



Letter No.: HIL/EC/GP- IV/4/2021 -22/ 89

20th May, 2021

The Regional Director (s)
Ministry of Environment, Forest & Climate Change
Regional Office, (West Central Zone)
Ground Floor, East Wing
New Secretariat Building
Ground Floor, Civil Lines, Opposite VCA Ground
Nagpur-440001.

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

Respected Sir,

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

We are submitting herewith the Half Yearly EC Compliance Report along with Environmental Monitoring Report (Hard & Soft) for the period from **October 2020 to March 2021** for your kind perusal please.

The receipt of the report may kindly be acknowledged.

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

Dipesh Bhatia

(Vice President – GP Coal Mines)

Encl.: As Above.

- CC.: 1. Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhawan, Raipur Chhattisgarh.
2. Regional Officer, Chhattisgarh Environment Conservation Board, TV tower Road, Raigarh (CG).
3. 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 Director MoEF & CC, New Delhi.
5. Member Secretary, CPCB, New Delhi.
6. The Integrated Regional Office, Ministry of Environment Forests & Climate Change (MoEF & CC) Aranya Bhawan, North Block, Sector – 19, Naya Raipur, Atal Nagar, Chhattisgarh, 492002

COMPLIANCE REPORT

ON STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE (EC) ACCORDED TO GARE PALMA IV/4 COAL MINE VIDE LETTER No.– J-11015/183/2010-IA-II.(M) DATED 16.04.2015 (TRANSFERRED IN FAVOUR OF HIL) & AMENDMENT IN EC FOR PRODUCTION CAPACITY I.E. OPENCAST: 0.56 MTPA & UNDER GROUND: 0.44 MTPA DATED 24.05.2019.

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

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

Sr. No.	Stipulated Conditions	Compliance Statement
A. SPECIFIC CONDITIONS		
i	The Maximum production from the mines shall not exceed beyond that for which environmental clearance has been granted for i.e. 0.48 MTPA to 1.0 MTPA of which 0.4 MTPA OC and 0.6 MTPA UG in ML area of 701.512 ha)	<p>Being Compiled.</p> <p>Amendment has been done in this stipulated condition by MoEF & CC dated 24.05.2019 (Letter No. J-11015/183/2010-IA-II.(M) for the production capacity i.e. Open cast - 0.56 MTPA and Under Ground – 0.44 MTPA, Total capacity – 1 MTPA instead of 0.4 MTPA OC and 0.6 MTPA UG.</p> <p>Amendment Copy of EC is attached as <u>Annexure No. 1</u></p> <p>The coal production from the mine from October 2020 to March 2021 is within the limit of 1 MTPA as prescribed in the EC.</p>

		<p>Production from (October 2020 to March 2021)</p> <p>Open Cast: 0.167 MT (Million Tons) Under Ground: 0.00 MT (Million Tons)</p> <p>Total Coal Production from OC & UG (2020 -2021): 0.261 MT (Million Tons)</p> <p>Open Cast: 0.261 MT (Million Tons) Under Ground: 0.00 MT (Million Tons)</p> <p>A copy of Statistical return for the month of March 2021 submitted to The Coal Controller Ministry of Coal, GOI Kolkata dated 02/04/2021 is attached as <u>Annexure No. 2</u></p>
ii	The calendar plan should be uploaded on MOEF website.	<p>As per Approved mining plan (2018) the coal production from HIL GP IV/4 is 0.56 MTPA from OC & 0.44 MTPA from the UG.</p> <p>The production will be within the limit of above schedule. Proposed calendar year quantities based on the current scenario.</p> <p>Mining calendar plan for FY 21-22:</p> <p>Open Cast: 0.56 MT (Million Tons) Under Ground: No proposal as of now</p> <p>In future if there will be any change in calendar plan the same will be intimated to MoEF & CC.</p>
iii	The coal transportation by road is up to 270 km at Raipur by road presently with tarpaulin covered trucks and partially by rail up to Bhupdevpur. After new siding comes up which is approximately 3 km away for changing over to rail transport. The coal transportation by road should be by mechanically covered trucks. The mode of transportation shall be shifted to by rail by 2017.	<p>This particular condition is not applicable to us, as per Vesting order by Ministry of Coal, GOI, Coal is being used in the captive power plant of HIL located at Hirakud and Lapanga District Sambalpur, Odisha and mode of transportation will be by road. We are transporting the coal by road through tarpaulin covered trucks.</p>
iv	Karanj should be deleted from the list of native species for plantation program.	<p>Complied. Karanj will not be planted in mining area.</p>

v	Rs. 5/T of coal/annum till the end of life of project with the escalation factor of coal production.	Being Complied. As per condition Rs. 5 /T is being utilized under CSR activities & Sustainability. Expenditure details from October 2020 to March 2021 is enclosed as <u>Annexure No. – 3</u>
vi	No external OB dump will be left after mine operation and shall be backfilled in the mine void.	Being Complied. The OB dumping is maintained as per the provisions of approved Mining Plan only.
vii	The proponent shall take necessary action on the issues raised during public hearing.	Being Complied. A separate budget for the CSR is being maintained.
viii	The coal will be used in existing steel plant of proponent.	This particular condition is not applicable to us, as per Vesting order by Ministry of Coal, GOI, Coal is being used in the captive power plant of HIL located at Hirakud and Lapanga, District Sambalpur, Odisha.
ix	The Mine Planning is done in such manner that underground mining is proposed below forest land and opencast mining under Government waste land /agriculture land. Hence tree cutting from forest land is not proposed during expansion proposal. However if required plantation will be done 10 times of tree felling in the project affected area.	Being Complied. Mining is being done in such manner that underground mining is being done below forest land and opencast mining is being done under Government waste land /agriculture land. Planation in the mine lease area is being carried out @2500 plant/ha. Total 91300 nos. local plants species have been planted till date in mine lease area including OB dump area. Plantation details are enclosed as <u>Annexure- 4</u>
x	Kelo river and Bendra Nallah shall not be disturbed.	Being Complied.
xi	External OB dump of 0.67 million cubic meters will be created as reported in closure plan of first year. This external dump will be re handled and backfilled in subsequent years. There will be no external dump left after the mine operation.	Being Complied. The OB dumping is maintained as per the provisions of approved Mining Plan only.
xii	Biological reclamation of all external dumps will be done progressively after leveling these dumps. This will provide stability and prevent soil	Being Complied. The Top soil conservation and use are successive and periodic activities during mining operation.

	<p>erosion from dumps. The total top soil generated (1.14 m.cum B) during the development of mine will be stacked separately in a soil stack pile in between the pit and the surface dump over an area of 7.12 Ha.</p>	<p>In the FY 20 – 21, approx. 10,08,046 cubic meter of the top soil has been generated, approx. 7,05,632 cubic meter has been spread/used on OB Dumps (Banjikhoh & Bankheta) for reclamation, slope stabilization, green belt development & approx. 3,02,414 cubic meter stored for further uses in the mine area.</p> <p>Also 50,000 Nos of Vetiver grass plantation has been done last year on OB Dump area near Patch “C” to provide the stability and prevent top soil erosion / Reduce the surface Run- off from OB dumps.</p> <p>Photographs of Vetiver Grass Plantation (OB Dump near Patch “C” GP IV/4 Coal Mines) attached as <u>Annexure – 4AA</u></p>
xiii	<p>The report Titled “ Flora and Fauna and conservation plan for endangered species of Gare-IV/8 coal block approved by The PCCF (Wildlife) of Chhatisgarh, dated 22.11.2011 states that there is no national park, tiger reserve, eco-sensitive zones within 15 km radius. It was informed that this area is neither affected by elephant corridor exists. However, there are occasional presence of elephants and other wild lives.</p>	<p>Noted.</p> <p>HIL will comply with mitigative measure as suggested by competent authority if any in this regard in future also.</p>
xiv	<p>A Wildlife Conservation Plan for the conservation and protection of wildlife in the study area has been approved at a cost of Rs. 1.0 crore and shall be implemented by the proponent in consultation with Department of Forest and Wildlife, Govt. of Chhattisgarh. The WLCP shall be comprise of components of habitat improvement and conservation of biodiversity, provision of water holes, and augmenting water bodies, nursery and plantation of species of natural food and fodder found in the natural</p>	<p>Noted.</p> <p>Rs. 1.0 crore has been deposited to state forest department by the prior allottee against Wildlife conservation plan. Company will comply with mitigative measure as suggested by competent authority if any in this regard in future also.</p>

	<p>habitat salt licks, measures for the protection against forest fires and poaching, awareness campaign of villagers in the study area and compensation in case of man animal conflicts. The status of implementation of WL Conservation Plan including budgetary provision of various activities and status of expenditure shall be regularly, uploaded on the website of the forest and wildlife Department of Government of Chhattisgarh and of the project proponent and the status shall be regularly reported to this Ministry and the MoEF Regional Office, as part of the compliance report.</p>	
xv	<p>As per the approved plan of the Flora and Fauna and Conservation plan for endangered species of Gare IV/4 coal block'' and recommended the PCCF (Wildlife), Rs. One crore be deposited, at one time. With the department of forest and wildlife, Govt. of Chhattisgarh for the implementation of the plan.</p>	<p>Rs. 1.0 crore has been deposited to state forest department by the prior allottee against Wildlife conservation plan. Company will comply with mitigative measure as suggested by competent authority if any in this regard in future also.</p>
xvi	<p>The project authority shall also participate in a Regional action plan of the State Government for the conservation of flora and fauna found within the study area, in addition to the above funds shall also contribute financially for implementation of RWLCP. Habitat development such as grassland/conservation measures along the migratory route/habitats of elephants found/ visiting the area shall form a part of the regional action plan.</p>	<p>The company will participate in regional action plan of the State Government for the conservation of flora and fauna of the area, as per directives of the authority. Company will comply with mitigative measure as suggested by competent authority if any in this regard in future also.</p>
xvii	<p>It will be used for growing plants along the fringes of the side roads and reclamation of external dump</p>	<p>Being Complied. Topsoil is being used for green belt development along the road and the reclamation of OB Dump</p>

	and backfilled area. The topsoil stockpile will be low height not exceeding 6 m and will be made use for concurrent filling without keeping the top soil for a long period.	area. The topsoil stockpile is low in height not exceeding 6 m and this is being used and will be used for concurrent filling without keeping the top soil for a long period.
xviii	The OB dump for the South Quarry dump will be spread over 13.75 Ha. area on the south and eastern part of south quarry while the mining operation will start from north and advance towards south and west. Part of OB excavated from the mine from 1st year and part of 2nd year (3.91 Mm ³) will be accommodation in it including top soil for afforestation. The height of dump achieved during 1st and 2nd year will be 6 m to 20 m respectively.	Being Complied. The over burden is maintained as per approved mining plan. As per the reclamation plan, the external dump will be biologically reclaimed with local species and grass to minimize fugitive emission as well as to control surface runoff. Backfilling has already started.
xix	The O.B. left in external dump will be re handled and backfilled in the void after the extraction of coal is completed, this will make the operation of UG mining safe as no water will be logged in the quarry. The OB will be temporarily stored which primarily consist of sand stone and shale which does not contain any heavy metal. As per the reclamation plan, the entire OB will be re handled and biologically reclaimed with local grass to minimize fugitive emission as well to control surface runoff.	Being Complied. The over burden management is being done as per approved mining plan. As per the reclamation plan, the dumps will be biologically reclaimed with local species and grass to minimize fugitive emission as well as to control surface runoff. Backfilling has already started. Since the takeover by HIL no external dumping is being done OB generated annually is being backfilled in de-coaled area. Aprox. 50,000 Nos of Vetiver grass plantation has been done last year on OB Dump area near Patch "C" to provide the stability and prevent top soil erosion / Reduce the surface Run- off from OB dumps.
xx	Topsoil generated in the balance life of mine should be stacked properly with proper slope at earmarked site (s) and should not be kept active and shall be used for reclamation and development of green belt.	Being Complied. Presently topsoil is being stacked properly and topsoil to be generated in the balance life of mine will be stacked properly with proper slope at earmarked site (s) and will not be kept active. The stocked topsoil is being /will be used for reclamation and development of green belt.
xxi	OB generated in the balance life of mine should be stacked at earmarked one external OB	Being Complied.

	<p>dumpsite within ML area. The ultimate slope of dump shall not exceed 28° Monitoring and management of reclaimed dumpsite should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional offices located at Bhubaneswar on yearly basis. The area of OB dump should be reduced. The grass turfing should be done on OB dumps.</p>	<p>Since the takeover by HIL no external dumping is being done OB generated annually is being backfilled in de-coaled area. Slope stability study has been carried out by ISM Dhanbad. The ultimate slope of the dump is maintained and dumps are stabilized. Monitoring and management of reclaimed dump site is continuing and will continue until the vegetation becomes self-sustaining. Now Nagpur Regional Office is looking after EC monitoring & compliances. Full co-operation has been extended to Regional Officer by furnishing requisite data information / monitoring reports</p>
xxii	<p>Adequate numbers of sprinklers should be provided on both the side of road to minimize pollution.</p>	<p>Being Complied. Regular Water sprinkling on haul road is practiced through truck mounted water sprinklers (04 Nos) to check the fugitive dust emission. Also installed the fixed type of water sprinklers (29 nos) to control the fugitive dust emission in the mine area. Photographs of truck mounted water sprinklers & fixed type of water sprinklers at GP IV/4 Coal Mines attached as Annexure – 4A</p>
xxiii	<p>Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted and maintained properly. Garland drains (size, gradient, length,) and sump capacity should be designed 50 % safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.</p>	<p>Being Complied. Catch drains are constructed to collect and drain water to sumps and ponds. Catch drains are provided with check dams to arrest slit and maintained properly. The store water is used for spraying / sprinkling on haul roads and also for greenbelt development. Garland drains are constructed to arrest discharge and runoff with slit and sedimentation surging into areas adjoining the periphery of OB dump. Ponds / Sumps with capacity 50m X 30m X 3m (03Nos) are provided for proper settling of slit material.</p>
xxiv	<p>Dimension of retaining wall at the toe of the dumps and OB benches</p>	<p>Being Complied.</p>

	within the mine to check run –off and siltation should be based on rain fall data.	To check run – off and siltation from OB / benches, retaining wall is being constructed at the toe of permanent dump slope.
xxv	Water sprinkling system (mist spray type) shall be provided to check fugitive emission from conveyor system, haulage roads and transfer points.	Being Complied. Water sprinkling arrangement has been maintained at all haul roads, conveyor system, loading and unloading points to minimize the fugitive dust emission.
xxvi	Fixed sprinkler shall be installed at pit top truck loading hoppers in all the three mines, siding for dust control during coal loading. Adequate numbers of sprinklers should be provided on both the sides of road to minimize dust pollution.	Being Complied. As per requirement, fixed type water sprinklers as well as truck mounted water sprinklers has been provided in the mines and other places.
xxvii	Drills should be wet operated only.	Being Complied. In coal mining wet drilling is under practice.
xxviii	An action plan for mine closure with details of area, depth, voids and details of abandoned mine should be submitted to the Ministry.	Complied.
xxix	Controlled blasting should be practiced with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly of rocks and boulders should be implemented.	Being Complied. Controlled blasting is practiced with use of delay detonators. Ground vibration generated due to the blasting is measured BY seismographs regularly. The permissible limit for the ground vibration with respect to the structures is strictly followed. Measures are taken to minimized ground vibrations. Blasting is done during day time only.
xxx	Transportation shall be by covered trucks of higher capacity (25 –tonne) and loading shall be by siding. Mechanically covered trucks should be provided for transportation of coal.	Being Complied. Transportation is being done with tarpaulin covered trucks.
xxxi	Area brought under afforestation from the three mines shall be by planting native species in consultation with local DFO/Agriculture Department. The	Being Complied. Planation in the mine area is being carried out @2500 plant/ha. Total 91300 nos. local plants species have been planted till date including OB dump area. Plant Species i.e. Gulmohar, Ashoka

	density of the trees should be around 2500 plants per ha.	Aam,Amla,Gauva,Shisam,Gamhar,Sal, Eucalyptus, Neem, Jamun, Accassia etc. in consultation with DFO.
xxxii	Extensive plantation should be done near agriculture area to avoid coal dust pollution which may affect the productivity of crop.	Being Complied. Extensive plantation near agriculture land along road side is being done and will be done in future to avoid coal dust pollution which may affect the productivity of crop.
xxxiii	Mine discharge water shall be treated to meet the prescribed standards before discharge into the natural water course/agriculture. The quality of water discharge shall be monitored at the outer point and proper records maintained thereof and uploaded regularly on the company website.	Being Complied. 03 nos of Settling ponds with chemical dosing arrangement and sump with adequate capacity (for sedimentation) has been provided for the mine seepage water treatment before discharge for the agriculture purpose. The treated water quality analysis report from October 2020 to March 2021 is enclosed as <u>Annexure No.- 5</u> Photographs of Treatment Facility at GP IV/4 Coal Mines is attached as <u>Annexure – 5A</u>
xxxiv	No ground water shall be used for mining activities; additional water required if any shall be met from mine water or by recycling /reuse of water from existing activities and from rainwater harvesting measures. The project authority shall meet water requirement of nearby village (s) in case the village wells go dry to dewatering of mine.	Being Complied. For the mining activity only mine seepage water is being used after chemical dosing in settling ponds. To meet the water requirement of nearby villages company is providing treated water through pipeline/ drains and other mode for domestic (Non Drinking) and irrigation purpose.
xxxv	Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), Monsoon (August) Post- monsoon (November), and winter (January) seasons and for quality including Arsenic and Fluoride during the month of May. Data thus collected should be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board	Being Complied. Regular monitoring of groundwater level and quality of the area is being carried out by establishing a network of existing wells/Piezometers. The Ground water level (from Oct 20 to March 21) and quality Monitoring report of Post- Monsoon (Nov 20) and Winter (January 21) is attached as <u>Annexure No.-6.</u> Non-working mine pit has been developed as rain water harvesting structure in the mines. Quarterly monitoring report of Ground Water Level (from Oct 2020 to Dec 2020) and (from January 2021 to March 2021) & GW Quality Monitoring for the month of Post- Monsoon (Nov 20) and Winter (January 21) were submitted to

	/SPCB quarterly within one month of monitoring. Rain water harvesting shall be undertaken in case monitoring of water table indicates a declining trend.	MoEF & CC, CPCB and CECB on quarterly within one month of monitoring basis. Attached as <u>Annexure No. – 7.</u>
xxxvi	Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural pattern, water bodies, vegetation, structure, roads and surroundings should be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures should be taken to avoid loss of life and material. Cracks should be effectively plugged with ballast and clayey soil/suitable material.	Being Complied. In Gare Palma IV/4 coal mine : the method of underground coal mining is Board & Pillar. Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural pattern, water bodies, vegetation, structure, roads and surroundings is being done by internal expert team. During the observation no any subsidence movement has been observed. In future, if any subsidence movement, occurred then appropriate effective corrective measures will be taken to avoid loss of life and material. Cracks will be effectively plugged with ballast and clayey soil/suitable material. The subsidence study was already carried out for working panel by CSIR – Central Institute of Mining & Fuel Research Dhanbad in March 2019 for GP IV/4 Coal mines.
xxxvii	Sufficient coal pillars shall be left unextracted around the airshaft (within the subsidence influence area) to protect from any damage from subsidence, if any.	Being Complied. Sufficient coal pillars have been will be left unextracted around the airshaft (within the subsidence influence area) to protect from any damage from subsidence.
xxxviii	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	Being Complied. High root density tree species will be selected and planted over areas likely to be affected by subsidence as required.
xxxix	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	Being Complied. As of now depression due to subsidence is not observed. In future if such depression gets observed resulting in water accumulating , the same will be filled up or drained out by cutting drains, if any
xi	Solid barriers shall be left below the village, roads falling within the blocks to avoid any damage to the roads.	Being Complied. Solid barriers is left below the village, roads falling within the blocks to avoid any damage to the roads as per statute.

xli	No depillaring operation shall be carried out below the roads and habitation area found within the lease.	Being Complied. No depillaring operation will be carried out below the roads and habitation area found within the lease.
xlii	The proponent shall ensure to undertake and provide the costs incurred for taking up remedial measures in case of soil.	Being Complied. Cost incurred for taking remedial measures in case of soil will be borne by the company.
xliii	Extensive plantation should be done near agriculture area to avoid coal dust pollution which may affect the productivity of crop.	Being Complied. Extensive planation along road side has been done near the agriculture area to avoid coal dust pollution which may affect the productivity of crop. The same will be continue in other areas also.
xliv	ETP shall be provided for workshop, CHP, if any. Effluent shall be treated to confirm to prescribe standards in case discharge in to any water course outside the lese. The quality of water discharged shall be monitored at the outer point and proper records maintained thereof and uploaded regularly on the company website.	Being Complied. Water treatment facility has been provided in mines for the seepage water treatment. The quality of treated water is being monitored. The water quality analysis report is already enclosed.
xlv	A detailed plan for CSR with specific budgetary allocation (capital and revenue) for various skill development and alternate livelihood programmes and schemes shall be implemented and the impacts activities under CSR monitored based on in a scientific methodology. An amount of Rs. 5 per tonne of coal produced with escalation factor shall be utilized for the CSR activities for the adjoining villages for the balance life of project apart from one time capital expenditure. The details of CSR undertaken along with budgetary provisions for the village wise various activities and expenditure thereon shall be uploaded on the company website every year. CSR	Being Complied. Rs. 5/- per ton of coal produce is being utilized for CSR activities under the guidance of District Collector, Raigarh. CSR Expenditure detail is already enclosed.

	Audit should be carried conducted annually.	
xlvi	A special corpus fund either at company level or in CIL/MOC be provided for the reclamation of abandoned and degraded areas.	Being Complied. Escrow account has been opened for the reclamation of abandoned and degraded areas in the mine lease till date (March 2021) Rs 764.01 lakhs has been deposited.
xlvii	For monitoring land use pattern and for post mining land use, a time series of land use, maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in the three years (for any one particular season which is consistent in the time series). And the report submitted to MOEF and its regional office at Bhopal. The post mining land use shall be that out of the total 701.512 ha area, 57.73 ha area will be under plantation. 319.65 Ha area for public use, 324.132 ha area shall be undisturbed.	Complied. Report on Assessment of Land Use / Land Cover using High Resolution Satellite Imagery for the GP Mine IV/4 Coal Mine was carried out by IndiGEO Consultants, Bangalore in the month of December 2019 and the report was submitted to your office dated 27 May 2020.
xlviii	A Final Mine closure plan along with a plan for habitat restoration and with details of corpus Fund shall be submitted to the Ministry of Environment & forest five years before mine closure for approval. The species selected for habitat restoration for post mining and shall include a specific plan for development of agro forestry using a mix native species found in the study area.	Being Complied. A Final Mine closure plan along with a plan for habitat restoration and with details of corpus Fund will be submitted to the Ministry of Environment & forest five years before mine closure for approval. The mix species will be selected for habitat restoration as per the conditions set out herewith.
xliv	A special corpus fund either at company level or in CIL/MOC be provided for reclamation of abandoned and degraded area.	Being Complied. Escrow account has been opened for the reclamation of abandoned and degraded areas in the mine lease.

i.	The possibility of sand stone, wherever is present in the OB as per lithology report, be explored and be provided to locals free of cost.	Being Complied. As per availability the sand stone is being provided to the locals free of cost.
ii	After extraction of coal is completed, the OB left will be completely rehandled and backfilled the voids. This will be achieved by rehandling of OB Dumps in the area. Contamination of ground water and surface water and occupational and other diseases due to the mining operation.	Being Complied. After extraction of coal is completed, the OB dump created by Hindalco if any will be re-handled and backfilled into the voids as per mine closer plan to the extent possible.:-
iii	Corporate Environment Responsibility: a)The company shall have a well laid down Environment Policy approved by the Board of Directors. b)The Environment Policy shall prescribe for standard operating process/ procedures to bring into focus any infringements/deviation/violation of the environmental of forest norms/conditions. c)The hierarchical system or administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the company and /or shareholders at large.	Being Complied. The company has an Environmental policy duly signed by the Managing Director on Board. The environmental policy governs the SOPs for compliance of the stipulations within the frame work of regulatory requirements of environment / Forest Norms. There is compliance monitoring system is in place to take care of alert / reporting of compliance / non compliances of the regulatory requirements to the Mines Head & Head office (Compliance Committee).
General Conditions		

i	No change in mining technology and scope of working should be made without prior approval of the ministry of Environment & Forest.	Noted
ii	No change in the calendar plan for quantum of mineral coal and waste should be made.	Noted
iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM10, PM2.5, SO2, and NOx monitoring. Location of the stations shall be decided based on meteorological data topographical features and environmentally and ecologically sensitive targets in consultation with the state pollution Control Board. Monitoring heavy metals such as Hg, As Ni, Cd, Cr, etc. carried out at least once in six months.	Being Complied. Four ambient air quality monitoring stations have been established and regular monitoring is being carried out. Reports are being periodically furnished to CECB. Copy of Monitoring Report from the period October 2020 to March 2021 is enclosed as <u>Annexure –8</u>
iv	Data on Ambient air quality (PM10, PM 2.5, SO2, NOX) monitoring location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the state Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr etc. carried out at least once in six months.	Being Complied. All AAQM stations are decided based on the on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the state Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr etc. carried out at least once in six months. Heavy metals Monitoring report for the month of March 2021 is attached as <u>Annexure No. 9</u>
v	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operation of HEMM, etc should be provided with ear plugs/muffs.	Being Complied. Ear muffs/plugs has been provided to the all workers engaged in blasting and drilling operations. The Noise monitoring report period October 2020 to March 2021 is enclosed as <u>Annexure-10</u>
vi	Industrial wastewater (workshop and wastewater from the mine) should be properly collected treated	Being Complied.

	so as to conform to the standards under prescribed GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.	Settling ponds with chemical dosing arrangement has been provided for the mine seepage water treatment.
vii	Vehicular emission should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.	Being Complied. Regular monitoring of vehicular emission is being done and it is under control. The PUC certificate has been ensured for all the vehicles engaged in mining activities. The vehicle used for transporting the minerals are covered and optimally loaded.
viii	Monitoring of Environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the state pollution control board and data got analyzed through a laboratory recognized under EPA Rules,1986.	Being Complied. Environmental monitoring is being carried out through CECB & MoEF & CC approved & NABL accredited Laboratory i.e. Ultimate Envirolytical Solutions Raipur. Approval letter of Monitoring Agency from CECB Raipur & NABL accredited Laboratory certificate is attached as <u>Annexure No. - 11</u>
ix	Personnel working in dusty area shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspect.	Being Complied. Personnel working in dusty areas are provided with protective respiratory devices and they have also been provided with adequate training and information on safety and health aspect.
x	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof.	Being Complied. Occupational health surveillance is undertaken as per DGMS guidelines.
xi	A separate environment management cell with suitable qualified personnel shall be set up under the control of a senior	Being Complied. A separate Environmental Management Department is functioning at Coal Mine under the direct control of a senior executive.

	Executive, who will report directly to the head of the company.	
xii	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this ministry and it's Regional Office at Bhubaneswar.	Being Complied. The funds earmarked for environmental protection measures has been budgeted separately and not been diverted for other purposes. Environmental Expenditure details from October 2020 to March 2021 is Enclosed as <u>Annexure – 12</u> Now Nagpur Regional Office is looking after EC monitoring & compliances full co – operation has been extended to Regional Officer by furnishing requisite data information / monitoring reports
xiii	The project authority shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State pollution control Board and may also be seen at the website of the ministry of environment & forest at https://envfro.nic.in .	Complied.
xiv	A copy of environmental clearance letter shall be marked to concern panchayat / Zila Parishad, Municipal Corporation or Urban local body and local NGO,if any., from whom any suggestion /representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	Complied. The EC documents are uploaded on the company's website The status of the environmental parameters is displayed at the main gate.
xv	A copy of environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the	Complied by Prior Allottee.

	regional office, District Industry Sector and Collector's office/Tehsildar's office for 30 days.	
xvi	The Clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall be uploaded by the project authorities on their website and uploaded at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (Air, Water, noise and soil) and critical pollutant such as PM10, PM2.5, SO2, and NO2 (Ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website	<p style="text-align: center;">Complied.</p> <p>Upload the EC Clearance letter & Half yearly compliance report on the company's website i.e. http://www .hindalco.com/sustainability/regulatory-compliances and also displayed the monitoring data of environmental quality parameter (Air, Water, noise and soil) and critical pollutant such as PM10, PM2.5, SO2, and NO2 at the entrance of the mine gate.</p>
xvii	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (Both in hard copy and in e- mail) to the respective Regional Office of the Ministry, Respective Zonal officer's of CPCB and the SPCB. Compliance of the EC conditions be monitored by the MoEF and other concerned agencies.	<p style="text-align: center;">Complied.</p> <p>The last Half Yearly Compliance report for the period from April 2020 to September 2020 was submitted to MoEF & CC dated 25.11.2020.</p>
xviii	The Regional Office of this ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office (s) of the Regional Office by furnishing the requisite data / information/ monitoring reports.	<p style="text-align: center;">Complied.</p> <p>Now Nagpur Regional Office is looking after EC monitoring & compliances full co – operation has been extended to Regional Officer by furnishing requisite data information / monitoring reports</p>

xix	The Environmental Statement for each financial year ending 31 March in Form –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently shall be uploaded on the company’s web site along with the status of compliance of EC conditions and shall be sent to the respective Regional Officers of the MoEF & CC by E- mail	Complied. Submitted the Environmental Statement Report (In Form - V) for the FY 2019 -20 to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, dated 18.09.2020 and also uploaded in the company’s website also E-mailed the EC Compliance report to Regional Office, Nagpur.
5	The Ministry or other competent authority may stipulated any further condition for environmental Protection.	Noted.
6	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environmental (Protection) Act, 1986	Noted.
7	The above condition will be enforced inter - alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, The Air (Prevention & Control of Pollution) Act, 1981, The Environmental Protection Act 1986, and the Public Liability Insurance Act, 1991 along with their amendments and Rules, The proponent shall insure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of ground water and surface water, and occupational and other diseases due to the mining operations.	Noted.
8	The Environmental Clearance is subjected to the outcome of the	Noted.

	case filed by Chhattisgarh Environmental Conservation Board, in the court of Chief Judicial Magistrate, Raigarh, which is pending.	
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Annexure - 1

J-11015/183/2010-IA-II(M)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi-3
Dated: 24th May, 2019

To,

The Assistant Vice-President (Corporate-Affairs)
M/s Hindalco Industries Limited,
Aditya Birla Centre, 3rd Floor,
B wing, S.K. Ahire Marg, Worli,
Mumbai - 400030 (Maharashtra) E-mail: corporateaffairs@adityabirla.com

Sub: Gare-Palma IV/4 Coal Block of capacity 1 MTPA of M/s Hindalco Industries Limited located in District Raigarh (Chhattisgarh) - Amendment in Environmental Clearance - reg.

Sir,

This is with reference to your online proposal No.IA/CG/CMIN/7679/2010 dated 25th January, 2019 on the above-mentioned subject.


2. The Ministry of Environment, Forest and Climate Change has granted environmental clearance vide letter dated 12th March, 2013 in favour of M/s Jayaswal Neco Industries to Gare-Palma IV/4 Coal Block of production capacity 1 MTPA (0.6 MTPA Underground & 0.4 MTPA Opencast) in mine lease area of 701.512 ha located in District Raigarh (Chhattisgarh).
3. Subsequent to cancellation of coal blocks pursuant to order of Hon'ble Supreme Court in August/September, 2014 and their reallocation to successful bidders, Gare-Palma IV/4 coal block was vested with M/s Hindalco Industries Limited vide Allotment Order No.104/16/2015/NA dated 23rd March, 2015 issued by the Nominated Authority in the Ministry of Coal. The said environmental clearance was accordingly transferred to M/s Hindalco Industries Limited vide this Ministry's letter dated 16th April, 2015.
4. M/s Hindalco Industries Limited has sought amendment in the said environmental clearance for change in mining operations (Underground from 0.6 to 0.44 MTPA and Opencast from 0.4 to 0.56 MTPA) with the total capacity remains at 1 MTPA in the same mine lease area of 701.512 ha. Revised Mining Plan has the approval of Ministry of Coal vide letter dated 13th December, 2018.
5. The EAC, in its meeting held on 21st February, 2019, has recommended the proposed amendment for change in mining operations, and thus amendment in the environmental clearance dated 12th March, 2013, read with communication dated 16th April, 2015, with all other conditions stipulated therein remaining the same. With the proposed restructuring, mining operations would be revised as under:-

Mining method	Proposed Production Capacity
Opencast	0.56 MTPA (Increase by 0.16 MTPA)
Underground	0.44 MTPA (Decrease by 0.16 MTPA)



6. Based on recommendations of the EAC, Ministry of Environment, Forest and Climate Change hereby accords approval for amendment in environmental clearance dated 12th March, 2013, read with communication dated 16th April, 2015, to Gare-Palma IV/4 Coal Block of M/s Hindalco Industries Limited located in District Raigarh (Chhattisgarh), to effect change in mining operations as stated in para 5 above, with the total capacity remains at 1 MTPA in the same mine lease area of 701.512 ha.

7. All other conditions stipulated in environmental clearance granted vide letter dated 12th March, 2013, read with communication dated 16th April, 2015, shall remain unchanged.


24/5/2019
(S. K. Srivastava)
Scientist E

Copy to:

1. The Secretary, Ministry of Coal, New Delhi
2. The Secretary, Department of Environment & Forests, Government of Chhattisgarh, Secretariat, Raipur
3. The Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arera Colony, Bhopal - 462016
4. The Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Member Secretary, Chhattisgarh State Environment Conservation Board, 1-Tilak Nagar, Shiv Mandir Chowk, Main Road, Avanti Vihar, Raipur- 492001(Chhattisgarh)
7. The District Collector, Raigarh, Government of Chhattisgarh
8. Monitoring File 9. Guard File 10. Record File

Annexure - 2

ADITYA BIRLA



HINDALCO

Ref. No. HIL/GP-IV-4/CCO/2021-22/006

Dated: 02.04.2021

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

Sub: **Statistical Return for the month of March-2021 of Gare Palma IV/4 Coal Mine.**

Sir,

Enclosed please find the Statistical Return for the month of March-2021 of Gare Palma-IV/4 Coal Mine for your kind perusal please.

Thanking you,

Yours sincerely,

Deepak
02.04.21
Deepak Prasad Lenka
Mine Manager
Gare Palma-IV/4 Coal Mine
Banjikhoh, Raigarh (CG).



Encl.: as above.

Copy to: OSD, CCO, Bilaspur.

Hindalco Industries Limited

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

Statistical return for the month of March -2021.

- 1 Name of the Coal Company :- Gare Palma IV/4 Coal Mine, M/s Hindalco Industries Limited.
- 2 Contact Name with Designation & Telephone No. :- Deepak Prasad Lenka (Mines Manager), Mob.No.9111006023
- 3 Coal Consuming sector :- Captive Power Plant

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

Coal Type	Production (In Thousand Tonnes)					
	During Month			Progressive (F.Y. 2020-21)		
	Opencast	Underground	Total	Opencast	Underground	Total
Coking	-	-	-	-	-	-
Non Coking	25.283	0.000	25.283	261.691	0.000	261.691
Total Raw Coal	25.283	0.000	25.283	261.691	0.000	261.691
Clean Coal	-	-	-	-	-	-
Middlings	-	-	-	-	-	-
Rejects	-	-	-	-	-	-

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

Coal Type	Despatch (In Thousand Tonnes)		Mode of Despatch (In Thousand Tonnes)		
	During Month	Progressive (F.Y. 2020-21)	Road	Others	
Coking	-	-	-	-	-
Non Coking	29.38840	292.33941	-	29.38840	-
Total Raw Coal	29.38840	292.33941	-	29.38840	-
Clean Coal	-	-	-	-	-
Middlings	-	-	-	-	-
Rejects	-	-	-	-	-

* Domestic Consumption - Nil

Table 3 : Pit Head Closing Stock of 31.03.2021

Coal Type	Pit Head Closing Stock (In Thousand Tonnes)	
	During Month	
Coking	-	
Non Coking	26.890866	
Total Raw Coal	26.890866	
Clean Coal	-	
Middlings	-	
Rejects	-	

Signature:

Designation: Owner/ Agent/ Manager

Date :- 02.04.2021



Annexure - 3

CSR Expenditure Details
From October 2020 to March 2021
Hindalco Industries Ltd. Gare Palma IV/4

Sr. No.	Focused Area/ Project Activities	Summary Cost (In Lakhs)
1	Education	0.223
2	Health	66.143
3	Sustainable Livelihood under CSR	45.096
4	Infra - Structure	1.175
5	Social	21.445
6	Other CSR Activity	0.743
Total		134.825

Annexure - 4

Hindalco Industries Limited
Green Belt Development Status

Year wise plantation details of Gare Palma IV/4 Coal Mine						
Year	Location	No. of Tree Planted (Approx.)	Survival Rate (%)	Number of Plant Survived	Area Covered in Plantation (hectare)	Sapling Details
Up-to Dec, 2015	Coal mine lease area/OB Dump.	53000	85.00	45050	18.0	Siris, Shisham, Yellow flame tree, Kassod, Satvan, Acacia Mangium, Ganga Emli, Arjuna, Chirol, Gliricidia, Amla, Mango, guava, Neem, Pipal, Ficus sp., Peltafarm, Nilgiri, Casia Samia, Gulmohar, Acacia Coliformis, Jamun, Kachnar, Baheda & Kathal etc.
2016		6500	90.00	5850	2.3	
2017		10000	87.00	8700	3.5	
2018		5000	87.00	4350	1.7	
2019		6600	90.00	5940	2.4	
2020		10200	93.83	9570	3.9	
Total		91300	87.03	79460	31.8	

Note : Gap filling of plants is a continuous process

Green Belt Development Photographs







Annexure – 4AA

Photographs of Vetiver Grass Plantation (OB Dump near Patch “C” GP IV/4 Coal Mines)



Annexure – 4A

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

Truck mounted water sprinkler



Fixed type of water sprinklers



Annexure - 5



Ultimate
ENVIROLYTICAL SOLUTIONS

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 & Climate Change Under EP act 1986

Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/01798	
	LAB REF NO	UES/20-21/W/02278	
	DATE OF SAMPLING	13/10/2020	
	DATE OF RECEIPT	16/10/2020	
	DATE OF REPORT	23/10/2020	
	DATE OF ANALYSIS	START:16/09/2020	END:22/10/2020

SAMPLE DETAILS

SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	N/RO/SRV/2021/0035, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	ETP OUTLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY
SAMPLING PROCEDURE	IS:3025 (PART I):1987, RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 22 nd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.8
4	pH	-	APHA 22 nd Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	7.32
5	Total Residual Chlorine	mg/L	APHA 22 nd Ed. 2012, 4500-Cl-G, 4-69	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 22 nd Ed. 2012, 2540-D, 2-66	100	20.0
7	Dissolved Phosphate (as P)	mg/L	APHA 22 nd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 22 nd Ed. 2012, 4500-F-B 4D, 4-B4 & 87	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 22 nd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 22 nd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 22 nd Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 22 nd Ed. 2012, 5520-B, 5-17	250	44.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	4.2
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

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

Terms & conditions

- The use of 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.

Prepared By
23/10/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Authorized Signatory
23/10/2020

End of the test report



HDD-272, Phase III - Near JP Chowk
 Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
 Ph : 0771 - 402777 | 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.) 496107	REPORT NO	UES/TR/20-21/03127
	LAB REF NO	UES/20-21/W/02774
	DATE OF SAMPLING	24/11/2020
	DATE OF RECEIPT	25/11/2020
	DATE OF REPORT	03/12/2020
	DATE OF ANALYSIS	START:26/11/2020 END:03/12/2020

SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE	M/PO/SRV/2021/0035, STD. 21-ADU-2020
CUSTOMER SAMPLE ID	EFF OUTLET BANJIRHOI	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHODUST
SAMPLING PROCEDURE	IS:3025 (PART 3):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

TEST REPORT					
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 22 nd Ed. 2012, 2120-B, 2-4	See 5 of Annexure-I	<1
2	Odour	-	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 5 of Annexure-I	Agreeable
3	Temperature	°C	APHA 22 nd Ed. 2012, 2130-B, 2-13	Shell not exceed 5°C above the receiving water temperature	25.6
4	pH	-	APHA 22 nd Ed. 2012, 4500-H ⁺ -B, 4-92	5.5 to 9.0	7.28
5	Total Residual Chlorine	mg/L	APHA 22 nd Ed. 2012, 4500-Cl ⁻ -G, 4-67	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 22 nd Ed. 2012, 2540-D, 2-66	100	16.0
7	Dissolved Phosphate (as P)	mg/L	APHA 22 nd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 22 nd Ed. 2012, 4500-F-B 40, 4-84 & 87	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 22 nd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 22 nd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 22 nd Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 22 nd Ed. 2012, 5520-B, 5-17	250	14.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 4):1993, RA 2003	30	2.2
19	Oil & Grease	mg/L	IS 3025 (Part 3):1991, RA 2003	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

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

Terms & conditions

- The report for publication, distribution or as final document.
- Test sample will be returned for 15 days after receipt of bill.
- Test is for information as the party has asked for same.

 PREPARED BY	 For ULTIMATE ENVIRONMENTAL SOLUTIONS	 AUTHORIZED SIGNATORY
-----------------	--	--------------------------

-----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

Name & Address Of the Customer		REPORT NO	UES/TR/20-21/03535	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/03182	
		DATE OF SAMPLING	22/12/2020	
		DATE OF RECEIPT	23/12/2020	
		DATE OF REPORT	30/12/2020	
		DATE OF ANALYSIS	START: 23/12/2020	END: 30/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	RAWTE WATER		ORDER /REFERENCE:	M/PO/GRV/2021/0035, EXTD. 21-AUG-2020
CUSTOMER SAMPLE ID	EXP. OUTLET BANKHETA		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAR 1 L X 1 NO. PVC CAR 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART 1):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 22 nd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.4
4	pH	-	APHA 22 nd Ed. 2012, 4300-H-8, 4-92	5.5 to 9.0	7.18
5	Total Residual Chlorine	mg/L	APHA 22 nd Ed. 2012, 4500-Cl-G, 4-69	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 22 nd Ed. 2012, 2540- D, 2-66	100	20.0
7	Dissolved Phosphate (as P)	mg/L	APHA 22 nd Ed. 2012, 4500-P-G, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 22 nd Ed. 2012, 4500-F-B 6D, 4-84 & 87	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 22 nd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 22 nd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 22 nd Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 22 nd Ed. 2012, 5520-B, 5-17	250	24.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	3.8
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

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

Terms & conditions

- > 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.

 30/12/2020 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS 30/12/2020 AUTHORIZED SIGNATORY
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End of the test report

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



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

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Where & Address Of The Customer:		REPORT NO	UES/TR/20-21/03959
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/03644
		DATE OF SAMPLING	22/01/2021
		DATE OF RECEIPT	23/01/2021
		DATE OF REPORT	02/02/2021
		DATE OF ANALYSIS	START: 23/01/2021 END: 02/02/2021
SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE/	N/PO/SRV/2021/0035, DET. 21-ADD-2020
CUSTOMER SAMPLE ID	STP OUTLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS:5025 (PART 1):1997 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Hazen	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 22 nd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.4
4	pH	-	APHA 22 nd Ed. 2012, 4500-H-B, 4-92	5.5 to 9.0	7.32
5	Total Residual Chlorine	mg/L	APHA 22 nd Ed. 2012, 4500-Cl-G, 4-65	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 22 nd Ed. 2012, 2540-D, 2-66	100	20.0
7	Dissolved Phosphate (as P)	mg/L	APHA 22 nd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 22 nd Ed. 2012, 4500-F-B AD, 4-84 & 87	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	0.1	N.D.
10	Zinc (as Zn)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-19	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 22 nd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 22 nd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 22 nd Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 22 nd Ed. 2012, 5520-B, 5-17	250	12.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 4):1993, RA 2003	30	2.1
19	Oil & Grease	mg/L	IS 3025 (Part 3):1991, RA 2003	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 4):1992, RA 2003	1.0	N.D.

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

Terms & conditions

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

 PREPARED BY	 AUTHORIZED SIGNATORY
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End of the test report

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



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

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Name & Address of the Customer		REPORT NO	UES/TR/20-21/05017
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/04108
		DATE OF SAMPLING	16/03/2021
		DATE OF RECEIPT	17/03/2021
		DATE OF REPORT	01/04/2021
		DATE OF ANALYSIS	START: 17/03/2021 END: 27/03/2021
SAMPLE DETAILS			
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	ETP OUTLET BANBENCHA	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 3 L X 1 NO. PVC CAN 5 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS:3025(PART 1):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT
1	Colour	Plazem	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1
2	Odour	-	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	Agreeable
3	Temperature	°C	APHA 22 nd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.2
4	pH	-	APHA 22 nd Ed. 2012, 4500-H-1, 4-32	5.5 to 9.0	7.36
5	Total Residual Chlorine	mg/L	APHA 22 nd Ed. 2012, 4500-Cl-C, 4-69	1.0	N.D.
6	Total Suspended Solids	mg/L	APHA 22 nd Ed. 2012, 2540-D, 2-66	100	22.0
7	Dissolved Phosphate (as P)	mg/L	APHA 22 nd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.
8	Fluoride (as F)	mg/L	APHA 22 nd Ed. 2012, 4500-F-B 4D, 4-B4 & 87	2.0	N.D.
9	Lead (as Pb)	mg/L	APHA 22 nd Ed. 2012, 3111-G, 3-16	0.1	N.D.
10	Minc (as Zn)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-16	5.0	N.D.
11	Copper (as Cu)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-16	3.0	N.D.
12	Cadmium (as Cd)	mg/L	APHA 22 nd Ed. 2012, 3500-Cd, 3-305	2.0	N.D.
13	Mercury (as Hg)	mg/L	APHA 22 nd Ed. 2012, 3112-B, 3-23	0.01	N.D.
14	Arsenic (as As)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.2	N.D.
15	Selenium (as Se)	mg/L	APHA 22 nd Ed. 2012, 3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 22 nd Ed. 2012, 3900-Cr-B, 3-69	2.0	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 22 nd Ed. 2012, 5520-B, 5-17	250	22.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 4):1993, RA 2003	30	2.1
19	Oil & Grease	mg/L	IS 3025 (Part 79):1991, RA 2003	10.0	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.

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

Terms & conditions

- > This report for publication, analysis or as legal document is void.
- > Test sample will be retained for 30 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above.

 01/04/2021 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 01/04/2021 AUTHORIZED SIGNATORY
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End of the test report

Annexure – 5A

Treatment Facility at GP IV/4 Coal Mines

Annexure -5A



SETTLING POND NO – 1



SETTLING POND NO – 2



SETTLING POND NO – 3



Drinking Water Section (RO Plant 2 KL/Hour)

Annexure - 6

**Ground Water Level Monitoring Report in and around the Coal Mine Area
(From Oct 2020 to Dec 2020)**

Sr. No.	Location	Types of Structure	In Meters		
			Ground Water level (BGL) October 2020	Ground Water level (BGL) November 2020	Ground Water level (BGL) December 2020
1	Bankheta (Near HIL Office)	Borewell/AWLR	4.35	10.00	10.76
2	Banjikhoh (Near Office)	Borewell/AWLR*	22.96	23.52	23.18
3	Milupara (Near Office)	Borewell/AWLR*	7.95	9.30	10.30
4	HIL Staff Quarter	Borewell/AWLR	3.60	4.56	4.87
5	Milupara Village (PHC-HIL)	Dugwell	1.10	4.45	4.54
6	Sakta Village (Near Primary School)	Dugwell	2.05	3.41	3.31
7	Sidarpara Village (Near Primary School)	Dugwell	5.34	8.00	8.59
8	Beljor Village	Dugwell	4.06	6.00	6.08

(AWLR* - Automatic Water level recorder under maintenance)

**Ground Water Level Monitoring Report in and around the Coal Mine Area
(From January 2021 to March 2021)**

Sr. No.	Location	Types of Structure	In Meters		
			Water level (BGL) January 2021	Water level (BGL) February 2021	Water level (BGL) March 2021
1	Bankheta (Near HIL Office)	Borewell	10.96	11.36	11.64
2	Banjikhoh (Near Office)	Borewell	23.43	23.54	23.71
3	Milupara (Near Office)	Borewell	8.52	12.27	12.71
4	HIL Staff Quarter	Borewell	5.23	6.62	7.43
5	Milupara Village (PHC-HIL)	Dugwell	6.23	6.80	7.00
6	Sakta Village (Near Primary School)	Dugwell	3.90	4.10	4.32
7	Sidarpara Village (Primary School compound)	Dugwell	9.65	9.80	10.60
8	Beljor Village	Dugwell	7.50	7.80	8.00



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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		REPORT NO	UES/TR/20-21/03143	
		LAB REF NO	UES/20-21/W/02790	
		DATE OF SAMPLING	24/11/2020	
		DATE OF RECEIPT	25/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	BANKHETA MINE (PIEZOMETER) AWLR		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR

Report No.03143

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.92
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.2
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	128
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	-	79.7
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	77.5
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	2.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	32.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	22.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	10.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	8.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	2.4
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	16.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	12.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.68
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	16.4
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	1.64



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Report No.03143

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.12
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

Microbiological Analysis

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

Pesticides

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

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Report No.03143

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
PREPARED BY 03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
03/12/2020
AUTHORIZED SIGNATORY

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



HDD-272, Phase III - Near JP Chowk
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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03144		
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/02791		
		DATE OF SAMPLING	24/11/2020		
		DATE OF RECEIPT	25/11/2020		
		DATE OF REPORT	03/12/2020		
		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020	
		SAMPLE DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BANJIKHOL MINE (PIEZOMETER) AWLR		SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST	
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B,1-39		QUANTITY RECEIVED	5 LTR	

Report No. 03144

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.86
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	4.2
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	138.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	86.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	84.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	38.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	66.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	28.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	16.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	11.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	3.8
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	16.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	22.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	2.8
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	16.2

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.78
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	N.D.
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003,	-	-	N.D.

Microbiological Analysis

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

Pesticides

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

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Report No. 03144

TEST REPORT

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

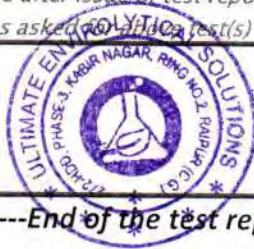
Note: mg/lit.: milligram per liter, N.D.- Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Shakur
PREPARED BY 03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Shakur
03/12/2020
AUTHORIZED SIGNATORY

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



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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03145
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/02792
		DATE OF SAMPLING	24/11/2020
		DATE OF RECEIPT	25/11/2020
		DATE OF REPORT	03/12/2020
		DATE OF ANALYSIS	START: 26/11/2020 END: 03/12/2020
		SAMPLE DETAILS	
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	SAKTA VILLAGE, (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

Report No.03145

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	2.5
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.24
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	3.8
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	236.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	147.8
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	143.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	4.8
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	68.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	96.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	44.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	52.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	17.6
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	12.6
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	28.2
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	20.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.32
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,3-97	-	-	12.6
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.86

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.18
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.10
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

Microbiological Analysis

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

Pesticides

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

Report No.03145

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
PREPARED BY 03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
03/12/2020
AUTHORIZED SIGNATORY

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



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

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03146	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/02793	
		DATE OF SAMPLING	24/11/2020	
		DATE OF RECEIPT	25/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BELJOR VILLAGE (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

Report No.03146

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.24
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.96
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	586
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	362
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	355
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	7.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	156.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	188.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	102.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	88.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	40.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	21.3
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	66.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	21.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.64
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,3-97	-	-	4.2
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B,	-	-	1.6



HDD-272, Phase III - Near JP Chowk
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Report No.03146

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			3-87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.24
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

Microbiological Analysis

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

Pesticides

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

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Report No.03146

TEST REPORT

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

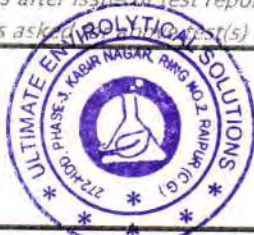
Note: mg/lit.: milligram per liter, N.D.- Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
PREPARED BY 03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
03/12/2020
AUTHORIZED SIGNATORY

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



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

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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03176	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/02823	
		DATE OF SAMPLING	25/11/2020	
		DATE OF RECEIPT	26/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020
		SAMPLE DETAILS		
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	STAFF QUARTER-BANJIKHOL PIEZOMETER (AWLR)	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

REPORT NO. 03176

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025:(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025:(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.84
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	16.4
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	188.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	122.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	114.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	8.6
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	68.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	28.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	40.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	11.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	9.7
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	32.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	24.2
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	0.96
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	8.8



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REPORT NO. 03176

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.6
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.12
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.



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REPORT NO. 03176

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Shakur
PREPARED BY
03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Chandrabhan
03/12/2020
AUTHORIZED SIGNATORY

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



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03177	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/02824	
		DATE OF SAMPLING	25/11/2020	
		DATE OF RECEIPT	26/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START:26/11/2020	END:03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. -03177

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.82
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	2.8
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	168
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G,4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	104.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	102.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.6
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	38.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	22.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	16.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	8.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	3.8
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	6.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	16.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	2.8
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.



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REPORT NO. -03177

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
20	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	6.0
21	Potassium (as K)	mg/Lit	APHA 22nd Ed.2012,3500-K-B, 3-87	-	-	0.85
22	Boron (as B)	mg/Lit	APHA 22nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.12
25	Manganese (as Mn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22nd Ed.2012,3500-Cd,3-105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH	µg/L	US EPA 508-1995	2		N.D.



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REPORT NO. -03177

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
PREPARED BY 03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
03/12/2020
AUTHORIZED SIGNATORY

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



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

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03178	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/02825	
		DATE OF SAMPLING	25/11/2020	
		DATE OF RECEIPT	26/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START:26/11/2020	END:03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	MILUPARA VILLAGE NEAR PHC- HIL (DUGWELL)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. - 03178

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.89
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	64.0
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	264
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	-	182
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	160
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	22.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	76.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	-	-	32.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg- B,3-84	-	-	44.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	75	200	12.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	10.6
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	8.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ - E, 4-190	200	400	26.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ - B,4-122	45	No Relaxation	1.2
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na- B, 3-97	-	-	4.8
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.6



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REPORT NO. - 03178

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.11
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.28
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39): 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

Microbiological Analysis

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

Pesticides

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



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REPORT NO. - 03178

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issuing report unless otherwise agreed with customer.
- > This is for information as the party has a right to sue (SIC) only.

Prepared by
03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

03/12/2020
AUTHORIZED SIGNATORY

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



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03179	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/02826	
		DATE OF SAMPLING	25/11/2020	
		DATE OF RECEIPT	26/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START:26/11/2020	END:03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	SIDARPARA VILLAGE (DUGWELL)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. - 03179

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.38
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.38
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	296
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	182.2
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	180
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	52.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	76.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	38.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	38.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	15.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	9.2
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	10.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	18.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	2.2
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	8.2
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	0.9

REPORT NO. - 03179

TEST REPORT

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



HDD-272, Phase III - Near JP Chowk
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REPORT NO. - 03179

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
03/12/2020
PREPARED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
03/12/2020
AUTHORIZED SIGNATORY

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



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

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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		REPORT NO	UES/TR/20-21/03975	
		LAB REF NO	UES/20-21/W/03660	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BANKHETA MINE (PIEZOMETER)AWLR	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

Report No.03975

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.86
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.03
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	130.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	-	80.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	78.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	2.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	36.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	14.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	22.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	5.6
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	5.3
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	12.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	10.5
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.54
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	14.3
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	1.05

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

Report No. 03975

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.13
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.

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Report No.03975

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

PREPARED BY

Thakur
02/02/2021



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

AUTHORIZED SIGNATORY

Thakur
02/02/2021

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



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

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03976		
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/03661		
		DATE OF SAMPLING	22/01/2021		
		DATE OF RECEIPT	23/01/2021		
		DATE OF REPORT	02/02/2021		
		DATE OF ANALYSIS	START:23/01/2021	END:02/02/2021	
		SAMPLE DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BANJIKHOL MINE (PIEZOMETER) AWLR		SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST	
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B,1-39		QUANTITY RECEIVED	5 LTR	

Report No. 03976

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.84
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	4.0
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	142.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	94.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	92.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.1
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	34.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	68.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	32.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	36.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	12.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	8.7
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	14.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	20.3
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	3.2
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	14.2

Report No. 03976

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.68
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	N.D.
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003,	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.

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

Report No. 03976

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

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

Thakur
02/02/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Thakur
02/02/2021
AUTHORIZED SIGNATORY

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



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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03977
TO,		LAB REF NO	UES/20-21/W/03662
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	22/01/2021
GARE PALMA - IV/4, COAL MINE,VILLAGE -		DATE OF RECEIPT	23/01/2021
BANKHETA, POST -MILUPARA,		DATE OF REPORT	02/02/2021
DISTT. - RAIGARH (C.G.) 496107.		DATE OF ANALYSIS	START:23/01/2021 END:02/02/2021
SAMPLE DETAILS			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	SAKTA VILLAGE, (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN SEALED 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

Report No.03977

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	2.3
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.31
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	3.0
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	239.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	148.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	144.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	4.1
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	70.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	98.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	42.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	56.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	16.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	13.6
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	22.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	19.6
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.30
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,3-97	-	-	11.4
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.81

Report No. 03977

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.09
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

Microbiological Analysis

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

Pesticides

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

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Report No. 03977

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Shikhar
02/02/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Shikhar
02/02/2021
AUTHORIZED SIGNATORY

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



HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03978	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/03663	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START:23/01/2021	END:02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BELJOR VILLAGE (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

Report No.03978

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.26
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.91
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	589.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	365.3
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	358.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	7.3
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	158.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	190.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	112.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	78.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	44.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	18.9
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	65.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	22.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.75
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,3-97	-	-	4.0



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Report No. 03978

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.3
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.11
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.21
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100 ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.

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Report No. 03978

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
02/02/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Thakur
02/02/2021
AUTHORIZED SIGNATORY

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



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

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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04011	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/03696	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	STAFF QUARTER-BANJIKHOL PIEZOMETER (AWLR)	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003: APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

REPORT NO. 04011

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025:(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025:(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.74
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	15.3
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	192.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	124.4
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	116.2
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	8.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	70.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	46.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	24.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	18.4
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	5.8
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	28.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-100	200	400	19.6
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	0.92
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	7.6

REPORT NO. 04011

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.2
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gemme-HCH (Lindene)	µg/L	US EPA 500 1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.

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REPORT NO. 04011

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
02/02/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Thakur
02/02/2021
AUTHORIZED SIGNATORY

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



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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04012	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/03697	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X I NO. PVC CAN 1 L X I NO. PVC CAN 1 L X I NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. -04012

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.79
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	3.1
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	172.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G,4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	-	106.5
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	104.2
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	2.3
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	48.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	34.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	14.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	13.6
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	3.4
17	Chloride (as Cl)	mg/lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	8.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ - E,4-190	200	400	14.3
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	2.4
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.

REPORT NO. -04012

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
20	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	6.2
21	Potassium (as K)	mg/Lit	APHA 22nd Ed.2012,3500-K-B, 3-87	-	-	0.78
22	Boron (as B)	mg/Lit	APHA 22nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
25	Manganese (as Mn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22nd Ed.2012,3500-Cd,3-105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH	µg/L	US EPA 508-1995	2		N.D.

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REPORT NO. -04012

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

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Thakur
02/02/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Thakur
02/02/2021
AUTHORIZED SIGNATORY

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



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

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

Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		REPORT NO	UES/TR/20-21/04013	
		LAB REF NO	UES/20-21/W/03698	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	MILUPARA VILLAGE NEAR PHC- HIL (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39	QUANTITY RECEIVED	5 LTR	

REPORT NO. - 04013

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.91
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	62.0
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	270.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	-	185.2
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	164.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	21.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	30.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	78.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	-	-	38.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg- B,3-84	-	-	40.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	75	200	15.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	9.72
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	10.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ - E, 4-190	200	400	24.3
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500 NO ₃ B,4-122	45	No Relaxation	2.3
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na- B, 3-97	-	-	5.1
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.1

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

REPORT NO. - 04013

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.09
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.21
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

Microbiological Analysis

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

Pesticides

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

REPORT NO. - 04013

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE**Terms & conditions**

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

Thakur
02/02/2021
PREPARED BY

For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Thakur
02/02/2021
AUTHORIZED SIGNATORY

End of the test report



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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/04014	
TO,		LAB REF NO	UES/20-21/W/03699	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	22/01/2021	
GARE PALMA - IV/5, MILUPARA		DATE OF RECEIPT	23/01/2021	
U/G COAL MINE,VILLAGE - MILUPARA,		DATE OF REPORT	02/02/2021	
BLOCK-TAMNAR,		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
DISTT. - RAIGARH (C.G.) 496107				
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	SIDARPARA VILLAGE (DUGWELL)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025(PART I): 1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. - 04014

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.41
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.32
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	298
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	184.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	182.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	50.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	78.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	46.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	32.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	18.4
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	7.77
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	11.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	17.3
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	NO Relaxation	3.1
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	8.0
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	0.8

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REPORT NO. - 04014

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.16
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.09
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-100	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508 1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.

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

REPORT NO. - 04014

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
02/02/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Thakur
02/02/2021
AUTHORIZED SIGNATORY

End of the test report

Annexure - 7

ok



Letter No. : HIL/EC/GP-IV/4 -Q3/2020/336

04 January, 2021

The DDGF (Central), Regional Office,
Ministry of Environment Forests & Climate Change (MoEF & CC)
Regional Office, (West Central Zone)
Ground Floor, East Wing
New Secretary Building,
Civil Line, Nagpur – 440001

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

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


Dear Sir,

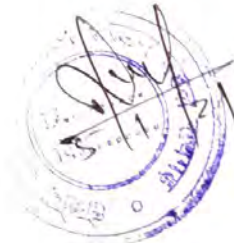
With reference to above subject, we are submitting herewith the quarterly monitoring report of Ground Water Level (from Oct. 2020 to December 2020) & GW Quality for the month of November 2020 – Post monsoon period of Gare Palma IV/4 Coal Mine, M/s Hindalco Industries Limited, Village – Bhanjikhoh, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.

We would like to inform you that automatic water level recorder installed at Bhanjikhoh (Near Office) & Milupara (Near Office) are under maintenance due to some hardware related error, so we are submitting the manual ground water level monitoring results.

Thanking you,

Yours faithfully,


Dipesh Bhatia
(Vice President – GP Mines)
For **Hindalco Industries Limited**



Encl: As above

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

Hindalco Industries Limited

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

**Ground Water Level Monitoring Report in and around the Coal Mine Area
(From Oct 2020 to Dec 2020)**

Sr. No.	Location	Types of Structure	In Meters		
			Ground Water level (BGL) Oct. 2020	Ground Water level (BGL) Nov. 2020	Ground Water level (BGL) Dec. 2020
1	Bankheta (Near HIL Office)	Borewell/AWLR	4.64	8.69	10.28
2	Banjikhol (Near Office)	Borewell/AWLR*	22.96	23.52	23.18
3	Milupara (Near Office)	Borewell/AWLR*	7.95	9.30	10.30
4	HIL Staff Quarter	Borewell/AWLR	3.64	3.94	4.31
5	Milupara Village (PHC-HIL)	Dugwell	1.10	4.40	4.54
6	Sakta Village (Near Primary School)	Dugwell	2.05	2.70	3.31
7	Sidarpara Village (Near Primary School)	Dugwell	5.34	7.90	8.59
8	Beljor Village	Dugwell	4.06	6.00	6.08

(AWLR* - Automatic Water level recorder under maintenance)



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

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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03143	
TO,		LAB REF NO	UES/20-21/W/02790	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	24/11/2020	
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT	25/11/2020	
VILLAGE - BANKHETA,		DATE OF REPORT	03/12/2020	
POST -MILUPARA,		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020
DISTT. - RAIGARH (C.G.) 496107.				
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BANKHETA MINE (PIEZOMETER) AWLR	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	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.03143

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.92
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.2
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	128
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	-	79.7
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	77.5
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	2.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	32.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	22.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	10.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	8.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	2.4
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	16.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	12.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.68
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	16.4
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	1.64

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



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

Report No. 03143

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.12
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-NI, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coll	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995			
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	1		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	2		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.01		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
				0.04		N.D.

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



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

Report No. 03143

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

PREPARED BY

Thakur
03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

Thakur
03/12/2020

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



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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03144	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/02791	
		DATE OF SAMPLING	24/11/2020	
		DATE OF RECEIPT	25/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	BANJIKHOL MINE (PIEZOMETER) AWLR		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B,1-39		QUANTITY RECEIVED	5 LTR

Report No. 03144

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H*-B, 4-92	6.5-8.5	No Relaxation	6.86
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	4.2
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	138.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	86.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	84.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	38.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	66.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	28.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	16.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	11.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	3.8
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	16.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	22.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	2.8
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	16.2

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Ultimate
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HDD-272, Phase III, Near JP Chowk
Ring Road No-2, Kabir Nagar Raipur (C.G.) - 492099
Ph: 0771-74027777 | Email: ultimatenviro@gmail.com

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

Report No. 03144

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.78
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	N.D.
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003,	-	-	N.D.

Microbiological Analysis

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

Pesticides

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

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Report No. 03144

TEST REPORT

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

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

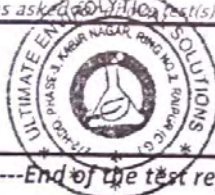
REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

For ULTIMATE ENVIROLYTICAL SOLUTIONS

Shakur
PREPARED BY 03/12/2020



Shakur
03/12/2020
AUTHORIZED SIGNATORY

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



HDD-272, Phase III - Near JP Chowk
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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		REPORT NO UES/TR/20-21/03177	
		LAB REF NO UES/20-21/W/02824	
		DATE OF SAMPLING 25/11/2020	
		DATE OF RECEIPT 26/11/2020	
		DATE OF REPORT 03/12/2020	
		DATE OF ANALYSIS START: 26/11/2020	END: 03/12/2020
SAMPLE DETAILS			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PC/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART 1):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

REPORT NO. -03177

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.82
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	2.8
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	168
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G,4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	104.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	102.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.6
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	38.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	22.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	16.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	8.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	3.8
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	6.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	16.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	2.8
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.

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REPORT NO. -03177

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
20	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	6.0
21	Potassium (as K)	mg/Lit	APHA 22nd Ed.2012,3500-K-B, 3-87	-	-	0.85
22	Boron (as B)	mg/Lit	APHA 22nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.12
25	Manganese (as Mn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22nd Ed.2012,3500-Cd,3-105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coll	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH	µg/L	US EPA 508-1995	2		N.D.



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REPORT NO. -03177

TEST REPORT

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

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

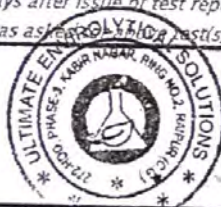
REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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- This is for information as the party has agreed to test(s) only

PREPARED BY

Prakash
03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

Prakash
03/12/2020

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



**HDD-272, Phase III - Near JP Chowk
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Name & Address Of The Customer

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

REPORT NO UES/TR/20-21/03145
LAB REF NO UES/20-21/W/02792
DATE OF SAMPLING 24/11/2020
DATE OF RECEIPT 25/11/2020
DATE OF REPORT 03/12/2020
DATE OF ANALYSIS
START: 26/11/2020 END: 03/12/2020

SAMPLE DETAILS

SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD: 21-AUG-2020
CUSTOMER SAMPLE ID	SAKTA VILLAGE, (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE		QUANTITY RECEIVED	5 LTR

Report No.03145

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	2.5
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.24
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	3.8
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	236.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	147.8
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	143.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	4.8
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	68.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	96.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	44.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	52.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	17.6
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	12.6
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	28.2
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	20.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.32
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,3-97	-	-	12.6
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.86

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Report No.03145

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.18
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.10
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	1		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	2		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.01		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
				0.04		N.D.



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Report No. 03145

TEST REPORT

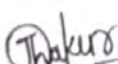

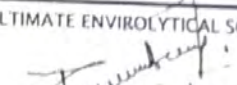
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995		0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995		0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 PREPARED BY 03/12/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  03/12/2020 AUTHORIZED SIGNATORY
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-----End of the test report-----



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03176
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/S, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/02823
		DATE OF SAMPLING	25/11/2020
		DATE OF RECEIPT	26/11/2020
		DATE OF REPORT	03/12/2020
		DATE OF ANALYSIS	START: 26/11/2020 END: 03/12/2020
SAMPLE DETAILS			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	STAFF QUARTER-RANJIRNOL PIEZOMETER (AHLR)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

REPORT NO. 03176

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025:(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025:(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁻ -B, 4-92	6.5-8.5	No Relaxation	6.84
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	16.4
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	188.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	122.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	114.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	8.6
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	68.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	28.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	40.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	11.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	9.7
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	32.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	24.2
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	0.96
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	8.8



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REPORT NO. 03176

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.6
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.12
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111 B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coll	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.



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REPORT NO. 03176

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Shikhar
PREPARED BY
03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Chandray
03/12/2020
AUTHORIZED SIGNATORY

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



Ultimate
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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03178	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/S, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/02825	
		DATE OF SAMPLING	25/11/2020	
		DATE OF RECEIPT	26/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	MILUPARA VILLAGE NEAR PHC- HIL (DUGWELL)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART 1):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. - 03178

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.89
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	64.0
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	264
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540-B, 2-64	-	-	182
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	160
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540-D, 2-66	-	-	22.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	76.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	32.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	44.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	12.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	10.6
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	8.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	26.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	1.2
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	4.8
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.6

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



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REPORT NO. - 03178

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.11
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.28
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39): 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

Microbiological Analysis

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

Pesticides

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



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

REPORT NO. - 03170

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

PREPARED BY

Prakr
03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

Chandray
03/12/2020

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



Ultimate
ENVIRONMENTAL SOLUTIONS

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

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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		REPORT NO	UES/TR/20-21/03179	
		LAB REF NO	UES/20-21/W/02826	
		DATE OF SAMPLING	25/11/2020	
		DATE OF RECEIPT	26/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	SIDARPARA VILLAGE (DUGWELL)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART 1):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. - 03179

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H*-B, 4-92	6.5-8.5	No Relaxation	7.38
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.38
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	296
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	182.2
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	180
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	52.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	76.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	38.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	38.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	15.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	9.2
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	10.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	18.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	2.2
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	8.2
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	0.9

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



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REPORT NO. - 03179

TEST REPORT

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



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REPORT NO. - 03179

TEST REPORT

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

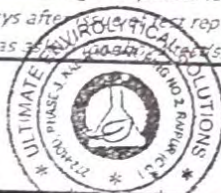
Note: mg/lit.: milligram per liter, N.D. - Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Prepared by *[Signature]*
 03/12/2020
 PREPARED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS
[Signature]
 03/12/2020
 AUTHORIZED SIGNATORY

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



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

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

Report No.03146

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			3-87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.24
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.

Microbiological Analysis

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

Pesticides

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



Ultimate
ENVIRONMENTAL SOLUTIONS

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

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03146	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/02793	
		DATE OF SAMPLING	24/11/2020	
		DATE OF RECEIPT	25/11/2020	
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START:26/11/2020	END:03/12/2020
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BELJOR VILLAGE (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

Report No.03146

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H'-B, 4-92	6.5-8.5	No Relaxation	7.24
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.96
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	586
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	362
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	355
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	7.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	156.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	188.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	102.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	88.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	40.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	21.3
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	66.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	21.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.64
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,3-97	-	-	4.2
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B,	-	-	1.6

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

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

Report No.03146

TEST REPORT

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

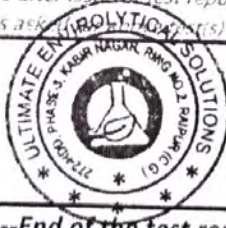
Note: mg/lit.: milligram per liter, N.D.- Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
PREPARED BY 03/12/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
03/12/2020
AUTHORIZED SIGNATORY

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



Letter No. : HIL/EC/GP-IV/4 -Q4/2020-21 / 27

08 April, 2021

The DDGF (Central), Regional Office,
Ministry of Environment Forests & Climate Change (MoEF & CC)
Regional Office, (West Central Zone)
Ground Floor, East Wing
New Secretary Building,
Civil Line, Nagpur - 440001

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

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

Dear Sir,

With reference to above subject, we are submitting herewith the quarterly monitoring report of Ground Water Level (from Jan' 2021 to Mar' 2021) & GW Quality for the month of January 2021 - Post monsoon period of Gare Palma IV/4 Coal Mine, M/s Hindalco Industries Limited, Village - Bhanjikhola, Tehsil - Tamnar, District - Raigarh, Chhattisgarh.

Thanking you,

Yours faithfully,

Dipesh Bhatia

(Vice President - GP Mines)
For **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, Dumartara, Raipur-492015
5) Member Secretary, Central Ground Water Authority, 18/11, Jamnagar House, Mansingh Road, New Delhi - 110011

Hindalco Industries Limited

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

**Ground Water Level Monitoring in and around the Coal Mine Area
(From January 2021 to March 2021)**

Sr. No.	Location	Types of Structure	Water level (BGL) January 2021	Water level (BGL) February 2021	Water level (BGL) March 2021
1	Bankheta (Near HIL Office)	Borewell	10.96	11.36	11.64
2	Banjikhola (Near Office)	Borewell	23.43	23.54	23.71
3	Milupara (Near Office)	Borewell	8.52	12.27	12.71
4	HIL Staff Quarter	Borewell	5.23	6.62	7.43
5	Milupara (PHC-HIL)	Dugwell	6.23	6.80	7.00
6	Sakta (Near Primary School)	Dugwell	3.90	4.10	4.32
7	Sidarpara (Primary School compound)	Dugwell	9.65	9.80	10.60
8	Beljor Village	Dugwell	7.50	7.80	8.00



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<i>Name & Address Of The Customer</i>			REPORT NO	UES/TR/20-21/03975	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST-MILUPARA, DISTT. - RAIGARH (C.G.) 496107.			LAB REF NO	UES/20-21/W/03660	
			DATE OF SAMPLING	22/01/2021	
			DATE OF RECEIPT	23/01/2021	
			DATE OF REPORT	02/02/2021	
			DATE OF ANALYSIS	START:23/01/2021	END:02/02/2021
SAMPLE DETAILS					
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BANKHETA MINE (PIEZOMETER)AWLR		SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST	
SAMPLING PROCEDURE	IS: 3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR	

Report No.03975

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.86
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.03
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	130.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	80.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	78.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	36.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	14.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	22.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	5.6
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	5.3
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	12.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	10.5
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.54
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	14.3
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	1.05

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Report No.03975

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.13
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.



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Report No.03975

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 PREPARED BY 02/02/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 02/02/2021
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-----End of the test report-----



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03976	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/03661	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	BANJIKHOL MINE (PIEZOMETER) AWLR		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B,1-39		QUANTITY RECEIVED	5 LTR

Report No. 03976

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.84
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	4.0
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	142.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	94.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	92.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.1
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	34.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	68.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	32.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	36.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	12.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	8.7
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	14.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	20.3
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	3.2
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	14.2

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Report No. 03976

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.68
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	N.D.
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003,	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.

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Report No. 03976

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 02/02/2021 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 02/02/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04012
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/03697
		DATE OF SAMPLING	22/01/2021
		DATE OF RECEIPT	23/01/2021
		DATE OF REPORT	02/02/2021
		DATE OF ANALYSIS	START:23/01/2021 END:02/02/2021
		SAMPLE DETAILS	
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

REPORT NO. -04012

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.79
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	3.1
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	172.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G,4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	106.5
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	104.2
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.3
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	48.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	34.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	14.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	13.6
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	3.4
17	Chloride (as Cl)	mg/lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	8.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-190	200	400	14.3
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	2.4
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.

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REPORT NO. -04012

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
20	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	6.2
21	Potassium (as K)	mg/Lit	APHA 22nd Ed.2012,3500-K-B, 3-87	-	-	0.78
22	Boron (as B)	mg/Lit	APHA 22nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
25	Manganese (as Mn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22nd Ed.2012,3500-Cd,3-105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH	µg/L	US EPA 508-1995	2		N.D.

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REPORT NO. -04012

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 PREPARED BY 02/02/2021	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY 02/02/2021
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-----End of the test report-----



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04011	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/03696	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTOMER SAMPLE ID	STAFF QUARTER-BANJIKHOL PIEZOMETER (AWLR)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. 04011

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025:(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025:(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.74
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	15.3
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	192.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	124.4
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	116.2
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	8.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	70.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	46.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	24.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	18.4
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	5.8
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	28.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E,4-100	200	400	19.6
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	0.92
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	7.6

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REPORT NO. 04011

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.2
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-NI, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coll	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gemme-HCH (Lindene)	µg/L	US EPA 500 1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.

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REPORT NO. 04011

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 02/02/2021 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 02/02/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/04013	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/03698	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTB. 21-AUG-2020
CUSTOMER SAMPLE ID	MILUPARA VILLAGE NEAR PHC- HIL (DUGWELL)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39		QUANTITY RECEIVED	5 LTR

REPORT NO - 04013

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.91
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	62.0
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	270.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	185.2
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	164.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	21.2
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	30.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	78.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	38.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	40.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	15.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	9.72
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	10.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	24.3
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500 NO ₃ B,4-122	45	No Relaxation	2.3
20	Phosphate (as P)	mg/Lit	APHA 22ndEd.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	5.1
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.1

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HDD-272, Phase III - Near JP Chowk
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REPORT NO. - 04013

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.09
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.21
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	o,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.

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REPORT NO. - 04013

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 PREPARED BY 02/02/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 02/02/2021
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End of the test report



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03977	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/03662	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE :	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	SAKTA VILLAGE, (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR	

Report No. 03977

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	2.3
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁻ -B, 4-92	6.5-8.5	No Relaxation	7.31
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	3.0
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	239.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	148.1
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	144.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	4.1
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	70.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	98.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	42.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	56.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	16.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	13.6
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	22.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	19.6
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.30
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,3-97	-	-	11.4
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	0.81

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Report No.03977

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B 8D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.09
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.



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Report No.03977

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 02/02/2021 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 02/02/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/04014	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE,VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/W/03699	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTB. 21-AUG-2020
CUSTOMER SAMPLE ID	SIDARPARA VILLAGE (DUGWELL)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR

REPORT NO. - 04014

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁻ -B, 4-92	6.5-8.5	No Relaxation	7.41
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.32
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	298
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	184.0
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	182.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	2.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	50.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	78.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	-	-	46.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B,3-84	-	-	32.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,3-67	75	200	18.4
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	7.77
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	11.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	17.3
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B,4-122	45	No Relaxation	3.1
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	-	-	8.0
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	0.8

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REPORT NO. - 04014

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
			87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.16
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.09
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-100	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508 1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.



HDD-272, Phase III - Near JP Chowk
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REPORT NO. - 04014

TEST REPORT

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 PREPARED BY 02/02/2021	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY 02/02/2021
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk
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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03978	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107.		LAB REF NO	UES/20-21/W/03663	
		DATE OF SAMPLING	22/01/2021	
		DATE OF RECEIPT	23/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021
SAMPLE DETAILS				
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
CUSTOMER SAMPLE ID	BELJOR VILLAGE (DUGWELL)	SAMPLE CONDITION AT RECEIPT	OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 3 L X 1 NO. PVC CAN 3 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.03978

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.26
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.91
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	-	-	589.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4-69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	-	-	365.3
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	358.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	-	-	7.3
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	158.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	190.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	112.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	78.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	44.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	18.9
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	65.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	22.4
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.75
20	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B,3-97	-	-	4.0



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Report No.03978

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Acceptable Limit	Permissible limit	
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	-	1.3
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1	1.5	0.11
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.21
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Microbiological Analysis						
1	Total Coliforms	MPN/100 ML	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
2	Faecal Coliform	MPN/100ml	IS:1622:1981: RA:2019	Shall not be detectable in any 100 ml sample		Absent
3	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100 ml sample		Absent
Pesticides						
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1		N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.



HDD-272, Phase III - Near JP Chowk
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Report No.03978

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

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 PREPARED BY 02/02/2021	 ULTIMATE ENVIROLYTICAL SOLUTIONS RAIPUR (C.G.)	For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 02/02/2021
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-----End of the test report-----

Annexure - 8



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

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Name & Address Of The Customer

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

REPORT NO	UES/TR/20-21/01793	
LAB REF NO	UES/20-21/AAQM/02273	
DATE OF SAMPLING	05/10/2020 to 30/10/2020	
DATE OF RECEIPT	06/10/2020 to 31/10/2020	
DATE OF REPORT	02/11/2020	
DATE OF ANALYSIS	START:06/10/2020	END:02/11/2020

SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANJIKHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO., SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBERBLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
05.10.2020	48	24	10.0	22	1.1	N.D.
09.10.2020	40	26	14.0	26	1.1	N.D.
12.10.2020	42	28	12.0	24	1.2	N.D.
16.10.2020	40	24	16.0	18	1.4	N.D.
19.10.2020	44	26	12.0	22	1.0	N.D.
24.10.2020	46	24	10.0	26	1.5	N.D.
26.10.2020	48	28	10.0	22	1.2	N.D.
30.10.2020	44	22	16.0	26	1.6	N.D.

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

Terms & conditions

- The use of 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.

[Signature]
02/11/2020
PREPARED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

[Signature]
02/11/2020
AUTHORIZED SIGNATORY

End of the test report



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

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	OES/TR/20-21/03122	
	LAB REP NO	UES/20-21/AAQM/02769	
	DATE OF SAMPLING	02/11/2020 to 29/11/2020	
	DATE OF RECEIPT	03/11/2020 to 30/11/2020	
	DATE OF REPORT	03/12/2020	
	DATE OF ANALYSIS	START: 03/11/2020	END: 03/12/2020

SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SKY/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANJIRHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO., SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring		
Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	—

TEST REPORT						
Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.11.2020	42	22	08	20	0.8	N.D.
05.11.2020	40	24	12	26	1.0	N.D.
09.11.2020	46	26	10	20	0.8	N.D.
12.11.2020	42	22	14	28	0.8	N.D.
16.11.2020	38	24	12	26	1.2	N.D.
19.11.2020	42	26	16	24	1.1	N.D.
23.11.2020	44	22	08	22	1.4	N.D.
29.11.2020	42	24	14	20	1.2	N.D.

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

Terms & conditions

- The report is prepared, administered as per the scope of the contract.
- Our report will be issued on a "best effort" basis. It is not a guarantee of accuracy.
- The user acknowledges that the report is for informational purposes only.

 PREPARED BY 03/12/2020		For ULTIMATE ENVIRONMENTAL SOLUTIONS AUTHORIZED SIGNATORY 03/12/2020
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End of the test report



HDD-272, Phase III - Near JP Chowk,
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
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Name & Address Of The Customer: TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/03530
	LAB REF NO	UES/20-21/AAQM/03177
	DATE OF SAMPLING	01/12/2020 to 28/12/2020
	DATE OF RECEIPT	02/12/2020 to 29/12/2020
	DATE OF REPORT	02/01/2021
	DATE OF ANALYSIS	START: 03/12/2020 END: 02/01/2021

SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DED. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANJIKHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-1	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	—

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.12.2020	46	24	10	22	0.6	N.D.
07.12.2020	42	26	14	28	0.8	N.D.
12.12.2020	48	28	10	22	1.0	N.D.
14.12.2020	44	24	12	24	1.1	N.D.
19.12.2020	40	22	10	28	1.0	N.D.
21.12.2020	44	28	16	26	0.6	N.D.
26.12.2020	48	26	10	20	0.8	N.D.
28.12.2020	44	22	8	24	0.6	N.D.

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

Terms & conditions

- The report for publication, arbitration or as legal evidence 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.

 PREPARED BY 02/01/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 02/01/2021
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End of the test report

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



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

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

Name & Address of the Customer: TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/03954	
	LAB REF NO	UES/20-21/AAQM/03639	
	DATE OF SAMPLING	04/01/2021 to 29/01/2021	
	DATE OF RECEIPT	05/01/2021 to 30/01/2021	
	DATE OF REPORT	02/02/2021	
	DATE OF ANALYSIS	START: 05/01/2021	END: 02/02/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANJIKHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
04.01.2021	40	20	06	22	1.0	N.D.
08.01.2021	38	22	10	24	0.8	N.D.
11.01.2021	44	24	08	18	1.1	N.D.
15.01.2021	40	20	12	26	1.0	N.D.
18.01.2021	36	18	10	24	0.8	N.D.
22.01.2021	40	24	14	22	0.6	N.D.
25.01.2021	42	20	10	20	1.0	N.D.
29.01.2021	40	22	12	18	1.1	N.D.

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

Terms & conditions

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

 02/02/2021 PREPARED BY		For ULTIMATE ENVIRONMENTAL SOLUTIONS 02/02/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----



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

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

Name & Address of The Client:-		REPORT NO	UES/TR/20-21/04596
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/04288
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	02/03/2021
		DATE OF ANALYSIS	START:02/02/2021 END:02/03/2021
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDOR: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	42	22	08	24	1.1	N.D.
05.02.2021	36	20	12	22	1.0	N.D.
08.02.2021	46	26	10	20	1.2	N.D.
12.02.2021	42	22	14	24	0.8	N.D.
15.02.2021	38	20	12	22	1.1	N.D.
19.02.2021	42	22	16	26	0.8	N.D.
22.02.2021	40	24	12	22	1.1	N.D.
26.02.2021	44	26	14	20	1.2	N.D.

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

Terms & conditions

- The report for publication, circulation or as legal document is forbidden.
- Test results will be retained for 12 days after issue of test report unless otherwise agreed with customer.
- This is for information to the party has order for above stated only.

 02/03/2021 PREPARED BY		For ULTIMATE ENVIRONMENTAL SOLUTIONS 02/03/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----



HDD-272, Phase III - Near J.P 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

Address of Your Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		REPORT NO UES/TR/20-21/05012
		LAB REF NO UES/20-21/AAQM/04103
		DATE OF SAMPLING 01/03/2021 to 26/03/2021
		DATE OF RECEIPT 02/03/2021 to 27/03/2021
		DATE OF REPORT 01/04/2021
		DATE OF ANALYSIS START:02/03/2021 END:31/03/2021
SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANKHETA	
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE	
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO., SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.	

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	30
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	30
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.03.2021	44	24	08	20	1.2	N.D.
05.03.2021	38	26	06	24	0.8	N.D.
08.03.2021	48	20	08	26	1.1	N.D.
12.03.2021	44	24	10	20	0.8	N.D.
15.03.2021	40	28	12	24	1.0	N.D.
19.03.2021	44	20	14	20	1.2	N.D.
22.03.2021	42	26	10	16	1.0	N.D.
26.03.2021	46	28	08	18	1.1	N.D.

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

Terms & conditions

- The report for publication, submission or as legal evidence 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 entry has asked for above to be used.

 01/04/2021 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 01/04/2021 AUTHORIZED SIGNATORY
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End of the test report



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

Recognized By Ministry of Environment Forest & Climate Change Under EP act 1986

Name & Address Of The Customer:

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

REPORT NO	UES/TR/20-21/01794	
LAB REF NO	UES/20-21/AAQM/02274	
DATE OF SAMPLING	05/10/2020 to 30/10/2020	
DATE OF RECEIPT	06/10/2020 to 31/10/2020	
DATE OF REPORT	02/11/2020	
DATE OF ANALYSIS	START:06/10/2020	END:02/11/2020

SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	ETP AREA, BANJIKHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBERBLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
05.10.2020	40	24	12	30	1.0	N.D.
09.10.2020	46	28	10	24	1.2	N.D.
12.10.2020	40	22	14	22	1.6	N.D.
16.10.2020	44	26	12	26	1.2	N.D.
19.10.2020	38	28	8	22	1.4	N.D.
24.10.2020	48	24	12	28	1.0	N.D.
26.10.2020	44	28	16	22	1.2	N.D.
30.10.2020	42	22	10	20	1.0	N.D.

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

Terms & conditions

- The use of 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.

Prepared by
02/11/2020
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**
Authorized Signatory
02/11/2020
AUTHORIZED SIGNATORY

End of the test report



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

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

TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/03123	
	LAB REF NO	UES/20-21/AAQM/02770	
	DATE OF SAMPLING	02/11/2020 to 29/11/2020	
	DATE OF RECEIPT	03/11/2020 to 30/11/2020	
	DATE OF REPORT	03/12/2020	
	DATE OF ANALYSIS	START: 03/11/2020	END: 03/12/2020
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PG/SRV/2021/0035, DID. 21-AUG-2020
SAMPLING LOCATION	ETP AREA, RAJNIGROL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-1	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10-5	—

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.11.2020	44	22	06	26	1.2	N.D.
05.11.2020	42	20	08	22	0.6	N.D.
09.11.2020	38	28	10	20	0.8	N.D.
12.11.2020	46	20	06	24	1.1	N.D.
16.11.2020	42	26	12	18	1.4	N.D.
19.11.2020	38	24	10	20	1.2	N.D.
23.11.2020	34	22	08	28	1.0	N.D.
29.11.2020	36	28	12	14	0.6	N.D.

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

Terms & conditions

- The report for each test, irrespective of the type of test, is valid for 30 days.
- Test samples will be retained for 15 days after receipt of report.
- TMS is for information at the point of test and not for legal purposes.

 PREPARED BY 03/12/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 03/12/2020
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-----End of the test report-----

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



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

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

Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/03531
	LAB REF NO	UES/20-21/AAQM/03178
	DATE OF SAMPLING	01/12/2020 to 28/12/2020
	DATE OF RECEIPT	02/12/2020 to 29/12/2020
	DATE OF REPORT	02/01/2021
	DATE OF ANALYSIS	START: 03/12/2020 END: 02/01/2021

SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	EDP AREA, BANJINGHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.12.2020	46	24	10	22	1	N.D.
07.12.2020	44	26	16	20	0.8	N.D.
12.12.2020	40	20	10	18	1	N.D.
14.12.2020	48	24	8	22	1.2	N.D.
19.12.2020	46	28	16	20	1	N.D.
21.12.2020	40	22	14	18	0.8	N.D.
26.12.2020	42	26	12	26	0.6	N.D.
28.12.2020	46	22	10	22	0.8	N.D.

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

Terms & conditions

- The report for publication, arbitration or as legal evidence 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 mentioned.

 02/01/2021 PREPARED BY	 For ULTIMATE ENVIRONMENTAL SOLUTIONS 02/01/2021 AUTHORIZED SIGNATORY
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End of the Test report



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

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

Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/03955	
	LAB REF NO	UES/20-21/AAQM/03640	
	DATE OF SAMPLING	04/01/2021 to 29/01/2021	
	DATE OF RECEIPT	05/01/2021 to 30/01/2021	
	DATE OF REPORT	02/02/2021	
	DATE OF ANALYSIS	START: 05/01/2021	END: 02/02/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	ETP AREA, BANJIKHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
04.01.2021	42	24	08	24	1.0	N.D.
08.01.2021	40	18	10	20	0.8	N.D.
11.01.2021	36	26	06	18	0.6	N.D.
15.01.2021	44	18	08	22	1.0	N.D.
18.01.2021	40	24	10	16	1.2	N.D.
22.01.2021	36	22	12	18	1.0	N.D.
25.01.2021	38	20	06	26	1.1	N.D.
29.01.2021	40	26	10	16	0.8	N.D.

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

Terms & conditions

- The report for publication, arbitration or as legal dispute is for information only and is not to be used as evidence unless agreed with customer.
- Test sample will be retained for 15 days after issue of test report.
- This is for information as the party has asked for above.

 PREPARED BY	 AUTHORIZED SIGNATORY
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-----End of the test report-----



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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04597
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/04289
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	02/03/2021
		DATE OF ANALYSIS	START:02/02/2021 END:02/03/2021
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-APR-2020
SAMPLING LOCATION	BYP AREA, DANJINGOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1KI NO., FILTER PAPER (PM _{2.5}): 1KI NO. SO ₂ : 30MLKI NO. PVC BOTTLE, NO ₂ : 30MLKI NO. PVC BOTTLE RUBBER BLADDER: 1KI NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-1	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-1	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-1	80
Nitrogen Dioxide (NO 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 IO-5	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	40	22	10	26	0.8	N.D.
05.02.2021	42	20	12	22	1.0	N.D.
08.02.2021	38	24	08	20	0.8	N.D.
12.02.2021	42	20	10	24	1.1	N.D.
15.02.2021	44	26	12	18	1.4	N.D.
19.02.2021	38	24	14	20	1.2	N.D.
22.02.2021	40	22	08	28	1.0	N.D.
26.02.2021	42	26	12	18	0.6	N.D.

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

Terms & conditions

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

 PREPARED BY 02/03/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 02/03/2021
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End of the test report



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

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

Name & Address of The Customer: TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/05013	
	LAB EXP NO	UES/20-21/AAQM/04104	
	DATE OF SAMPLING	01/03/2021 to 26/03/2021	
	DATE OF RECEIPT	02/03/2021 to 27/03/2021	
	DATE OF REPORT	01/04/2021	
	DATE OF ANALYSIS	START:02/03/2021	END:31/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DPO, 21-AUG-2020
SAMPLING LOCATION	ETP AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.03.2021	42	24	08	20	1.0	N.D.
05.03.2021	46	28	10	28	1.2	N.D.
08.03.2021	40	20	16	24	0.6	N.D.
12.03.2021	44	26	12	22	0.8	N.D.
15.03.2021	48	22	10	16	1.1	N.D.
19.03.2021	40	28	16	22	1.0	N.D.
22.03.2021	46	26	08	24	1.6	N.D.
26.03.2021	44	20	16	20	1.2	N.D.

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

Terms & conditions

- The report for publication, circulation or as legal evidence is forbidden.
- Test sample left in reactor for 16 days after issue of test report. We are not liable for any damage agreed with customer.
- This is for information as the party has asked for above mentioned.

 PREPARED BY		For ULTIMATE ENVIRONMENTAL SOLUTIONS AUTHORIZED SIGNATORY
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End of the Test report



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

Recognized By Ministry of Environment Forest & Climate Change Under EP act 1986

Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/01795	
	LAB REF NO	UES/20-21/AAQM/02275	
	DATE OF SAMPLING	05/10/2020 to 30/10/2020	
	DATE OF RECEIPT	06/10/2020 to 31/10/2020	
	DATE OF REPORT	02/11/2020	
	DATE OF ANALYSIS	START:06/10/2020	END:02/11/2020

SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD, 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBERBLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-1	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	—

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
05.10.2020	42	28	12	24	1.00	N.D.
09.10.2020	50	24	18	28	1.20	N.D.
12.10.2020	42	26	12	22	1.20	N.D.
16.10.2020	46	20	10	16	1.00	N.D.
19.10.2020	42	28	16	28	1.00	N.D.
23.10.2020	50	24	10	20	1.60	N.D.
26.10.2020	42	28	14	24	1.40	N.D.
30.10.2020	42	22	15	20	1.60	N.D.

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

Terms & conditions

- The use of 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.

 PREPARED BY 02/11/2020	 For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 02/11/2020
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End of the test report



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

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Name & Address Of The Customer		REPORT NO	URS/TR/20-21/03124
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/02771
		DATE OF SAMPLING	02/11/2020 to 29/11/2020
		DATE OF RECEIPT	03/11/2020 to 30/11/2020
		DATE OF REPORT	03/12/2020
		DATE OF ANALYSIS	START:03/11/2020 END:03/12/2020
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, STD. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.11.2020	50	24	10	22	0.8	N.D.
05.11.2020	52	20	14	24	0.6	N.D.
09.11.2020	48	28	12	26	1.0	N.D.
12.11.2020	56	20	10	20	1.1	N.D.
16.11.2020	52	26	08	14	1.0	N.D.
19.11.2020	48	20	06	18	1.1	N.D.
23.11.2020	40	28	12	20	0.6	N.D.
29.11.2020	52	26	08	24	0.8	N.D.

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

Terms & conditions

- The report for particulate matter is based on legal detection limit.
- The sample will be retained for 15 days after issue of report.
- This is for information at the party but does not alter.

 PREPARED BY 03/12/2020	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY 03/12/2020
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph: 0771 - 402777 | Email: ultimatenviro@gmail.com

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

Name & Address Of The Customer:		REPORT NO	UES/TR/20-21/03532	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/03179	
		DATE OF SAMPLING	01/12/2020 to 28/12/2020	
		DATE OF RECEIPT	02/12/2020 to 29/12/2020	
		DATE OF REPORT	02/01/2021	
		DATE OF ANALYSIS	START: 03/12/2020	END: 02/01/2021
SAMPLE DETAILS				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
SAMPLING LOCATION	OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.12.2020	56	26	12	24	1	N.D.
07.12.2020	54	22	10	26	0.8	N.D.
12.12.2020	46	28	16	20	0.6	N.D.
14.12.2020	58	20	10	24	1	N.D.
19.12.2020	52	22	18	22	1.2	N.D.
21.12.2020	56	22	12	20	1	N.D.
26.12.2020	50	26	10	28	1.6	N.D.
28.12.2020	54	20	16	22	1.2	N.D.

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

Terms & conditions

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

 02/01/2021 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 02/01/2021 AUTHORIZED SIGNATORY
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End of the test report



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

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

Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/03956	
	LAB REF NO	UES/20-21/AAQM/03641	
	DATE OF SAMPLING	04/01/2021 to 29/01/2021	
	DATE OF RECEIPT	05/01/2021 to 30/01/2021	
	DATE OF REPORT	02/02/2021	
	DATE OF ANALYSIS	START: 05/01/2021	END: 02/02/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5102 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
04.01.2021	48	22	08	20	0.6	N.D.
08.01.2021	50	18	12	22	0.8	N.D.
11.01.2021	46	26	10	24	1.1	N.D.
15.01.2021	54	18	08	18	1.0	N.D.
18.01.2021	50	24	10	16	0.8	N.D.
22.01.2021	46	18	08	20	1.0	N.D.
25.01.2021	42	26	10	18	0.8	N.D.
29.01.2021	50	24	12	22	1.0	N.D.

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

Terms & conditions

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

 PREPARED BY 02/02/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 02/02/2021
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-----End of the test report-----



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

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

Name & Address of The Customer:		REPORT NO	UES/TR/20-21/04598
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/04290
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	02/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 02/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRY/2021/0035, DTB: 22-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	6.0
Mercury (Hg)	EPA Method ID-5	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	46	24	10	22	0.8	N.D.
05.02.2021	52	20	14	24	1.0	N.D.
08.02.2021	48	28	12	26	1.2	N.D.
12.02.2021	52	20	10	20	1.1	N.D.
15.02.2021	54	26	12	18	1.0	N.D.
19.02.2021	48	22	10	22	0.8	N.D.
22.02.2021	44	24	12	20	1.0	N.D.
26.02.2021	51	22	14	24	1.2	N.D.

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

Terms & conditions

- The report for publication, withdrawal or no legal dispute is forbidden.
- Your 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 report only. It is not a contract.

 PREPARED BY 02/03/2021		For ULTIMATE ENVIRONMENTAL SOLUTIONS AUTHORIZED SIGNATORY 02/03/2021
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End of the test report



HDD-272, Phase III - Near JP Chowk
Ring Road No-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph: 9771 - 4027777 | Email: ultimatenviro@gmail.com

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

<i>Name & Address of the Customer</i>		REPORT NO	UES/TR/20-21/05014
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/04105
		DATE OF SAMPLING	01/03/2021 to 26/03/2021
		DATE OF RECEIPT	02/03/2021 to 27/03/2021
		DATE OF REPORT	01/04/2021
		DATE OF ANALYSIS	START: 02/03/2021 END: 31/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-ADG-2020
SAMPLING LOCATION	OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : JUMEXI NO. PVC BOTTLE, NO ₂ : 3JUMEXI NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	60
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	60
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10-S	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.03.2021	48	22	12	24	1.2	N.D.
05.03.2021	54	26	14	22	1.1	N.D.
08.03.2021	50	22	10	24	1.0	N.D.
12.03.2021	54	18	16	26	1.6	N.D.
15.03.2021	58	20	18	22	1.2	N.D.
19.03.2021	42	26	12	28	1.0	N.D.
22.03.2021	46	28	14	20	1.2	N.D.
26.03.2021	50	24	16	26	1.1	N.D.

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

Terms & conditions

- The report for publication, authentication or all legal documents is for client.
- The samples will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has agreed for above test.

 01/04/2021 PREPARED BY	 For ULTIMATE ENVIRONMENTAL SOLUTIONS	 01/04/2021 AUTHORIZED SIGNATORY
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End of the test report



Ultimate
ENVIROLYTICAL SOLUTIONS

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

Recognized By Ministry of Environment Forest & Climate Change Under EP act 1986

Name & Address Of The Customer

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

REPORT NO	UES/TR/20-21/01796	
LAB REF NO	UES/20-21/AAQM/02276	
DATE OF SAMPLING	05/10/2020 to 30/10/2020	
DATE OF RECEIPT	06/10/2020 to 31/10/2020	
DATE OF REPORT	02/11/2020	
DATE OF ANALYSIS	START:06/10/2020	END:02/11/2020

SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBERBLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
05.10.2020	42	24	12	24	1.1	N.D.
09.10.2020	46	28	10	26	1.6	N.D.
12.10.2020	40	22	16	20	1.2	N.D.
16.10.2020	44	26	10	28	1.8	N.D.
19.10.2020	42	20	18	24	1.2	N.D.
24.10.2020	46	28	16	22	1.0	N.D.
26.10.2020	40	24	10	26	1.8	N.D.
30.10.2020	46	22	14	20	1.2	N.D.

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

Terms & conditions

- The use of 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.

Shukra
02/11/2020
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Chandrasekar
02/11/2020
AUTHORIZED SIGNATORY

End of the test report



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

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

Name & Address Of The Customer:		REPORT NO	UES/TR/20-21/03125
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAN REF NO	UES/20-21/AAQM/02772
		DATE OF SAMPLING	02/11/2020 to 29/11/2020
		DATE OF RECEIPT	03/11/2020 to 30/11/2020
		DATE OF REPORT	03/12/2020
		DATE OF ANALYSIS	START: 03/11/2020 END: 03/12/2020
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	FIT OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
02.11.2020	40	26	12	22	1.4	N.D.
05.11.2020	48	22	08	26	0.6	N.D.
09.11.2020	38	28	14	18	0.9	N.D.
12.11.2020	46	20	12	20	1.2	N.D.
16.11.2020	42	26	08	22	1.0	N.D.
19.11.2020	44	28	10	26	1.2	N.D.
23.11.2020	50	22	14	18	0.8	N.D.
29.11.2020	46	28	10	24	1.0	N.D.

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

Terms & conditions

- The report for publication, attachment to all legal papers is free of cost.
- Test sample will be returned for 7 days after receipt of final report.
- Fee is to be paid in advance as the party has advised during the time of sampling.

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

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



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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03533	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/03180	
		DATE OF SAMPLING	01/12/2020 to 28/12/2020	
		DATE OF RECEIPT	02/12/2020 to 29/12/2020	
		DATE OF REPORT	02/01/2021	
		DATE OF ANALYSIS	START: 05/12/2020	END: 02/01/2021
SAMPLE DETAILS				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-NOV-2020	
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLKI NO. PVC BOTTLE, NO ₂ : 30MLKI NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.12.2020	42	24	10	26	0.8	N.D.
07.12.2020	46	28	14	22	0.6	N.D.
12.12.2020	40	20	10	20	1	N.D.
14.12.2020	42	26	16	28	0.6	N.D.
19.12.2020	48	22	10	18	0.8	N.D.
21.12.2020	46	24	18	16	1	N.D.
26.12.2020	44	20	12	20	1.2	N.D.
28.12.2020	40	26	16	18	1	N.D.

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

Terms & conditions

- > The report for publication, arbitration or as legal document is forbidden.
- > Test samples 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 type of work.

 02/01/2021 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 02/01/2021 AUTHORIZED SIGNATORY
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End of the test report



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

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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/03957	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/03642	
		DATE OF SAMPLING	04/01/2021 to 29/01/2021	
		DATE OF RECEIPT	05/01/2021 to 30/01/2021	
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 05/01/2021	END: 02/02/2021
SAMPLE DETAILS				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.			

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
04.01.2021	38	24	10	20	1.2	N.D.
08.01.2021	46	20	12	24	0.8	N.D.
11.01.2021	36	26	10	16	1.0	N.D.
15.01.2021	44	18	08	18	1.1	N.D.
18.01.2021	40	24	06	20	0.8	N.D.
22.01.2021	42	26	08	24	1.1	N.D.
25.01.2021	48	20	12	16	0.6	N.D.
29.01.2021	44	26	08	22	0.8	N.D.

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

Terms & conditions

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

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



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

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<i>(Name & Address of The Customer)</i>		REPORT NO	UES/TR/20-21/04599
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/04291
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	02/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 02/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	60	22	12	22	1.1	N.D.
05.02.2021	44	24	14	26	1.0	N.D.
08.02.2021	38	28	12	18	1.1	N.D.
12.02.2021	42	20	10	20	1.2	N.D.
15.02.2021	38	22	08	22	0.6	N.D.
19.02.2021	44	24	10	26	1.0	N.D.
22.02.2021	46	18	14	18	0.8	N.D.
26.02.2021	42	24	10	24	1.0	N.D.

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

Terms & conditions

- > The report for publication, circulation or as legal evidence is restricted.
- > Four 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 mentioned.

 02/03/2021 PREPARED BY		 02/03/2021 AUTHORIZED SIGNATORY
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End of the test report



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

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

Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/05015	
	LAB REF NO	UES/20-21/AAQM/04106	
	DATE OF SAMPLING	01/03/2021 to 26/03/2021	
	DATE OF RECEIPT	02/03/2021 to 27/03/2021	
	DATE OF REPORT	01/04/2021	
	DATE OF ANALYSIS	START: 02/03/2021	END: 31/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	M/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	FIT OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

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

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.03.2021	46	26	08	20	1.4	N.D.
05.03.2021	40	22	12	26	1.2	N.D.
08.03.2021	40	24	10	20	1.6	N.D.
12.03.2021	44	28	16	18	1.2	N.D.
15.03.2021	40	20	10	16	0.8	N.D.
19.03.2021	46	26	12	20	1.2	N.D.
22.03.2021	48	22	18	18	1.0	N.D.
26.03.2021	44	20	16	22	1.1	N.D.

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

Terms & conditions

- This report for publication, withdrawal or its legal dispute is suitable.
- Test samples 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 testing.

 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY
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End of the test report

Annexure - 9



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

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

Name & Address Of The Customer: TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/0213
	LAB REF NO	UES/20-21/AAQM/0257
	DATE OF SAMPLING	19/03/2021
	DATE OF RECEIPT	20/03/2021
	DATE OF REPORT	27/03/2021
	DATE OF ANALYSIS	START:22/03/2021 END:26/03/2021

SAMPLE DETAILS

MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANJERHOL		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., CBS6: CARCOAL TUBE., OZONE: 10MLX1 NO. BROWN PVC BOTTLE, NH4: 10MLX1 NO. BROWN PVC BOTTLE		

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m ³	0.3	6.0	CPCB Guidelines(AAS Method)
2	Nickel (as Ni)	ng/m ³	1.4	20	CPCB Guidelines (AAS Method)
3	Lead(as Pb)	µg/m ³	0.08	1.0	IS 5182 (Part 22): 2004:RA-2009
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m ³	N.D	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5
7	Ozone (O3)*	µg/m ³	9.6	180	CPCB Guidelines Vol-I
8	Ammonia (NH3)	µg/m ³	18.2	400	CPCB Guidelines Vol-I
9	Benzene (C6H6)	µg/m ³	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo(a)Pyrene	ng/m ³	N.D.	1.0	IS 5182 (Part 12):2014

Note: All results are on the basis of 24hour sampling.

REMARKS: * THESE RESULTS ARE ON THE BASIS OF 1 HOUR SAMPLING, N.D.: NOT DETECTED

Terms & conditions

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

 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 27/03/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----



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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/0214	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO.	UES/20-21/AAQM/0258	
		DATE OF SAMPLING	19/03/2021	
		DATE OF RECEIPT	20/03/2021	
		DATE OF REPORT	27/03/2021	
		DATE OF ANALYSIS	START: 22/03/2021	END: 26/03/2021
SAMPLE DETAILS				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DED. 21-AUG-2020	
SAMPLING LOCATION	EYP AREA, BANJIKROL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., C6H6: CARBOAL TUBE, OZONE: 10MLX1 NO. BROWN PVC BOTTLE, NH ₄ : 10MLX1 NO. BROWN PVC BOTTLE.			

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m ³	0.2	6.0	CPCB Guidelines(AAS Method)
2	Nickel (as Ni)	ng/m ³	1.2	20	CPCB Guideline (AAS Method)
3	Lead(as Pb)	µg/m ³	0.06	1.0	IS 5182 (Part 22): 2004:RA-2009
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m ³	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5
7	Ozone (O ₃)*	µg/m ³	6.8	100	CPCB Guidelines Vol-I
8	Ammonia (NH ₃)	µg/m ³	18.6	400	CPCB Guidelines Vol-I
9	Benzene (C ₆ H ₆)	µg/m ³	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo(a)Pyrene	ng/m ³	N.D.	1.0	IS 5182 (Part 12):2014

Note: All results are on the basis of 24hour sampling.

REMARKS: * THESE RESULTS ARE ON THE BASIS OF 1 HOUR SAMPLING, N.D.: NOT DETECTED

Terms & conditions

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

 27/03/21 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 27/03/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----



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

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

<i>(Name & Address Of The Customer)</i>		REPORT NO	UES/TR/20-21/0215		
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE,VILLAGE – BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/0259		
		DATE OF SAMPLING	19/03/2021		
		DATE OF RECEIPT	20/03/2021		
		DATE OF REPORT	27/03/2021		
		DATE OF ANALYSIS	START: 22/03/2021	END: 26/03/2021	
		SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DID. 21-AUG-2020		
SAMPLING LOCATION	OFFICE AREA, BANKHETA				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., C6H6: CARCOAL TUBE., OZONE: 10MLX1 NO. BROWN PVC BOTTLE, NH4: 10MLX1 NO. BROWN PVC BOTTLE				

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m ³	0.4	6.0	CPCB Guidelines(AAS Method)
2	Nickel (as Ni)	ng/m ³	1.2	20	CPCB Guideline (AAS Method)
3	Lead(as Pb)	µg/m ³	0.12	1.0	IS 5182 (Part 22): 2004:RA-2009
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m ³	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5
7	Ozone (O ₃)*	µg/m ³	10.2	180	CPCB Guidelines Vol-I
8	Ammonia (NH ₃)	µg/m ³	18.6	400	CPCB Guidelines Vol-I
9	Benzene (C ₆ H ₆)	µg/m ³	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo(a)Pyrene	ng/m ³	N.D.	1.0	IS 5182 (Part 12):2014

Note: All results are on the basis of 24hour sampling.

REMARKS: * THESE RESULTS ARE ON THE BASIS OF 1 HOUR SAMPLING, N.D.: NOT DETECTED

Terms & conditions

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

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



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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/0216
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/AAQM/0260
		DATE OF SAMPLING	19/03/2021
		DATE OF RECEIPT	20/03/2021
		DATE OF REPORT	27/03/2021
		DATE OF ANALYSIS	START: 22/03/2021 END: 26/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/PO/GRV/2021/0035, DTD 21-AUG-2020
SAMPLING LOCATION	FIT OFFICE AREA, BANKHETA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., C6H6: CARCOAL TUBE, O3/NO: 10MLX1 NO. BROWN PVC BOTTLE, NH4: 10MLX1 NO. BROWN PVC BOTTLE		

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE
1	Arsenic (as As)	ng/m ³	0.4	6.0	CPCB Guidelines(AAS Method)
2	Nickel (as Ni)	ng/m ³	1.2	20	CPCB Guideline (AAS Method)
3	Lead(as Pb)	µg/m ³	0.06	1.0	IS 5182 (Part 22): 2004:RA-2009
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method IO-5
5	Chromium (as Cr)	µg/m ³	N.D.	-	EPA Method IO-5
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5
7	Ozone (O3)*	µg/m ³	9.2	180	CPCB Guidelines Vol-I
8	Ammonia (NH3)	µg/m ³	12.6	400	CPCB Guidelines Vol-I
9	Benzene (C6H6)	µg/m ³	N.D.	5.0	IS 5182 (Part 11):2006
10	Benzo(a)Pyrene	ng/m ³	N.D.	1.0	IS 5182 (Part 12):2014

Note: All results are on the basis of 24hour sampling.

REMARKS: * THESE RESULTS ARE ON THE BASIS OF 1 HOUR SAMPLING, N.D.: NOT DETECTED

Terms & conditions

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

 27/03/21 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  27/03/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----

Annexure - 10



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

Recognized By Ministry of Environment Forest & Climate Change Under EP act 1986

Name & Address Of The Customer: TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/01807
	LAB REF NO	UES/20-21/N/02287
	DATE OF REPORT	23/10/2020
	DATE OF SAMPLING	13/10/2020 to 14/10/2020

SAMPLE DETAILS

MONITORING FOR	NOISE LEVEL MONITORING
CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)
SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION

TEST REPORT

LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	58	42	75	70
INCLINE AREA, BANJIKHOL	dB(A)	64	46		
BUNKER AREA, BANJIKHOL	dB(A)	52	44		
DG SET AREA, BANJIKHOL	dB(A)	66	52		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	62	48		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	54	38		
OFFICE AREA, BANKHETA	dB(A)	50	40		
WEIGHBRIGE AREA, BANKHETA	dB(A)	66	54		

LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	44	40	55	45
BELOJ VILLAGE (NEAR MANBODH HOUSE)	dB(A)	46	38		

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- The use of 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.

 PREPARED BY 23/10/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 23/10/2020
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End of the test report



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

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

Name & Address of the Customer		REPORT NO	UES/TR/20-21/03135
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/N/02782
		DATE OF REPORT	03/12/2020
		DATE OF SAMPLING	24/11/2020 to 25/11/2020
SAMPLE DETAILS			
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	N/PO/ERV/2021/0035, DTD, 21-AUG-2020		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

TEST REPORT

LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	62	46	75	70
INCLINE AREA, BANJIKHOL	dB(A)	58	42		
BUNKER AREA, BANJIKHOL	dB(A)	52	48		
DG SET AREA, BANJIKHOL	dB(A)	60	54		
WEIGHBRIDGE AREA, BANJIKHOL	dB(A)	66	50		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	54	46		
OFFICE AREA, BANKHETA	dB(A)	52	42		
WEIGHBRIDGE AREA, BANKHETA	dB(A)	58	48		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	48	40	55	45
BEJJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	42	38		

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 1 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has agreed (as per ISIRI) only.

 03/12/2020 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 03/12/2020 AUTHORIZED SIGNATORY
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-----End of the test report-----



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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03543
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/N/03190
		DATE OF REPORT	30/12/2020
		DATE OF SAMPLING	23/12/2020 to 24/12/2020
SAMPLE DETAILS			
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

TEST REPORT

LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	64	54	75	70
INCLINE AREA, BANJIKHOL	dB(A)	52	44		
BUNKER AREA, BANJIKHOL	dB(A)	50	42		
DG SET AREA, BANJIKHOL	dB(A)	62	58		
WEIGHBRIDGE AREA, BANJIKHOL	dB(A)	68	46		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	64	52		
OFFICE AREA, BANKHETA	dB(A)	58	48		
WEIGHBRIDGE AREA, BANKHETA	dB(A)	54	42		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANWADI)	dB(A)	46	42	55	45
BEJFOR VILLAGE (NEAR HANBODH HOUSE)	dB(A)	40	36		

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

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



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

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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/03967
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/N/03652
		DATE OF REPORT	03/02/2021
		DATE OF SAMPLING	22/01/2021 to 23/01/2021
SAMPLE DETAILS			
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

TEST REPORT

LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	54	44	75	70
INCLINE AREA, BANJIKHOL	dB(A)	50	40		
HUNKER AREA, BANJIKHOL	dB(A)	48	42		
DG SET AREA, BANJIKHOL	dB(A)	52	46		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	58	42		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	52	44		
OFFICE AREA, BANKHETA	dB(A)	50	38		
WEIGHBRIGE AREA, BANKHETA	dB(A)	54	42		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	44	38	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	38	32		

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 PREPARED BY 02/02/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 02/02/2021
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-----End of the test report-----



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

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

<i>Name & Address of the Customer</i>		REPORT NO	UES/TR/20-21/04609
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE,VILLAGE - BANKHETA, POST -MILUPARA, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/N/04301
		DATE OF REPORT	02/03/2021
		DATE OF SAMPLING	18/02/2021 to 19/02/2021
SAMPLE DETAILS			
MONITORING FOR	NOISE LEVEL MONITORING		
CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		

TEST REPORT					
LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	52	42	75	70
INCLINE AREA, BANJIKHOL	dB(A)	48	38		
BUNKER AREA, BANJIKHOL	dB(A)	46	40		
LG SET AREA, BANJIKHOL	dB(A)	50	44		
WRIGHTBRIDGE AREA, BANJIKHOL	dB(A)	56	40		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	54	42		
OFFICE AREA, BANKHETA	dB(A)	52	40		
WRIGHTBRIDGE AREA, BANKHETA	dB(A)	56	44		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGES (NEAR ANGANBADI)	dB(A)	42	36	55	45
DELTOR VILLAGES (NEAR MANSOOR HOUSE)	dB(A)	38	34		

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 02/03/2021 PREPARED BY		For ULTIMATE ENVIROLYTTICAL SOLUTIONS AUTHORIZED SIGNATORY 02/03/2021
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk
 Ring Road Nu.-2, Kabi Nagal, Raipur (C.G.) - 492099
 Ph. 0771 - 4027777 | Email: ultimatenviro@gmail.com

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

<small>Name & Address Of Client</small> TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, POST - MILUPARA, DISTT. - RAIGARH (C.G.) 496107	REPORT NO	UES/TR/20-21/05025
	LAB REF NO	UES/20-21/N/04116
	DATE OF REPORT	01/04/2021
	DATE OF SAMPLING	16/03/2021 to 17/03/2021
SAMPLE DETAILS		
MONITORING FOR	NOISE LEVEL MONITORING	
CUSTOMER REF. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020	
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)	
SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION	

TEST REPORT

LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	54	46	75	70
INCLINE AREA, BANJIKHOL	dB(A)	62	32		
HUNGER AREA, BANJIKHOL	dB(A)	44	46		
DG SET AREA, BANJIKHOL	dB(A)	52	42		
WEIGHBRIDGE AREA, BANJIKHOL	dB(A)	58	38		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	50	46		
OFFICE AREA, BANKHETA	dB(A)	54	42		
WEIGHBRIDGE AREA, BANKHETA	dB(A)	58	48		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	48	34	55	45
BELJOR VILLAGE (NEAR MANMOOH HOUSE)	dB(A)	36	30		

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

 01/04/2021 PREPARED BY	 For ULTIMATE ENVIRONMENTAL SOLUTIONS	 01/04/2021 AUTHORIZED SIGNATORY
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-----End of the test report-----

Annexure - 11



छत्तीसगढ़ पर्यावरण संरक्षण मंडल

पर्यावास भवन, नार्थ ब्लॉक, सेक्टर-19
नवा रायपुर, अटल नगर (छ.ग.) 492002
ई-मेल- hocecb@gmail.com

क्रमांक 5357- मुख्या./वैज्ञा./छ.ग.प.सं.मं./2019 नवा रायपुर, अटल नगर दिनांक 24/9 /2019

प्रति,

✓ श्री अनुराग श्रीवास्तव,
पार्टनर
मे0 अल्टीमेट इन्वायरोलाइटिकल सौल्यूशन्स,
272 -एच.डी.डी. फेस-3, कबीर नगर
रिंग रोड नं. 2 रायपुर (छ.ग.)

विषय :- प्रदेश में संचालित निजी प्रयोगशाला को छ.ग. पर्यावरण संरक्षण मंडल द्वारा प्रदत्त मान्यता के संबंध में।

संदर्भ :- 1. आपका आवेदन क्रमांक UES/2019-20/RL/3033 दिनांक 27.07.2019
2. नेशनल एकीडिटेशन बोर्ड फॉर टेस्टिंग एंड कैलिब्रेशन लेबोरेट्रीज (NABL) गुरुग्राम हरियाणा से प्राप्त प्रमाणीकरण पत्र दिनांक 01.08.2019.

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उपरोक्त विषयांतर्गत लेख है कि मंडल मुख्यालय द्वारा आपके निजी प्रयोगशाला को मंडल द्वारा संदर्भित पत्र क्रमांक 2671 दिनांक 18.08.2017 के माध्यम से 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 निजी प्रयोगशाला को मान्यता प्रदान की गई थी।

आपके द्वारा प्रस्तुत आवेदन के आधार पर किये गये निरीक्षण एवं नेशनल एकीडिटेशन बोर्ड फॉर टेस्टिंग एंड कैलिब्रेशन लेबोरेट्रीज (NABL) से प्राप्त एकीडिटेशन प्रमाणीकरण के आधार पर 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 की वैधता दिनांक 31.07.2021 तक प्रदान की जाती है। कृपया आपकी प्रयोगशाला में प्रचालकों की अद्यतन विश्लेषण दर सूची से मंडल को अवगत कराये।

सदस्य सचिव

छत्तीसगढ़ पर्यावरण संरक्षण मंडल,
नवा रायपुर, अटल नगर (छ.ग.)

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

Agni-233, Indira Paryavaran Bhavan,
Jor Bagh Road,
New Delhi – 110 003.
Dated, the 21st February, 2020

To

**M/s Ultimate Envirollytical Solution
HDD 272, Phase-3
Near J.P Chawk Kabir Nagar, Ring Road-2
Raipur-492099, Chhattisgarh**

Subject: -Recognition of M/s Ultimate Envirollytical 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 61st 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 Envirollytical 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 25.06.2022.**

2. As sought in your aforementioned application M/s Ultimate Envirollytical 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 (NO₂), Sulphur dioxide (SO₂), Total Suspended particulate matter, Respirable suspended particulate matter (PM₁₀), 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 non-compliance of any of the Terms and Conditions, the laboratory may be black-listed for a minimum period of two years and civil/ criminal proceedings, as applicable, may be initiated for performing functions on behalf of the Government in an unauthorized manner.

Yours faithfully,



(Dr. Susan George K.)
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**

(A Constituent Board of Quality Council of India)



CERTIFICATE OF ACCREDITATION

ULTIMATE ENVIROLYTICAL SOLUTIONS

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

**"General Requirements for the Competence of Testing &
Calibration Laboratories"**

for its facilities at

HDD 272, PHASE-III, KABIR NAGAR, RAIPUR, CHHATTISGARH, INDIA

in the field of

TESTING

Certificate Number: TC-6065

Issue Date: 01/08/2019

Valid Until: 31/07/2021

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)

Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer

Annexure - 12

Environmental Expenditure Details
(October 2020 to March 2021)

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

Particulars	Amount (Lakh)
Water Quality Management	33.92
Air Quality Management	3.54
Plantation, Green Belt Development	3.53
Other (Insecticide, Pest Control etc.)	7.16
Total	48.15