexare－1 | $<1$ |
| 2 | Odour | $\square$ | APHA $22^{\text {Ed }} \mathrm{EA}, 2012,2120-\mathrm{B}, 2-6$ | See 6 of Annexure－1 | Agreeable |
| 3 | Temperature | ${ }^{*} \mathrm{c}$ |  | Shall not exceed 5． C above the recelving water temparatiare | 24.2 |
| 4 | pH | － | APHA $22^{\text {² }}$ Ed． $2012,4500-\mathrm{H}^{-3}-4.4-92$ | 5．5 to 9.0 | 7.26 |
| 5 | Total Realdual Chlorina | mg／s | APHA $22^{\text {mt }}$ Ed． $2012,4500-\mathrm{Cl}-\mathrm{G}, ~ 4-69$ | 1.0 | N．D． |
| 6 | Total Suspended solida | \＃g／L | APHA $22^{\text {e4 }}$ 玉d．2012，2540－ $0,2-66$ | 100 | 22.0 |
| 7 | Dissolved Phospriate （ as 8 ） | ng／t | APHA $22^{\text {ta }} \mathrm{Ed} .2012,4500-\mathrm{R}-\mathrm{C}, 4-153$ | 5.0 | M．D． |
| 8 | Tluoride（as F） | mg／L | APHA $22^{\text {E／}}$ Ed．2012，4500－P－B6D，4－84 6 87 | 2．0 | 0.1 |
| 9 | Load（as Pb） | $\mathrm{mg} / \mathrm{h}$ | AP明 $22^{\text {a }}$ Ed． $2012,3211-\mathrm{B}, 3-18$ | 0.1 | 3．D． |
| $\frac{10}{11}$ | Zino（as Zn ） | mg／L | AVHK $22^{\text {a／}}$ Ed． $2012,3111-\mathrm{B}, ~ 3-18$ | 5.0 | 0.06 |
| $\frac{11}{12}$ | Copper（as Cu） Cadniuin（as Cd） | $\mathrm{mg} / 2$ | AFHA 22－1 EC．2012，3111－A，3－19 | 3.0 | N．D． |
| 12 13 | Cadniun（as Cd） Mercury（as | $\frac{\mathrm{mg} / \mathrm{L}}{\mathrm{ng} / \mathrm{L}}$ |  | 2.0 | W．D． |
| 14 | Arsanio（as Ag） | ng／L． |  | 0.01 | M．D． |
| 15 | Salanitu（ss So） | Eg／L | ApliA $22^{\text {－6 }}$ Ed． $2012,3114-\mathrm{C}, ~ 3-38$ | 0.2 | $\frac{\mathrm{H}, \mathrm{D}}{\mathrm{N}, \mathrm{D}}$ ． |
| 16 | Total Chrominn（as Cr） | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {Et }}$ EG．2012，3500－Cr－E，3－64 | 2.0 | N，D． |
| 17 | Cbomical Oxygen Demand（COD） | mg／h | APHA $22^{\text {24 }}$ 焐d．2012，5520－B，5－17 | 250 | 48.0 |
| 18 | Biochenical Oxygon Deaknad（BOD） | mg／t | 13 3025（Part 44） 151993 ，RA 2003 | 30 | 8.6 |
| 19 | Oil 4 Grease | 59／L | 15．3025 Prart 391：1991，RA 2003， | 10.0 | M．D． |
| 20 | Phenolic <br> Compounds（as $\mathrm{C}_{4} \mathrm{H}_{3} \mathrm{OH}$ ） | ng／L | Is 3025（Part 431＋1992， HA 2003 | 1.0 | N．D． |

Note： $\mathrm{mg} / \mathrm{lit}$. ．milligram per Ilter，N．D．－Not Detected．
REMARKS：RESULTS ARE AS ABOVE
Terms \& condirions




End of the test report
AN ISO ： $9001: 2015$／ISO：14001：2015／ISO 45001：2018 CERTIFIED LABORATORY


|  <br> To， <br> HINDALCO INDUSTRIES LIMITED， <br> GARE PALMA－IV／5， <br> MILUPARA U／G COAL MINE， <br> VILLAGE－MILUPARA，BLOCK－TAMNAR <br> DISTT．－RAIGARH（C．G．） 496107 |  |  | Report No | UES／TR／21－22／04213 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Lab Mar No | UES／21－22／W／07573 |  |  |
|  |  |  | Date of Smupling | 24／11／2021 |  |  |
|  |  |  | Date of tiecmipt | 25／11／2021 |  |  |
|  |  |  | Date of Mepore | 01／12／2021 |  |  |
|  |  |  | Date of Analysia | STAREI 25 | 11／2021 | End：29／11／2021 |
| SAMPLE DETAILS |  |  |  |  |  |  |
| Sauple Type | MCASTE meative |  | Custaner Rer．No：\＆Date |  | $\begin{aligned} & M / P O / S R V / 2122 / 0049 ; \\ & \text { DID.:24-JULY-2021 } \end{aligned}$ |  |
| Oustoner Sample id | 3 STP OUTLEY，MOR土A CXETN |  | Sample Condition At Recelpt |  | ok |  |
| Packing of sample |  | Sealed | Shaple Cellected my |  | Eaboratory Chemiat |  |
| Sampling Pxocedure | 18：3025（PART－1）：19047 RA 2003； <br> APHA $22^{\text {® }}$ ED． $2021,1060-\mathrm{B}, 1-39$ |  | Quantity Received |  | Approar．Ster． |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SR． <br> NO． | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT （PROTECTION）RULES， 1386 ［SCHEDULE－VII PART－A imLAND SUBFACE WATER | SUMP WATER PIT－D |
| 1 | Colour | Hazen | APRA 22－Ed．2012，2120－B，2－6 | See 6 of Annexura－I | C1 |
| 2 | Odiour | － | APHA 22 ＂ Bd － $2012,2120-\mathrm{B}, 2-6$ | Hee 6 of Arneaure－1 | Agreeable |
| 3 | Texperature | ${ }^{\circ} \mathrm{C}$ | APHA 22＊fed．2012，2130－B，2－13 | Shall not exceed $5^{*} \mathrm{G}$ above the recelving waber temperature | 25.2 |
| 4 | $\mathrm{p}^{H}$ | － | APHA 22 $=$ Ed．2012，4500－ $\mathrm{H}^{2}-\mathrm{E}, 4-92$ | 5．5 to 9.0 | 7.31 |
| 5 | Total Hesidual Chlorine | mg／t | APITA $22^{\text {nd }}$ Ed，2012，4500－C1－G， $4-69$ | 1.0 | N，D． |
| 6 | Total suspended Solids | ing／t | APIEA 220＊Ed，2012，2540－D，2－66 | 100 | 20.0 |
| 7 | Dissolved Phomphate （as F） | mintis | APIth 22＊＊Fd．2012，4500－P－C，4－153 | 5，0 | 7． D ． |
| 8 | Pluoride（all P） | $\mathrm{mg} / \mathrm{L}$ |  | 2.0 | 0.2 |
| 9 | Lesd（as Pb） | $\mathrm{mg} / \mathrm{L}$ | APHA 22－Ed，2012，3111－3，3－11 | 10．1 | N．D． |
| 10 | Zine（ 8 s Zn ） | $\mathrm{mg} / \mathrm{L}$ | APMA $22^{\text {2 }}$ Ed．2012，3111－ $\mathrm{B}_{6}$ ，3－18 | 5.0 | 0.09 |
| 11 | Coppar（az Cu） | 炜／2． | APIIS $22^{\text {a }}$ ，Ef． $2012,3111-\mathrm{B}, 3-18$ | 3.0 | \％，D． |
| 12 | Cadmiun（as cd） | $\mathrm{mg} / \mathrm{L}$ | AFHA $22^{\text {ºn }}$ Ef． $2012,3500-\mathrm{Cd}$ ，3－105 | 2.0 | N．D． |
| 13 | Mercury（as Hg） | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {－}}$ \＃d．2012，3112－7， $3-23$ | 0.01 | 2N．D． |
| 14 | Arsanic（as As） | mg／L | APHA $22^{\text {² }}$ Et． $2012,3114-\mathrm{C}, ~ 3-36$ | 0.2 | 3 CD ． |
| 15 | Solenium（as So） | mg／L | APAIA $22^{\text {s6 }}$ Ed． $2012.3114-\mathrm{C}, ~ 3-38$ | 0.05 | N，D． |
| 16 | Total Chronium（as Cr） | mg／L | APIIA $22^{\text {24 }}$ Ed． $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | N，D． |
| 17 | Chemical Oxyrgen Demand（COD） | ma／L． | APHA $22^{\text {at }}$ Ed．2012， 5520 －b，5－17 | 250 | 44.0 |
| 18 | Blochenical Oxygen Bewand（BOD） | mg／L | Is 3025 （Part 44）：1993，PA 2003 | 30 | 6.2 |
| 19 | 011 s Graame | ma／L | Is 3025（Past 39）$=1991$ ，防 2003 ， | 10.0 | W．D． |
| 20 | Phenolic <br> Compounde（an $\mathrm{C}_{4} \mathrm{H}_{2} \mathrm{OH}$ ） | $\mathrm{mg} / \mathrm{L}$ | IS 3025 （Part 43） 11991 ，\＃K 2003 | 1.0 | N．D． |

Note：me／lie．miligram per liter，N．D．－Not Detected．
REMARKS：RESULTS ARE AS ABOVE
Terms \＆conditions




－End of the test report－

| HDD-272, Phase III - Near JP Chowk <br> Ring Road No.-2, Kabir Nagar, Raipur (C. G.) - 492099 $\mathrm{Ph}: 0771$ - 4027777 I Email : ultimatenviro@gmail.com |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Recognized by Ministry of Environment Forest and Climate Change under EP act 1986 |  |  |  |  |  |  |
|  <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Report No | UES/TRR/ | -22/04 |  |
|  |  |  | Lab Naf No | UES/21- | /W/088 |  |
|  |  |  | Date of Sawilag | 23/12/20 |  |  |
|  |  |  | Date of Recelpt | 24/12/2 |  |  |
|  |  |  | Date of Report | 01/01/20 |  |  |
|  |  |  | Date of Analyaia | stant: 24 | 2/2021 | End: 28/12/2021 |
| SAMPLE DETAILS |  |  |  |  |  |  |
| Sample Type | NCASYE NATERE |  | Customer Ref. No, \& Date |  | $\begin{aligned} & \text { M/PO/SRV/2122/0049, } \\ & \text { DRD.:24-T0LY-2021 } \end{aligned}$ |  |
| Cuntomer sample ID | Smp outzar, porea canin |  | Sumple Condition At Reouipt |  | Ok |  |
| Packing of sample |  | sealed | Samplo Collactod Ey . |  | Laboratory Chemiat |  |
| Samiling Procedure | 18:3025 (PART-1) 11987 RA 2003;APHA 220 ED, 2021, 1060-B, I-39 |  | Quantity Reoelvod |  | Approx. $51 . t \mathrm{t}$. |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { SR. } \\ & \text { NO. } \end{aligned}$ | PARAMETER | UNIT | METHOD OF TEST | The Environaint (PROTECTION) RULES, 1385 [SCHEDULE-VII PART-A ENLAND surtace water | SUMP WATER PIT-D |
| 1 | Colour | Hazen | APHA 22-Ed. $2012 ; 2120-\mathrm{B}, 2-6$ | See 6 of Annexure-1 | $<1$ |
| 2 | Odour | - |  | Seen 4 of Amnexurn-1 | Agrenable |
| 3 | Temparature | \% | ARHA $22^{\text {LEA }} \mathrm{Ed} .2012,2130-\mathrm{B}, 2-13$ | Shall not exceed $5^{\circ} \mathrm{O}$ above the recelving water temperature | 25.5 |
| 4 | p ${ }^{\text {H }}$ | $=$ |  | 5.5 to 9.0 | 7.71 |
| 5 | Fotal Residual Chlorina | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {Ee }}$ - $86.2012,4500-\mathrm{Cl}-\mathrm{G}, 4-69$ | 1.0 | M.D. |
| 6 | Fotal Suspended Solids | mg/2 | APHA 22 ${ }^{\text {nt }}$ 砍, 2012, 2540- D, 2-66 | 100 | 24.0 |
| 7 | Diasolved Dhosphate $\text { (an } \mathrm{p})$ | mg/t | APHA 22 ${ }^{\text {nd }}$ Ed. $2012,4500-\mathrm{P}-\mathrm{C}, 4-153$ | 5.0 | M.D. |
| 8 | Pluoride (as F) | $\mathrm{mg} / \mathrm{I}$ | APHA $22^{\text {¹ }}$ Ed. $2012,4500-5-$ BED, $4-84$ ह 67 | 2.0 | 0.3 |
| 9 | Lead (as Pb) | W9/4 | AP植 $22^{\text {a/ }}$ S. $2012 \times 3111-8,3-18$ | 0.1 | N.D. |
| 10 | zind (as zn ) | $\mathrm{mg} / \mathrm{It}$ | APHA. $22^{\text {-1 }} \mathrm{E}$ ¢ $4.2012,3111-8,3-18$ | 5.0 | 0.10 |
| 11 | Copper tas Cu$)$ | mg/L | JFHR 22 ${ }^{\text {a }}$ Ed, 2012,3111-3, 3-11 | 3.0 | M.D. |
| 12 | Cadntum (as Cd) | mg/L | APITh 22-5 5 Ed.2012,3500-Cd, 3-105 | 2.0 | N.D. |
| 13 | Morcury (as Eg) | mg/i |  | 0.01 | N, D. |
| 14 | Arsenic (as As) | $\mathrm{mg} / \mathrm{L}$ | APHA 22 Ed, 2012,3114-C, 3-3a | 0.2 | N, D. |
| 15 | Selenitue (as Se) | $\mathrm{tHg} / \mathrm{L}$ | APlih 22* Ed. 2012,3114-C, $3-30$ | 0.05 | N.D. |
| 16 | Total Chromiun §aß Cr) | $\mathrm{mg} / \mathrm{L}$ | APGAR $222^{\text {mi }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | W. $\mathbf{D}_{\text {, }}$ |
| 17 | Chemical Oxygon Demand (000) | mon/L | APHE $22^{\text {201 }}$ Ed. 2012, 5520-B, 5-17 | 250 | 48.0 |
| 18 | Biechemicsi Oxygen Demand (BCD) | ng/t | IS 3025 (Part 441:1993, PA 2003 | 30 | 5.8 |
| 19 | 0116 Grease | ng/L | 15. 3025 iPart 39111991, HA 2003 , | 10.0 | H.D. |
| 20 | Phanolic <br> Compounds (aa $\mathrm{C}_{6} \mathrm{H}_{3} \mathrm{OH}$ ) | ng/L | 18 30251Part 431:1992, HA 2003 | 1.0 | H.D. |

Note: me/lit.: milligram per liter, N.D.- Not Detected.
REMARKS: RESULTS ARE AS ABOVE
Terms \& conditions




For ULTIMATE ENVIROLYTICAL SOLUTIONS


| HDD-272, Phase III - Near JP Chowk Ring Road No.-2. Kabir Nagar, Raipur (C.G.) - 492099 Ph .0771 -40277771 Emall zultimatenviro@gmail.com |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Recognized by Ministry of Environment Forest and Climate Change under EP act 1986 |  |  |  |  |  |  |
| is Alame is Aditrens or The Cuefomar <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Heport Me | UES/TR/ | -22/06 |  |
|  |  |  | Lab Nef No | UES/21 | /W/010 |  |
|  |  |  | Date of sampting | 24/01/2 |  |  |
|  |  |  | Date of गneeript | 25/01/2 |  |  |
|  |  |  | Date of fepport | 02/02/2 |  |  |
|  |  |  | Date of Analysis | START:25 | 1/2022 | 8ND: 29/02/2022 |
| SAMPLE DETATLS |  |  |  |  |  |  |
| Sampla Typa | WASTE HCATER |  | Customer Ref. No, 4 Date |  | $\begin{aligned} & M / P O / S R V / 2122 / 0049, \\ & D E D,+24-\pi V L Y-2021 \end{aligned}$ |  |
| Customer Saxple ID | STP OUTLET, PORTA CADXN |  | Sample Condition At Receipt |  | Ok |  |
| Packing of sample |  | Sealed | Sanple Collected By |  | Laborstory Chemiat |  |
| Sampling Procedura | $\begin{aligned} & \text { IS: } 3025(\text { PART-1) }=1907 \text { RA } 2003 \text {; } \\ & \text { APMA } 22^{\circ 0} \text { 10. } 2021,1060-\mathrm{B}, 1-39 \end{aligned}$ |  | Quantity Recoived |  | Approx. SLitr, |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5R. NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONMENT (PROTECTION) RULES, 1586 [SCMEDULE-VI] PART-A INLAND SURPACE WATER | SUMP WATER PIT-D |
| 1 | Colour | Hazen |  | See 6 of Annexure-I | <1 |
| 2 | Odour | - | APHA $22^{\text {-1 }} \mathrm{Ed}, 2012,2120-3,2-6$ | flee 6 of Rinmexute- 1 | Agraeable |
| 3 | Texperature | ${ }^{\circ} \mathrm{C}$ |  | Shall not exceed $5^{\circ} \mathrm{C}$ above the receiving uator temperature | 25.6 |
| 4 | pH | - |  | 5.5 to 9.0 | 7,64 |
| 5 | Total Residual Chlorine | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {cit }}$ Ed. $2012,4500-$ Cl-G, $4-69$ | 1.0 | \%.D. |
| 6 | Total Suapanded folids | $\mathrm{mg} / \mathrm{L}$ | AFHA $22^{\text {mi }}$ Ed. $2012,2540-$ D, 2-66 | 100 | 28-0 |
| 7 | Diasolvad Phosphate $\text { (as } \mathrm{p})$ | \#1/9/L | APHA $22^{\text {24 }}$ Ed. $2012,4500-\mathrm{P}-\mathrm{C}$, 4-153 | 5.0 | M. D. |
| 8 | Fuoride (sa F) | mg/2 | APHA $22^{\text {m }}$ Ed. 2012,4500-E-B6D, 4-84 \& 87 | 2.0 | 0.2 |
| 9 | Lead (as Fb) | mg/4 |  | 0.1 | \%. D . |
| 10 | gine ( as 8 za ) | $\mathrm{tgg} / 2$ | APPA $22^{\text {id }}$ Ed, 2012, 3111-B, $3-18$ | 5.0 | 0,12 |
| 11 | Copper (aa Cu) | ng/a | APHA $22^{\text {th }}$ Ed. $2012,3111-\mathrm{B}, 3-18$ | 3.0 | N. D. |
| 12 | Cadniun (as Cd) | mg/2 |  | 2.0 | N.D. |
| 13 | Mercury (as Hg) | \#g/s | Aphth $22^{\text {ar }}$ 8d, 2012, 3112-B, 3-23 | 0.01 | N. D. |
| 14 | Arsonic ( as Aas) | $\mathrm{ng} / \mathrm{L}$ | APRA $22^{\text {tid }}$ Ed. $2012,3114-\mathrm{C}, 3-3 \mathrm{~B}$ | 0.2 | N.D. |
| 15 | Solenium ( as So) | mg/L | APHA $22^{\text {ra }}$ Ed. $2012,3114-\mathrm{C}, 3-38$ | 0.05 | N. D. |
| 16 | Total Chroaium (as Cr) | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {nd }}$ Ed. 2012, 3500-Cr-B, 3-69 | 2.0 | N. D. |
| 17 | Chenical Oxygen Demand (COD) | Hg/L | ARIKA $22^{\text {ra }}$ Ed. $2012,5520-3,5-17$ | 250 | 52.0 |
| 18 | Biochemical Oxygon Domand (BOD) | mg/t | IS 3025(Part 44) :1993, 新 2003 | 30 | 4.2 |
| 19 | 0116 Grease | ng/L | If 3025 (Patt 39) 51991 , RA 2003, | 10.0 | \%.D. |
| 20 | Phenolic <br> Compounds (as $\mathrm{C}_{4} \mathrm{H}_{3} \mathrm{OH}$ ) | Bg/L | Is 3025 (Part 43) 11992 , RA 2003 | 1.0 | N.D. |

Note: me/lit.t milligram per Niter, N.D.- Not Detected.

## REMARKS: RESULTS ARE AS ABOVE

Terms \& conditions






| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SR. NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIMONMENT (PROTECTION) RULES, 1383 [SCHEDULE-VI] PART.A INLAND GURFACE WATER | SUMP WATER PIT-D |
| 1 | Colour | Hazen | AEPA $22^{13} \mathrm{EC}$. $2012,2120-1,2-6$ | See 6 of Annexure-1 | $<1$ |
| 2 | Odour | - | APHA $22^{\text {¹ }} \mathrm{Bd}, 2012,2120-8,2-6$ | See 6 of Annexure-I | Agreaable |
| 3 | Terperature | ' 0 | APHA $22^{\text {8 }} \mathrm{EC}, 2012,2130-\mathrm{B}, 2-13$ | Sball not exceed $5^{\circ} \mathrm{C}$ above the recelving water temperature | 25.6 |
| 4 | pH | - | APHA 22-1 Ed. 2012,4501- ${ }^{3}-\mathrm{B}, 4-92$ | 5.5 to 9.0 | 7.22 |
| 5 | Total Residual Chlorine | $\mathrm{mg} / \mathrm{L}$ | APHA 22 ${ }^{\text {wit }}$ EA.2012,4500-C1-G, 4-69 | 1.0 | N. D. |
| 6 | Total Buspandod Solida | $\mathrm{mg} / \mathrm{L}$ | תPHA $22^{\text {m1 }}$ Ed.2012,2540- D, 2-66 | 100 | 26.0 |
| 7 | Dlasolved Phosphate (as P) | mg/h | APHE $22^{\text {aid }}$ Ed. 2012, 4500-P-C, 4-153 | 5.0 | N.D. |
| 6 | Fluoride (as F) | $\mathrm{mg} / \mathrm{L}$ | $\begin{aligned} & \text { APHA } 22^{\text {i }} \mathrm{Bd}, 2012,4500-\mathrm{F}-\mathrm{B} 5 \mathrm{D}, 4-84 \mathrm{~b} \\ & \mathrm{B7} \end{aligned}$ | 2.0 | 0.1 |
| 9 | Leasd (as pb) | mg/L | APRA $22^{\text {ki }}$ Ed, 2012, 3111-3, 3-18 | 0.1 | W.D. |
| 10 | Zind (an za ) | $\mathrm{ng} / \mathrm{L}$ | APHA $32^{\text {+1 }}$ Bd, 2012,3111- ${ }^{\text {a }}$, 3-18 | 5.0 | 0.08 |
| 11 | Coppeer (as Cu) | my/L | APHA $22^{\text {*- }} \mathrm{Ed} .2012,3111-3,3-18$ | 3.0 | M.D. |
| 12 | Cadrium (as cd) | my/L | APHA $22^{\text {a }}$ Ed, 2012,3500-Cd, 3-105 | 2.0 | N, D. |
| 13 | Mercury ( 8 smg ) | ng/l | APHA $22^{\text {a/ }}$ Ed. $2012,3112-8,3-21$ | 0.01 | N.D. |
| 14 | Arsenic ( $\mathrm{as}^{\text {a }} \mathrm{As}$ ) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {did }} \mathrm{Ed} .2012,3114-\mathrm{C}, ~ 3-38$ | 0.2 | N.D. |
| 15 | Solonium (as Se) | $\mathrm{mg} / \mathrm{L}$ | APHK $22^{\text {² }} \mathrm{Ed}, 2012,3114-\mathrm{C}, ~ 3-38$ | 0.05 | N.D. |
| 16 | Total Chroniun (al Cr) | mg/L | APGA $22^{\text {d }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | N.D. |
| 17 | Chenical axygen Damand (COD) | $\mathrm{mg} / \mathrm{L}$ | APGA 22 ${ }^{\text {nit }}$ Ed. 2012, 5520-B, 5-17 | 250 | 44.0 |
| 18 | Biochowional Oxygan <br> Dessand (BCO) | mig/L | Is 3025 (Part 441:1993, AA 2003 | 30 | 8.0 |
| 19 | Oil ${ }^{\text {a }}$ Grose | ng/4 | 15 3025 peart 39) 11991 , FA 2003, | 10.0 | W. D. |
| 20 | Phenolic <br> Compounds (as $\mathrm{C}_{6} \mathrm{H}_{0} \mathrm{OH}$ ) | ng/L | Is 3025 (Part 43) : 1992, ra 2003 | 1.0 | N.D. |

Note: mg/lit.: miligram per iiter, N.D. - Not Detected.
REMARKS: RESULTS ARE AS ABOVE

## Terms \& conditions





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

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

| to flume A Adolvess of The cosatomer <br> To, <br> HINDALCO INDUSTRIES LIMITED, <br> GARE PALMA - IV/5, <br> MILUPARA U/G COAL MINE, <br> VILLAGE - MILUPARA, BLOCK-TAMNAR <br> DISTT. - RAIGARH (C.G.) 496107 |  |  | Heport No | UES/TR/ | 1-22/08 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Fab Ref No | UES/21-2 | /w/014 |  |
|  |  |  | Date or ssxpling | 28/03/20 |  |  |
|  |  |  | Date of Recoipt | 29/03/20 |  |  |
|  |  |  | DaEe of Hepart | 02/04/20 |  |  |
|  |  |  | Dave of Analyaia | START: 29, | 03/2022 | END: 02/04/2022 |
| SAMPLE DETAILS |  |  |  |  |  |  |
| Sample Type | WASTE WATER |  | Custaner Ref. No. $I$ Date |  | $\begin{aligned} & \mathrm{N} / \mathrm{PO} / \mathrm{SRV} / 2122 / 0049 \text {; } \\ & \mathrm{DRD},: 24-J U L Y-2021 \end{aligned}$ |  |
| Customer Sauple ID | STP OUTLET, PORTA CABTN |  | Sample Condition At Heceipt |  | Oz |  |
| Packing of Sample |  | Sealed | Suxple Collected ${ }^{\text {a }}$ Y |  | Laboratory chamiat |  |
| Sampling Procadure | $\begin{aligned} & \text { IS: } 3025(\text { PARCT-I) 11987 JA } 2009 / \\ & \text { APHA } 22^{\circ} \text { ED. } 2021,1060-B, 1-39 \end{aligned}$ |  | Quantity Received |  | Apprax. SLitz |  |


| TEST REPORT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sik. NO. | PARAMETER | UNIT | METHOD OF TEST | THE ENVIRONNENT (PROTECTION) RULES, 103 [SCHEDULE.VI] FART-A INLAND SURETACE WATEA | SUMP WATER PIT-D |
| 1 | Colour | Hazen | APHA 22 Ed, $2012,2120-\mathrm{a}, 2-6$ | See 6 of Annexura-I | $<1$ |
| 2 | Odour | - | APHA $22^{\text {-1 } E d . ~} 2012,2120-8,2-6$ | Soee 6 of Nannxosre-1 | Agreosblo |
| 3 4 | Feaperature | ${ }^{4} \mathrm{C}$ | APBA $22^{\text {¹3 }}$ Ed. $2012,2130-8,2-13$ | Shall net exceed $5^{\circ} \mathrm{C}$ above the receiving water temperature | 25.8 |
| 4 | PH ${ }^{\text {Total }}$ | $=$ | APKA $22^{\text {to }} \mathrm{Ed}, 2012,4500-1^{+}-1,4-92$ | 5.5 to 9.0 | 7,44 |
| 5 | Total Residual chlorine | $\mathrm{ng} / \mathrm{L}$ | APHA $22^{\text {E1 }}$ Ed. $2012,4500-\mathrm{CL}-0,4-69$ | 1.0 | N.D. |
| 6 | Total Suspondsad Solida | m3/L | APHA $22^{\text {net }}$ Ed.2012,25401-D, 2-66 | 1.00 | 28.0 |
| 7 | Dissolved Phoaphate $(a s p)$ | mg/4 | APRA 22 ${ }^{\text {-i }}$ Ed. $2012,4500-\mathrm{P}-\mathrm{C}, ~ 4-153$ | 5.0 | N. ${ }^{\text {d }}$. |
| 8 | Fluorida (as \#) | ng/L | AEHR $22^{\text {Ea }}$ 8d,2012,4500-E-B6D,4-84 6日 8 | 2.0 | 0.2 |
| 9. | Laad (as Pb) | 3g/L | APHA 22 ${ }^{\text {Ef }} \mathrm{Ed}, 2012,3111-7,3-18$ | 0,1 | N, D. |
| 10. |  | $\mathrm{mg} / \mathrm{L}$ | APHA 22 न $\mathrm{Et}, 2012,3311-8,3-18$ | 5.0 | 0.11 |
| 12 | Copper (as Cu) | $\frac{\mathrm{mg} / \mathrm{L}}{\mathrm{mg} / \mathrm{L}}$ | APHA $22^{\text {a }}$ Ed. $2012,3111-\mathrm{B}, 3-18$ APGA $22^{\text {mid }}$ Ed, $2012,3500-\mathrm{Cd}, 3-105$ | 3.0 | N. D. |
| 13 | Morcury (sa Hg) | $\mathrm{mmg} / \mathrm{L}^{\mathrm{m}}$ |  | 2.0 | N. D, |
| 14 | Arsenio (as As) | $\mathrm{mg} / \mathrm{L}$ | APHA $22^{\text {an }} \frac{80}{\text { ad. } 2012,3114-C, ~ 3-36 ~}$ | $\frac{0.01}{0.2}$ | W.D. |
| 15. | Solsnium (as 8a) | 樶/2 | APHA $22^{\text {T/ }}$ EC. $2012,3114-\mathrm{C}, 3-38$ | 0.05 | N, D. |
| 16 | Total Chroniun (as Cr) | mg/L | APHR $22^{\text {LI }}$ Ed. $2012,3500-\mathrm{Cr}-\mathrm{B}, 3-69$ | 2.0 | M, D. |
| 17 | Chemical Oxygen Decand (000) | nu/L | APHA $22^{24}$ Ed.2012, $5520-8,5-17$ | 250 | 56.0 |
| 18 | Míochemical Oxygen Denand (BCD) <br> Oil 6 Groase | $\mathrm{mg} / \mathrm{L}$ | IS 3025 (Part 44):1993, Fit 2003 | 30 | 9.4 |
| 19 | Oil 6 Groase | mg/2 | 78 3025 (Part 39):1991, FA 2003, | 10.0 | N.D. |
| 20 | Phenolic <br> Compounds (as $\mathrm{C}_{6} \mathrm{H}_{5} \mathrm{OH}$ ) | mg/L | Is 3025 (Part 43) : 1998, Ras 2003 | 1, 0 | N.D. |

REMARKS: RESULTS ARE AS ABOVE

> Terms \& conditions




AN ISO : 9001:2015 / ISO: 14001:20 if the test report 2018 CERTIFIED LABORATORY

## Annexure - 6AAA

## Sewage Treatment Plant



## Annexure - 7



## छत्तीसगढ़ पर्यावरण संरक्षण मंडल

पर्यावास भवन, नार्थ ब्लॉक, सेक्टर-19
नवा रायपुर अटल नगर, रायपुर (छ.ग.) 492002
ई-मेल- hocecb@gmail.com
क्रमांक 3398 मुख्या./वैज्ञा./छ.ग.प.सं.मं./2021 नवा रायपुर अटल नगर, दिनांक / 7 / $/ 8 / 2021$ प्रति,

श्री अनुराग श्रीवास्तव,
प्रार्टनर,
मेसर्स अल्टीमेट इन्वायरोलाइटिकल 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 :- $\quad$ 1. आपका आवेदन कमांक UES/2021-22/0042, दिनांक $31 / 07 / 2021$.
2. मंडल मुख्यालय का पत्र क्रमांक 5357, दिनांक $24 / 09 / 2019$.
3. भारत शासन, पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय का पत्र क्रमांक F No. Q-15018/07/2017-CPW, दिनांक 21/02/2020.
----:00:----

कृपया उपरोक्त विषयांतर्गत संदर्भित पत्रों का अवलोकन करें। लेख है कि मंडल मुख्यालय द्वारा पत्र क्रमांक 5357 दिनांक 24/09/2019 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 $31 / 07 / 2021$ तक थी। संदर्भ-3 पर उल्लेखित पत्र के अनुक्रम में छत्तीसगढ़ पर्यावरण संरक्षण मंडल द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिन्गियम, 1974 की धारा 17 (2) एवं वायु (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1981 की धारा 17 (2) के अंतर्गत् प्रदत्त मान्यता की वैधता दिनांक $25 / 06 / 2022$ तक बढ़ाई जाती है। कृपया आपर्की प्रयोगशाला में प्रचालकों की अद्यतन विश्लेषण दर सूची से मंडल को अवगत कराते हुए इस पत्र की पावीी भेजे।

> hied chace
C.G. Erivionment Consarvetion Ecoarc
ayawas Shavien, fioth Dick, Soc-19
Abel Nagar, Disit-Raicur (C.C.) 4S2:202

नवो रायपुर अटल नल नगर्यावरण संरक्षण मंडल,

पृ.क्रमांक /मुख्या./वैज्ञा./छ.ग.प.संमं. / 2021 नवा रायपुर अटल नगर, दिनांक / /2021 प्रतिलिपि:- क्षेत्रीय अधिकारी, क्षेत्रीय कार्यालय, छत्तीसगढ़ पर्यावरण संरक्षण मंडल, रायपुर / भिलाई-दुर्ग / बिलासपुर / कोरबा / रायगढ़ / अंबिकापुर / जगदलपुर की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

सदस्य सचिव
छत्तीसगढ़ पर्यावरण संरक्षण मंडल, नवा रायपुर अटल नगर, जिला-रायपुर (छ.ग)

# F. No. Q-15018/07/2017-CPW <br> Government of India <br> Ministry of Environment, Forest and Climate Change (CP Division) 

Agni-233, Indira Paryavaran Bhavan,
Jor Bagh Road,
New Delhi - 110003.
Dated, the $21^{\text {st }}$ February, 2020

M/s Ultimate Envirolytical Solution
HDD 272, Phase-3
Near J.P Chawk Kabir Nagar, Ring Road-2
Raipur-492099, Chhattisgarh
Subject: -Recognition of M/s Ultimate Envirolytical Solutions, HDD 272, Phase-3, Near J.P Chawk Kabir Nagar, Ring Road-2, Raipur 492099, Chhattisgarh as Environmental Laboratory under the Environment (Protection) Act. 1986.

## Sir,

I am directed to refer to your application dated:01.09.2017 for recognition of your laboratory under Environment (Protection) Act, 1986. Based on the recommendations of the Expert Committee for Recognition of Environmental Laboratories in its $61^{\text {st }}$ meeting held on 03.12 .2019 and your acceptance of the revised terms and conditions at Annexure-III \& IV of the Guidelines for recognition of Environmental Laboratories, this Ministry approves of recognition of M/s Ultimate Envirolytical Solutions, HDD 272, Phase-3, Near J.P Chawk Kabir Nagar, Ring Road-2, Raipur 492099, Chhattisgarh, as shall be notified in the Gazette of India. Considering the current validity of mandatory accreditations/certifications of the laboratory, this shall be valid up to $\mathbf{2 5} \mathbf{0 6} \mathbf{2 0 2 2}$.
2. As sought in your aforementioned application M/s Ultimate Envirolytical Solutions, 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 of industrial effluent stream, Salinity, Settleable solids and Sludge volume index (SVI).
(ii) Inorganic (General \& Non-metallic): Acidity, Alkalinity, Ammonical nitrogen, Chloride, Chlorine residual, Dissolved oxygen, Fluoride, Total hardness, Total kjehldal nitrogen (TKN), Nitrite nitrogen, Nitrate nitrogen, Phosphate, Sulphate, Chlorine demand, Iodine and Silica.
(iii) Inorganic (Trace metals): Boron, Cadmium, Calcium, Chromium Total, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium, Sodium absorption ratio, Zinc, Arsenic, Barium, Manganese and Tin.
(iv) Organics (General) and Trace Organics: Bio-chemical oxygen demand (BOD), Chemical oxygen demand (COD), Oil \& grease, Phenol, Pesticide ((Organo-chlorine, Organo nitrogen-phosphorous), Poly-chlorinated biphenyl (PCB's) each, Polynuclear aromatic hydrocarbon (PAH) each and Organic Carbon (in Solid).
(v) Microbiological Tests: Total Coliform, Faecal Coliform, Faecal streptococci, E. coli,Total Plate count.
(vi) Toxicological Tests: Bioassay method for evaluation of toxicity using fish, Bio-accumulation, bio magnification and bio-transformation studies.
(vii) Biological Tests: Macrophytic identification, Planktonic identification count and Chlorophyll.
(viii) Hazardous Waste: Corrosivity, Ignibility (Flash Point) and Measurement of heavy metals/pesticides in the waste /leachate.
(ix) 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, Bicarbonate, Calcium, Calcium carbonate, Chloride, Bicarbonate, Calcium, Calcium carbonate, Chloride, Heavy metal, Magnesium, Nitrate, Potash (available), Sulphate and water holding capacity.
(x) Ambient Air/ Fugitive Emissions: Nitrogen dioxide $\left(\mathrm{NO}_{2}\right)$, Sulphur dioxide ( $\mathrm{SO}_{2}$ ), Total Suspended particulate matter, Respirable suspended particulate matter $\left(\mathrm{PM}_{10}\right)$, Ammonia, Chlorine, Fluoride, Lead.
(xi) Stack Gases/ Source Emission: Particulate matter, Sulphur dioxide, Velocity \& flow, Carbon dioxide, Carbon monoxide, Temperature, Oxygen, Oxides of nitrogen, Acid mist, Ammonia, Fluoride (Particulate), Fluoride(Gaseous) and Hydro-chloric acid.
(xii) Noise Level: Noise level measurement (20 to 140 dba ), Ambient Noise \& Source-specific Noise.
(xiii) Meteorological: Ambient temperature, Wind direction, Wind speed, Relative Humidity and Rainfall.
3. Further, the following analysts have been approved for recognition as Government Analysts.
(i) Mr. Anurag K. Shrivastava
(ii) Mr. Little Kumar Prajapati
(iii) Mr. Pramod Kumar Choubey
4. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) exercise conducted by the Central Pollution Control Board (CPCB) at least once a year to ascertain the capability of the laboratory and analyses carried out and shall submit quarterly progress reports to this Ministry.
5. Periodic surveillance of the recognized environmental laboratory will be undertaken by this Ministry/ CPCB to assess its proper functioning, systematic operation and reliability of data generated at the laboratory.
6. It is also mandatory for the laboratory to have requisite accreditations of the NABL/ ISO 9001 and OHSAS and its renewal as per accreditation rules. This recognition is subject to such accreditations and renewal, as applicable. The laboratory may approach this Ministry for further extension of validity of recognition after renewal of the mandatory accreditations/ certification concerned. Such application for extension of validity may be submitted to this Ministry in due advance, preferably before 6 months.
7. The laboratory should compulsorily follow the accepted Terms \& Conditions. In case of serious noncompliance 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.


Scientist 'D'
Tel. No. 011-24695327 Email: susan.george@nic.in
Copy to:

1. Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, New Delhi - 110032.
2. Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhawan, North Block, Sector-19, Atal Nagar, Dist-Raipur, Chattisgarh.
3. Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur-440001.
4. Director, IT Division, MoEF\&CC, New Delhi-110003: for uploading on MoEF\&CC website


National Accreditation Board for Testing and Calibration Laboratories ABL

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:
Issue Date:

TC-6065
27/10/2021

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

herlitesn
N. Venkateswaran Chief Executive Officer

$$
\text { Annexure - } 8
$$

## Environmental Expenditure Details for FY 2021-22

(October 2021 to March 2022)
M/s Hindalco Industries Limited, Gare Palma Mines IV/5

| Particulars | Amount (Lakh) |
| :---: | :---: |
| Water Quality Management | 118.72 |
| Air Quality Management | 6.26 |
| Plantation, Green Belt Development | 0.25 |
| Others | 3.56 |
| Total | $\mathbf{1 2 8 . 7 9}$ |

