

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

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

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

		Production from (October2020 to March 2021) Open Cast: 0.167 MT (Million Tons) Under Ground: 0.00 MT (Million Tons) Total Coal Production from OC & UG (2020 -2021): 0.261 MT (Million Tons) Open Cast: 0.261 MT (Million Tons) Under Ground: 0.00 MT (Million Tons) 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 Annexure No. 2
ii	The calendar plan should be uploaded on MOEF website.	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. The production will be with in the limit of above schedule. Proposed calendar year quantities based on the current scenario. Mining calendar plan for FY 21-22: Open Cast: 0.56 MT (Million Tons) Under Ground: No proposal as of now In future if there will be any change in calendar plan the same will be intimated to MoEF & CC.
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.	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.
iv	Karanj should be deleted from the list of native species for plantation program.	Complied. Karanj will not be planted in mining area.

V	Rs. 5/T of coal/annum till the end of life of project with the escalation factor of coal production.	Being Complied. As per condition Rs. 5 /T is being utilized under CSR activities & Sustainability. Expenditure details from October 2020 to March 2021 is enclosed as Annexure No. – 3
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 Annexure- 4
х	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.

	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.	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 (Banjikhol & Bankheta) for reclamation, slope stabilization, green belt development & approx. 3,02,414 cubic meter stored for further uses in the mine area.
		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. Photographs of Vetiver Grass Plantation (OB Dump near Patch "C" GP IV/4 Coal Mines) attached as Annexure – 4AA
xiii	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, ecosensitive 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.	Noted.
xiv	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	

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	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.	
XV	As per the approved plan of the	Rs. 1.0 crore has been deposited to state forest
	Flora and Fauna and Conservation	department by the prior allottee against Wildlife
	plan for endangered species of Gare	conservation plan. Company will comply with
	IV/4 coal block" and recommended	mitigative measure as suggested by competent
	the PCCF (Wildlife), Rs. One crore be	authority if any in this regard in future also.
	deposited, at one time. With the	
	department of forest and wildlife,	
	Govt. of Chhattisgarh for the	
	implementation of the plan.	
xvi	The project authority shall also	The company will participate in regional action
	participate in a Regional action plan	plan of the State Government for the conservation
	of the State Government for the	of flora and fauna of the area, as per directives of
	conservation of flora and fauna	the authority. Company will comply with mitigative
	found within the study area, in	measure as suggested by competent authority if
	addition to the above funds shall	any in this regard in future also.
	also contribute financially for	any in this regard in rucare also.
	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.	
xvii	It will be used for growing plants	Being Complied.
	along the fringes of the side roads	Topsoil is being used for green belt development
	and reclamation of external dump	along the road and the reclamation of OB Dump

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	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 Mm3) will be accommodation in it including top soil for afforestation. The height of dump achieved during 1st and 2nd year will be 6 m to 20 m respectively.	Being Complied. The over burden is maintained as per approved mining plan. 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.

	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.	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
xxii	Adequate numbers of sprinklers should be provided on both the side of road to minimize pollution.	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
xxiii	Catch drains and siltation ponds of	Being Complied.
	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	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.
	watering the mine area, roads, green belt development etc. The drains should be regularly desilted	The store water is used for spraying / sprinkling on haul roads and also for greenbelt development.
	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	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.
xxiv	proper settling of silt material. Dimension of retaining wall at the	Being Complied.
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	within the mine to check run -off	To check run – off and siltation from OB / benches,
	and siltation should be based on rain	retaining wall is being constructed at the toe of
	fall data.	permanent dump slope.
xxv	Water sprinkling system (mist spray	Being Complied.
"""	type) shall be provided to check	Water sprinkling arrangement has been
	fugitive emission from conveyor	maintained at all haul roads, conveyor system,
	system, haulage roads and transfer	loading and unloading points to minimize the
	points.	fugitive dust emission.
xxvi	Fixed sprinkler shall be installed at	Being Complied.
70001	pit top truck loading hoppers in all	As per requirement, fixed type water sprinklers as
	the three mines, siding for dust	well as truck mounted water sprinklers has been
	control during coal loading.	provided in the mines and other places.
	Adequate numbers of sprinklers	provided in the fillines and other places.
	should be provided on both the	
	sides of road to minimize dust	
	pollution.	
xxvii	Drills should be wet operated only.	Being Complied.
	a succession of the succession,	In coal mining wet drilling is under practice.
xxviii	An action plan for mine closure with	Complied.
	details of area, depth, voids and	
	details of abandoned mine should	
	be submitted to the Ministry.	
xxix	Controlled blasting should be	Being Complied.
	practiced with use of delay	Controlled blasting is practiced with use of delay
	detonators. The mitigative	detonators.
	measures for control of ground	Ground vibration generated due to the blasting is
	vibrations and to arrest the fly of	measured BY seismographs regularly.
	rocks and boulders should be	The permissible limit for the ground vibration with
	implemented.	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	Being Complied.
	trucks of higher capacity (25 –tonne)	Transportation is being done with tarpaulin
	and loading shall be by siding.	covered trucks.
	Mechanically covered trucks should	
	be provided for transportation of	
	coal.	
xxxi	Area brought under afforestation	Being Complied.
	from the three mines shall be by	Planation in the mine area is being carried out
	planting native species in	@2500 plant/ha. Total 91300 nos. local plants
	consultation with local	species have been planted till date including OB
	DFO/Agriculture Department. The	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 Annexure No 5 Photographs of Treatment Facility at GP IV/4 Coal Mines is attached as Annexure - 5A
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 premonsoon (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 Annexure No6. 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 Annexure No. – 7.
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 un- extracted around the airshaft (within the subsidence influence area) to protect from any damage	Being Complied. Sufficient coal pillars have been will be left unextracted around the airshaft (within the subsidence influence area) to protect from any
xxxviii	from subsidence, if any. High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	damage from 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
xl	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	
xlvi	annually. 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.
xlix	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.		
li	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 dieses 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.		
lii	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 no- 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).		
Genera	al Conditions			

i	No change in mining technology and	Noted
	scope of working should be made	Noted
	without prior approval of the	
	ministry of Environment & Forest.	
ii	No change in the calendar plan for	Noted
	quantum of mineral coal and waste	Trocca
	should be made.	
iii	Four ambient air quality monitoring	Being Complied.
	stations shall be established in the	Four ambient air quality monitoring stations have
	core zone as well as in the buffer	been established and regular monitoring is being
	zone for PM10, PM2.5, SO2, and	carried out.
	NOx monitoring. Location of the	Reports are being periodically furnished to CECB.
	stations shall be decided based on	Copy of Monitoring Report from the period
	meteorological data topographical	October 2020 to March 2021 is enclosed as
	features and environmentally and	Annexure –8
	ecologically sensitive targets in	AIIIICAGIC U
	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.	
iv	Data on Ambient air quality (PM10,	Being Complied.
	PM 2.5, SO2, NOX) monitoring	All AAQM stations are decided based on the on the
	location of the stations shall be	meteorological data, topographical features and
	decided based on the	environmentally and ecologically sensitive targets
	meteorological data, topographical	in consultation with the state Pollution Control
	features and environmentally and	Board.
	ecologically sensitive targets in	Monitoring of heavy metals such as Hg, As, Ni, Cd,
	consultation with the state Pollution	Cr etc. carried out at least once in six months.
	Control Board. Monitoring of heavy	Heavy metals Monitoring report for the month of
	metals such as Hg, As, Ni, Cd, Cr etc.	March 2021 is attached as Annexure No. 9
	carried out at least once in six	
	months.	
V	Adequate measures shall be taken	Being Complied.
	for control of noise levels below 85	Ear muffs/plugs has been provided to the all
	dBA in the work environment.	workers engaged in blasting and drilling
	Workers engaged in blasting and	operations. The Noise monitoring report period
	drilling operation of HEMM, etc	October 2020 to March 2021 is enclosed as
	should be provided with ear	Annexure-10
	plugs/muffs.	
vi	Industrial wastewater (workshop	Being Complied.
	and wastewater from the mine)	
1		

	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 Annexure No 11
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.
х	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	
xii	the head of the company. 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 Annexure – 12 Now Nagpur Regional Office is looking after EC monitoring & compliances full co – operation has been extended to Regional Officer by furnishing
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	Complied. 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.
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.	Complied. The last Half Yearly Compliance report for the period from April 2020 to September 2020 was submitted to MoEF & CC dated 25.11.2020.
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.	Complied. 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

xix	The Environmental Statement for	Complied.
AIA	each financial year ending 31 March	Complied.
	in Form –V is mandated to be	Submitted the Environmental Statement Report (In
	submitted by the project proponent	Form - V) for the FY 2019 -20 to the concerned
	for the concerned State Pollution	State Pollution Control Board as prescribed under
		·
	Control Board as prescribed under	the Environment (Protection) Rules, 1986, dated
	the Environment (Protection) Rules,	18.09.2020 and also uploaded in the company's
	1986, as amended subsequently	website also E-mailed the EC Compliance report to
	shall be uploaded on the company's	Regional Office, Nagpur.
	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	
5	The Ministry or other competent	Noted.
	authority may stipulated any further	
	condition for environmental	
	Protection.	
6	Failure to comply with any of the	Noted.
	conditions mentioned above may	
	result in withdrawal of this	
	clearance and attract the provisions	
	of the Environmental (Protection)	
	Act, 1986	
7	The above condition will be	Noted.
	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.	
8	The Environmental Clearance is	Noted.
	subjected to the outcome of the	
	Judgeoted to the outcome of the	

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

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.

(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



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 Prasad Lenka

Mine Manager

Gare Palma-IV/4 Coal Mine

Banjikhol, Raigarh (CG).

Encl.: as above.

Copy to: OSD, CCO, Bilaspur.

Statistical return for the month of March -2021.

- Name of the Coal Company :- Gare Palma IV/4 Coal Mine, M/s Hindalco Industries Limited.
- Contact Name with Designation & Telephone No. :- Deepak Prasad Lenka (Mines Manager), Mob.No.9111006023
- 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		Pro	gressive (F.Y. 2020	-21)
	The second secon	Total	Opencast	Underground	Total	
	Opencast	Onderground			-	
Coking	•	0.000	25.283	261.691	0.000	261.691
Non Coking	25.283	0.000		261.691	0.000	261.691
Total Raw Coal	25.283	0.000	25.283	201.091	0.000	
Clean Coal		-	11.	•	-	
Middlings	*	· ·		•		-
Rejects				*	-	

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

Table 2 : Despatch of Raw Coal, Clean		n (In Thousand Tonnes)	Mode of I	Despatch (In Thousand Tonnes)	
Coal Type	During Month	1 (5) (5) (5)		Road	Others
	During Workin	/		-	1.7
Coking		292,33941		29.38840	-
Non Coking	29.38840	292.33941	-	29.38840	
Total Raw Coal	29.38840	292.33941			
Clean Coal	-		-		
Middlings	*	W.	-		
Rejects			•	-	
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	•	1	
Non Coking	26.890866		
Total Raw Coal	26.890866		
Clean Coal	*1	_	
Middlings		_	
Rejects	·		

Signature:

Designation: Owner/ Agent/ Manager

Date :- 02.04.2021

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		

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	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,		
2016	mine	6500	90.00	5850	2.3			
2017	lease	10000	87.00	8700	3.5			
2018	area/OB	5000	87.00	4350	1.7			
2019	Dump.	6600	90.00	5940	2.4			
2020		10200	93.83	9570	3.9			
Total		91300	87.03	79460	31.8	Baheda & Kathal etc.		
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



HDD-272, PHASE III- NEAR JP CHOWK. RING BOAD 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

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			
DAWN OF AMBIVOTO	emapm-15/00/2020 pwp. 22/10/2020			

SAMPLE DETAILS						
SMPLE TYPE	WASTE WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035 DTD. 21-AUG-2020		
CUSTMER SAMPLE ID	LE ID ETP OUTLET BANJIKHOL		SAMPLE CONDITION AT RECEIPT	OK		
PACKING OF SAMPLE	3 L X I NO. PVC CAN 1 L X I NO. PVC CAN I 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-R, 1-39		APHA	QUARTITY RECEIVED	5 LTR		

N.	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 2200Ed. 2012,2120-B,2-6	See 6 of Annexure-1	<1			
2	Odour		APHA 22°FEd, 2012,2120-B,2-6	See 6 of Annexure I	Agreeable			
3	Temperature	'c	APHA 22 ded, 2012, 2130-B, 2-13	Shall not expeed 5°E above the receiving water temperature	25.8			
4	pH		APHA 22°d Ed. 2012, 4500-H*-B, 4-92	5.5 to 9.0	7.32			
111	Total Residual Chlorine	mg/L	APHA 22nd Ed.2012,4500-01-6,4-69	1.0	N.D.			
6	Total Suspended Solids	mg/L	APHA 22" Ed. 2012, 2540- D, 2-66	100	20.0			
7	Dissolved Phosphate (as P)	mg/1,	APHA 32mm Ed.2012,4506-F-C,4-153	5_()	N.D.			
6	Fluoride (as F)	mg/L	APHA 22" Ed.2012,4500-F-B &D, 4- B4 & 87	2.0	N.D.			
9	Lead (as Pb)	mg/L-	APHA 22° Ed. 2012, 3111-B, 3-18	()-1	N.D.			
10	Zinc (as Zn)	mg/L	APHA 22nd Ed. 2012, 3111-8, 3-18	5.0	N.D.			
II	Copper (as Cu)	mg/L	APHA 2204 Ed.2012,3111-8, 3-18	9.0	N.D.			
12	Cadmium (as Cd)	mg/L	APHA 22" Ed. 2012, 3500-Cd. 1-105	2+0	N.D.			
13	Hercury (as Hg)	mg/L	APRA 22" Ed.2012, 3112-B, 3-23	0.01	N.D.			
14	Arsenic (as As)	mg/L	APHA 22 Ed. 2012, 3114-C, 3-38	0.2	N.D.			
15	Selenium (as Se)	mg/L	APHA 22ml Ed. 2012, 3114-C. 3-38	0,05	N.D.			
16	Total Chromium (as Cr)	mg/L	APHA 22 Ed. 2012, 3500-Cr-B, 3-69	2.0	N.D.			
17	Chemical Oxygen Demand (CCD)	mg/L	APHA 22md Ed.2012, 5520-B, 5-17	250	44.0			
16	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	4.2			
15	Dil & Grease	mg/L-	IS 3025 (Part 39):1991, RA 2003	10.0	N.D.			
26	Phenolic Compounds (as C.H.OH)	mg/L	IS 3025 (Part 43);1992, RA 2003	I()	N.D.			

Terms & conditions

The use of the report for publication, arbitration or as In Test comple will be retained for 15 days after issue at In Tale is for information as the party has asked for above

Traker 23 10 2020

FOR ULTIMATE ENVIROLITICAL SOLUTIONS

10/2020 AUTHORIZED SIGNATORY

End of the test report-



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			NORT NO REF NO RE OF SAMPLING RE OF REGELPT RE OF REPORT RE OF ANALYSIS	UES/TR/20-21/03127 UES/20-21/W/02774 24/11/2020 25/11/2020 03/12/2020 STANT: 26/11/2020 SND: 03/12/2020		
		SAMPLE	DETAILS		V	
SAMPLE TYPE	WASTE WATER		CHOSE /REFERENCE			0/BRV/2021/0035, 21-AUG-2020
CUSTOUR SAMPLE ID	ETF COTLET BANJINGOL		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		6100	UST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; 22MD ED. 2012, 1060-b, 1-39	APKA	QUANTITY RECEIV	ED.	5 10	78

	TEST REPORT						
SR. NO.	PARAMETER UNIT		METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1985 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT		
1	Colour	Hazen	APHA 22"Ed. 2012,2129-8,2-6	See & of Annexure-I	<1		
2	Odour	-	APRA 32 Ed. 2017, 2170-8, J-6	Dee E of Annualte-1	Agreeable		
3	Temperature	÷c.	APBA 22 rd Ed.2012,2110-B,2-13	Shell not exceed b'C above the receiving water temperature	25.6		
4	PH	18	APHA 22" Ed. 2012, 4500-H-B, 4-92	5:5 to 9.0	7.28		
5	Total Residual Chlorine	mg/L	APMA 22" Ed.2012,4500-01-6,4-69	1.0	N.D.		
6	Total Suspended Solids	mg/L	APSA 27" Ed. 2017, 2540- D. 2-66	100	16.0		
7	Dissolved Phosphate (as P)	ng/L	APHA 22 ^{NM} Ed.2012,4500-P-C,4-153	5.0	H.D.		
8	Fluoride (as F)	ng/L	APRA 22" Ed. 2012, 4500-P-B 4D, 4- 84 & 87	2:0	N.D.		
9	Lead (as Pb)	mg/L	APHA 22" Ed.2012,3111-B, 3-18	0.1	N.D.		
10	Zinc (as En)	ng/L	APHA 22 rd Ed.2012,3111-B, 3-10	5.0	N.D.		
11	Copper (as Cu)	10075	AFHA 27" Ed. 2012, 3111-0, 3-10	3.0	N.D.		
12	Cadmium (as Cd)	ng/L	APNA 22" Ed. 2012, 3500-Cd. 3-105	2.0	34,35.		
13	Mercury (as Eg)	ng/L	APHA 22" Ed.2012, 3112-B, 3-23	0.01	N.D.		
14	Arsenic (as As)	mg/L	APHA 22" Ed.2012,3114-C, 1-38	0.2	H.D.		
15	Selenium (as Se)	ng/L	APHA 22" Ed. 2012, 3114-C, 3-36	0.05	N.D.		
16	Total Chromium (as Cr)	mg/L	APMA 22" Ed.2012,3500-Gr-E,3-69	2.0	N.D.		
17	Chemical Oxygen Demand (COD)	ng/L	APHA 22 ^{ml} Ed.2012, 5520-8, 5-17	250	14:0		
18	Biochemical Oxygen Demand (BOD)	ng/L	18 3025 (Fart \$4):1393, AA 2003	ΞO	2,2		
1.9	Oil & Gresse	mg/L	IS 3025 (Part 90):1991, RA 2083	10.0	N.D.		
20	Phenolic Compounds (as CaNeOH)	ng/L	IS 3025 (Part 43):1992, PA 2003	1+0	N.D.		

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

Terms & canditions

The report for publication, a

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PREPARED BY 03 12 2020

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-End of the test report----



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

Name & Actions Of the Contembr TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107			EPORT WO AS REF NO ATE OF SAMPLING ATE OF RECEIPT ATE OF REPORT ATE OF ANALYSIS	UES/TR/20- UES/20-21/ 22/12/2020 23/12/2020 30/12/2020 START: 23/12/	/w/03: 0 0	79777
		SAMPLE	DETAILS			
SAMPLE TIPE	HAUTE WATER		ORDER /REFIGRENCE:			0/spev/2021/0035, , 21-AUG-2020
COSTMER SAMPLE ID	KEY COTEST BANTIKHOL		EAMPLE COMPLETO	W AT RECEIPY	OR - 23-800-2020	
PACSING OF SAMPLE 1 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE		BUALED	SAMPLE COLLECTS:	n br	CHEMIST	
SAMPLING PROCESSOR 18:3025(PART 1):1907 RA 2003; AL 22MD ND. 2012, 1060-B, 1-39			SIMBALLIA SECRETARD		5-lin	

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLANO SURFACE WATER	RESULT	
1	Colour	Hazen	APMA 22 Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1	
2	Odour	-	APRA 22 Ed. 2012,2120-8,2-6	See 6 of Annexure-I	Agreeable	
3	Femperature	TO	APRR 22 Ed. 2012, 2130-8, 2-13	Shall not exceed 5°C above the receiving water Lemmerature	25.4	
4	pH	- ~	APRA 22" Ed. 2012, 4500-H'-8, 4-92	5,5 to 9,0	7.18	
5	Total Residual Chlorina	mg/1	APHA 22 ^{MB} Ed.2012,4500-C1-G,4-69	1,0	N.D.	
6.	Total Suspended Solids	mg/L	AFBA 22" Ed.2012,2540- 0, 2-66	100	20.0	
7	Dissolved Phosphate (as F)	mg/L	APHA 22° Ed.2012,4500-P-C,4-151	5.0	N.D.	
В	Fluorido (as F)	mg/Ti	APHA 22" Dd.2012,4500-F-B 6D, 4- 84 6 87	2.0	N.D.	
3	Lead (as Pb)	mg/L	APHA 22 Ed.2012,3111-B, 3-18	0.1	N.D.	
10	Sinc (as En)	ng/L	APHA 22" Ed, 2012, 3111-B, 3-18	5.0	N.D.	
11	Copper (as Cu)	119/1	APHA 22 Ed.2012,3111-B, 3-18	3.0	N.D.	
12	Cedmium (as Cd)	ng/L	APHA 22" Ed.2012, 3500-Cd; 3-105	2.0	N.D.	
13	Mercury (as Hg)	ng/L	APRA 22" Ed. 2012, 3112-B, 3-23	0.01	N.D.	
Id	Arsenic (as As)	mg/L	APHA 22 ⁶⁴ Ed. 2012, 3114-C, 3-38	0.2	N.D.	
15	Solenium (as Se)	mg/L	APHA 22" Ed.2012,3114-C, 3-38	0.05	N.D.	
16	Total Chromium (as Cr)	mg/L	APHA 22" Ed. 2012, 3500-Cr-8, 3-69	2.0	N.D.	
17	Chemical Oxygen Demand (COD)	mg/L	АРНА 22 ^{Md} Bd.2012, 5520-8, 5-17	250	24.0	
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	3.8	
19	Oil & Greate	mg/L	IS 3025 (Part 39):1991, RA 2003	10.0	N.D.	
20	Phenolic Compounds (as C,H ₂ OH)	ng/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 of an logal despute in forbidden

Test sample will be retained for 15 days after issue of test epophicibets of province agreed will consumer

This is for information as the party has asked for above 1909 (Sigh) file.

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TO, HINDALCO INDU: GARE PALMA - IV VILLAGE - BANK POST - MILUPARA DISTT RAIGARI	STRIES LIMITED, 1/4, COAL MINE, HETA,	DA DA	REPORT NO UES/TR/20-21/03959 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 AMALYSIS START: 23/01/2021 END: 02/02				
		SAMPLE	DETAILS		4		
SAMPLE TYPE	WASTE WATER		CRDER /REFERENCE:			O/SRV/2021/0035, 21-AUG-2020	
CUSTMER SAMPLE ID	ETF OUTLET BANJIKHOL	SAMPLE CONDITION AT RECEIPT		CBC			
PACKING OF SAMPLE	1 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTE	D BY	CHE	MIST	
SAMPLING PROCESURE	IS:3025(PART 1):1987 RA 2003; 22ND ED: 2012, 1060-B, 1-39			QUANTITY RECEIVED		5 LTR	

	TEST REPORT						
SR. NO.			METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT		
2	Colour	Hazen.	APHA 22"Ed. 2012,2120-8,2-6 APHA 22"Ed. 2012,2120-8,2-6	See 6 of Annexure-I	<1 Agreeable		
1	Temperature	*c	APHA 22°Ed.2012,2130-8,3-13	Shall not exceed 5°C above the receiving water temperature	25.4		
14	pH	19	APHA 22" Ed. 2012, 4500-H'-8, 4-92	5.5 to 9.0	7.32		
V.	Total Residual Chlorine	mg/L	APHA 22 6d.2012,4900-C1-G.4-69	1.0	N.D.		
6	Total Suspended Solids	mg/L	APHA 22" Ed. 2012, 2540- D. 2-66	100	20.0		
7	Dissolved Phosphate (as P)	mg/L	APHA 22 ⁴⁴ Ed.2012,4500-F-C.4-153	5.0	N.D.		
B	Fluoride (as F)	mg/L	APRA 22 Ed. 2012, 4500 F-B AD, 4 B4 5 B7	2,0	N.D.		
9	Lead (as Pb)	mg/L	APHA 22" Ed. 2012, 3111-B, 3-19	0.1	N.D.		
10	Zinc (as En)	mg/L	APHA 22F Ed.2012,3111-B, 3-18	5.0	N.D.		
11	Copper (as Cu)	mg/L	APHA 22" Ed.2012,3111-H, 3-18	3.0	N.D.		
32	Cadmium (as Cd)	mg/L	APHA 22 Ed. 2012, 3500-Ud, 3-105	240	N.D.		
13	Mercury (as Eg)	mg/L	APHA 22 Ed. 2012, 3112-B, 3-23	0.01	N.D.		
14	Arsenic (as As)	mg/L	APHA 20" Md.2012,3114-G. 3-38	0.2	N.D.		
15	Selenium (as Se)	mq/L	APHA 22" Ed. 2012, 3114-C, 3-38	0.05	N.D.		
16	Total Chromium (as Cr)	ng/L	APRA 22 Ed.2012,3500-Cr-B,3-69	2.0	N.D.		
17	Chemical Oxygen Demand (COD)	mg/1.	APRA 22 Ed.2012, 5520-B, 5-17	250	12.0		
1.8	Biochemical Oxygen Demand (BOD)	mg/);	18 3025 (Part 44):1993, BA 2003	30	2.1		
15	Oil & Grease	11/201	IS 3025 (Part 19111991, RA 2003	10.0	N.D.		
20.	Phenolic Compounds (as C:H:OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.		

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

Terms & conditions

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Test sample will be retained for 15 days of an assue of test appet highest water wise agreed with custome.

This is far information as the course has pointed for above model and the second second.

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For ULTIMATE ENVIROLYTICAL SOLUTION

AUTHORIZED SIGNATORY

-End of the test report-



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TO, HINDALCO IND GARE PALMA - VILLAGE - BAN POST -MILUPAN	DA:	PORT NO B REF NO EE OF SAMPLING EE OF RECEIPT EE OF BEFORE	UES/TR/20-2 UES/20-21/V 18/02/2021 19/02/2021 02/03/2021	and the same		
DISTT RAIGA	1 ***	DETAILS	START: 20/02/2021 EMD: 24/02/202		EMD: 24/02/2021	
SAMPLETYPE	WASTE WATER	SAMPLE	ORDER / REPERENCE:			7/5RV/2021/0035, 21-AUG-2023
CUSTMER SAMPLE ID	EIP OUTLET BANIIKHOL		SAMPLE CONDITION AT RECEIPT		OK	
PACIGNIS OF SAMPLE	1 C X 1 NO. PVE CAN 1 C X 1 NO. PVE CAN 1 C X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY		CHEMIST	
AMPLING PROCEDURE IS3025/PART (J.1987 RA 2003; AVHA 22803 ED, 2012; 1060-8, 1-39			QUANTITY IRCEIVED		4.678	

	TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1988 (SCHEDULE-VI) PART-A INLAND SURFACE WATER	RESULT		
1	Colour	Haren	APHA 22 MEd. 2012, 2120-8, 2-6	dee 6 of Ammesure-1	<1		
2	Odour	1	APHA 22 MED 2012, 2120-8, 2-6	See 6 of Annuxure-I	Agreeahle		
3	Semperature	/c	APHR 22 MPH. 2012, 2130-B, 2-13	Shall not exceed a'C above the receiving water temperature	25.3		
4	pii	-	APRR 22 Ed. 2012, 4500-H*-P, 4-92	5.5 to 1.0	7.30		
5	Total Residual Chlorine	sig/L	APHR 22°d Ed. 2012, #500-21-5, #-69	1:0	N.Di		
5	Total Suspended Solids	mg/I-	APHA 22 Ed.2012,2540- D, 2-60	1.00	21.0		
7	Dissolved Phosphate (ss P)	ng/L	APHA 220 Ed. 2012, 4500-P-C, 4-151	5.0	N.D.		
В	Fluorido (as F)	mg/L	APHA 22° Ed.2017,4500 F-1 FO, 4-	2.0	N.D.		
9	Load (as Pb)	mg/L	AFRA 22 dd, 2012, 3111-0, 3-18	0.1	N.D.		
1.0	Zinc (as Zn)	mq/L	APHR 22-1 Ed.2012,3111-5, 3-18	5.0	W.D.		
11	Copper (as Cu)	mg/L	APRA 22M Ed. 2012, 3111-B. 3-18	3.0	M.D.		
12	Cadnium (as Cd)	mg/L	APER 22" Ed.2012, 3500-Cd, 3-105	2.0	N.D.		
13	Harcury (as Hg)	mg/L	APHA 22nd Ed.2012,3112-E, 3-23	0.01	M.D.		
24	Aramnic (as As)	mg/L	APHA 22ml Ed.2012,3114-6, 3-38	0.2	N.D.		
15	Selenium (as Sm)	ung/L	ADNA 224 Ed. 2012, 3114 C. 3 38	0.05	N.D.		
16	Total Chromium (as Cr)	mg/L	APRD 22 M Ed. 2012, 3500-C1-B, 3-69	2.0	N.D.		
17	Chemical Oxygen Demand (COD)	mg/L	APRA 2200 Ed.2012, 5520-B, 5-17	250	16.0		
ie	Biochemical Caygen Demand (BOD)	mg/L	IS 3025 (Wart 44):1993, 80 2003	30	27.8		
15	Oil & Grease	mg/L	38 3025 (Part 39):1391, 95 2003	10,0	H.D.		
50	Phenolic Compounds (as C(E(OH)	mg/L	15 3025 (Part 43):1392, RA 200)	1.0	N.D.		

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

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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	UES/TR/20-21/05017			
LAB TEF 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		

W. T. S. W. W. C. S.	S	AMPLE	DETAILS	
SAMPLE TYPE	WASTE WATER		ORDER /REFERENCE	M/PO/SRV/2021/0095, D1D, 21-AUG-2020
CUSTMUI SAMPLE ()	AMPLE O ETP OUTLET BANGIEROL		SAMPLE CONDITION AT SECURT	OK
PACKING OF SAMPLE	3 LX 1 NO. PVC CAN 2 LX 1 NO. PVC CAN L LX 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE 85:3025(PART ():1587 RA 2003; APHA 22/10 ED. 2012, 1060-8, 1-39		QUARTITY RECEIVED	SLTR	

TEST REPORT									
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 (SCHEDULE-VI) PART-A INLAND SURFACE WATER	RESULT				
1	Colour	Hagen	APHA 22 Ed. 2012,2120-8,2-6	See 5 of Annexure-I	<1				
#	Odocr		APHA 22 ⁵⁶ Ed. 2012,2120-B,2-6	See 6 of January e-1	Agreeable				
3	Temperature	TC.	APRA 22 nd Ed.2012,2130-B,2-13	Shall not exceed 5'C above the receiving water temperature					
a	pa	-	APMA 22" Ed. 2012, 4500-M*-H, 4-92	5.5 to 9.0	7.36				
5	Total Residual Chlorine	itg/L	APHA 22" Ed. 2012, 4500-01-0, 4-69	1.0	n,p.				
5	Total Suspended Solids	mg/L	RPHA 22** Rd. 2012, 2540- D, 2-66	100	22.0				
1	Dissolved Phosphate (as F)	mg/L	APKA 22" Ed.2012,4500-P-C,4-353	5,0	M.D.				
4	Fluoride (as T)	ng/L	APHA 22 ^{FF} Ed. 2012, 4500 F-B ED, 4- E4 E 87	2.0	W.D.				
9	Lead (nn Fb)	mg/L	APRA 22 Ed. 2012, 3111-5, 3-16	0.1	N.D.				
10	Ninc (as En)	mg/L	APHA 22 ^{ed} Ed. 2012, 3111-B, 3-18	5.0	a.D.				
11	Copper (as Cu)	mg/L	AFRA 22" Ed. 2012, 3111-8, 3-16	3.0	H.D.				
12	Cadmium (as Cd)	mg/L	APRA 22" Ed.2012,3500-Cd, 3-105	5.0	W.D.				
13	Mercury (as Eg)	ng/L	APHA 22° Ed. 2012, 3112-B. 3-23	0.01	M.D.				
14	Areunao (as Ao)	mq/1.	APHA 3200 Ed.2012,3110-C, 3-38	0.2	w.n.				
15	Selsmium (as 5e)	ng/L	APHA 22" %d,2012,3114-5, 3-38	0.05	N.D.				
16	Total Chromium (as Cr)	mg/t,	ABHA 22" Ed. 2012, 3500-Cr-B, 3-69	5.0	N.D.				
17	Chemical Oxygen Desand (COD)	mg/L	APHA 22" Rd.2012, 5520-8, 5-17	250	22.0				
1,0	Biochemical Caygen Demand (BCD)	ng/L	TS 3025 (Part 44):1393, BA 2003	30	2.1				
19	Oil & Grease	mg/L	IS 3025 (Part 791:1991, HA 2003	10.0	H.D.				
20	Phenolic Compounds (as C_H_OR)	219/1/	18 3025 (Pert 431:1992, RA 2003	1.0	W.D.				

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

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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	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	3.60	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	Banjikhol (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		REPORT NO	UES/TR/20-21/03143		
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA,			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		
DISTT RAIGARH (C.G.) 496107.			DATE OF ANALYSIS	END: 03/12/2020		
		S	AMPLE DETAILS	.		
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/ DTD. 21-AUG-20		
CUSTMER SAMPLE ID	BANKHETA MINE (PIEZOMETER) AWLE		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	/	
IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR			

Repor	t	No.	03143	
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SR.			TEST REPORT	AS PER IS	10500:2012		
NO.	DADAMETED		METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT	
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-CI-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-	-	-	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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-B, 4-72	250	1000	16.9	
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500SO 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 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.	
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	+	16.4	
22	Potassium (as K)	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



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			TEST REPORT				
SR.				AS PER IS	AS PER IS 10500:2012		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL	
			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.	
1icro	biological Analysis		2003		1		
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be any 100 n		Absent	
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be a		Absent	
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be any 100m	detectable in	Absent	
estic	ides		The second section of the second seco	e.		THE RESIDENCE TO SECURITY OF THE PARTY.	
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.	
2	o.p DDT	µg/L	US EPA 508-1995		•	N.D.	
3	p,pDDE	µg/L	US EPA 508-1995	1	and the second continuous between	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		AND DESCRIPTION OF THE PARTY OF	
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.	
7	Alpha-HCH	μg/L	US EP.A 508-1995	0.0)1	N.D.	
8	Beta-HCH	µg/L	US EPA 508-1395	0.0)4	N.D.	
9	Delta HCH	μg/L	US EPA 508-1995	0.0)4	N.D.	



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Report No.03143

	TEST REPORT									
SR.				AS PER IS	AS PER IS 10500:2012					
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
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					
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	-	-					
19	2,4-D	µg/L	US EPA 515.1-1995	3	0	N.D.				
20	Alachlor	µg/L	US EPA 508- 1995	2	0	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	19	90	N.D.				
25	Malaoxon	µg/L	US EPA 8141A-1994			N.D.				
26	Aldrin	µg/L	US EPA 508- 1995	0.0	03	N.D.				
27	Dieldrin	μg/L	US EPA 508-1995	0.0		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 of above test(s) only.

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-End of the test report-----

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

POST -MILUPARA, DISTT RAIGARH (C.G.) 496107.	DATE OF REPORT	03/12/2020		
VILLAGE – BANKHETA,	DATE OF RECEIPT	25/11/2020		
GARE PALMA - IV/4, COAL MINE,	DATE OF SAMPLING 24/11/2020			
HINDALCO INDUSTRIES LIMITED,	LAB REF NO	UES/20-21/W/02791		
Name & Address Of The Customer TO.	REPORT NO	03144		

SAMPLE DETAILS									
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020					
CUSTMER SAMPLE ID	BANJIKHOL MINE (PIEZOMET	ER) AWLR	SAMPLE CONDITION AT RECEIPT	ок					
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.	PARAMETER			AS PER IS						
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
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	рН	-	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-CI-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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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 22nd Ed.2012,4500-P-C, 4-153	=	-	N.D.				
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	÷	-	16.2				



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Report No. 03144

			TEST REPORT			
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
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		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.
1icro	biological Analysis				I.	
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		etectable in any sample	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019		tectable in any sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	tectable in any sample	Absent
estic	ides					difficultive (1)
1	p,p DDT	μg/L	US EPA 508-1995	1:	L_	N.D.
2	o.p DDT	μg/L	US EPA 508-1995		L	N.D.
3	p,pDDE	μg/L	US EPA 508-1995		1	
4	p,p DDD	µg/L	US EPA 508-1995		L	N.D.
5	O,p DDD	μg/L	US EPA 508-1995		L	N.D.
6	Gamma-HCH (Lindane)	μg/L	US EPA 508-1995	2	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	0.0	04	N.D.



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Report No. 03144

			TEST REPORT			,	
SR.	*			AS PER IS	AS PER IS 10500:2012		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT	
9	Delta HCH	µg/L	US EPA 508-1995	0.	0.04		
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		
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	3	0	N.D.	
20	Alachlor	µg/L	US EPA 508- 1995	2	0	N.D.	
21	Atrazine	µg/L	US EPA 532-2000	2	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	19	90	N.D.	
25	Malaoxon	μg/L	US EPA 8141A-1994	-	-		
26	Aldrin	µg/L	US EPA 508- 1995	0.0	03	N.D.	
27	Dieldrin	µg/L	US EPA 508-1995	0.0		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 60 Aldea lest(s) only.

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PREPARED BY

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the test report---

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

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

Name & Address Of The Cut	stomer		REPORT NO	UES/TR/20-21/0	3145	
			LAB REF NO	UES/20-21/W/02792		
HINDALCO INDUST			DATE OF SAMPLING	24/11/2020		
	4, COAL MINE, VILLA	GE -	DATE OF RECEIPT			
BANKHETA, POST			DATE OF REPORT			
DISTT RAIGARH	(C.G.) 496107.		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		
CUSTMER SAMPLE ID	SAKTA VILLAGE, (DUGWE	CLL)	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	1 L X 1 NO. PVC CAN SEALED SAMPLE COLLECTED CHEMIST				
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.	PARAMETER			AS PER IS	10500:2012						
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT					
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	рН	-	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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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 22nd Ed.2012,4500-P- C,4-153	-	-	N.D.					
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na- B,3-97	-	-	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.	2001000			AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
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-		N.D.	
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3- 18	APHA 22 nd Ed.2012,3111-B, 3-		N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-	APHA 22 nd Ed.2012,3111-B, 3-		N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-	APHA 22 nd Ed.2012,3500-Cd, 3- 0.003 No		N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-	APHA 22nd Ed 2012 2112 R 2		
33	Arsenic (as As)	mg/Lit	23 APHA 22 nd Ed.2012,3114-C, 3-	23 U.UUI Relaxation		N.D.
		-	38 APHA 22 nd Ed.2012,3114-C, 3-	0.01	0.05 No	N.D.
34	Selenium (as Se)	mg/Lit	38 APHA 22 nd Ed.2012,3500-Cr-B,	0.01	Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	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	_	Retaxaction	N.D.
licro	biological Analysis		2003			
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981; RA:2019	Shall not be de 100 ml	tectable in any sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be de 100 ml		Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de 100ml	tectable in any	Absent
estic	ides	•	178.000.000.000.000.000.000.000.000.000.0	10011113	Jampie	
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	0.0		N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.0		N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.0		N.D.



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Report No.03145

			TEST REPORT				
SR.		PARAMETER UNIT		AS PER IS	AS PER IS 10500:2012		
NO.	PARAMETER		METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT	
10	Alpha-Endosulfan	μg/L	US EPA 508-1995	0.	0.4		
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	3		
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	3(0	N.D.	
20	Alachlor	μg/L	US EPA 508- 1995	20	0	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	19	0	N.D.	
25	Malaoxon	µg/L	US EPA 8141A-1994		-		
26	Aldrin	µg/L	US EPA 508- 1995	0.0)3	N.D.	
27	Dieldrin	µg/L	US EPA 508-1995	0.0		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 a paye sest(s) only.

Thakur 03 12 2020

TASKING OF THE PROPERTY OF THE

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-End of the test report-----



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

Name & Address Of The Cus	tamer		REPORT NO	UES/TR/20-21/0	3146 .	
TO,			LAB REF NO	UES/20-21/W/02793		
HINDALCO INDUST	RIES LIMITED,		DATE OF SAMPLING	24/11/2020		
GARE PALMA - IV/4	, COAL MINE, VILLA	SE -	DATE OF RECEIPT	25/11/2020		
BANKHETA, POST			DATE OF REPORT 03/12/2020			
DISTT RAIGARH	Annual State of State		DATE OF ANALYSIS	START: 26/11/2020 END: 03/12/2020		
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020		
CUSTMER SAMPLE ID	BELJOR VILLAGE (DUGWI	ELL)	SAMPLE CONDITION	DTD. 21-AUG-20 2 0		
	3 L X 1 NO. PVC CAN		AT RECEIPT SAMPLE COLLECTED		and an analysis of the second	
PACKING OF SAMPLE	1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	BY	CHEMIST		
IS:3025(PART I):1987 RA SAMPLING PROCEDURE 2003; APHA 22ND ED. 2012, 1060-B, 1-39			QUANTITY RECEIVED	5 LTR		

Report No.03146

					10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	- 69			N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-		362	
9	Total Dissolved Solids	mg/Lit	2006		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 22nd Ed.2012,4500-P- C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na- B,3-97	-	-	4.2
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B,	4	-	1.6



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

Report No.03146

			TEST REPORT			
SR.	PARAMETER			AS PER IS	10500:2012	
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
- Ushironni			3-87		- International Control of Contro	
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	APHA 22 nd Ed.2012,3500-Ni, 3-		N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-	5	Relaxation	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-	APHA 22 nd Ed.2012,3111-B, 3-		N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-		No	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3- 23	0.001	Relaxation No	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	Relaxation 0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	Relaxation No	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	Relaxation	N.D.
37	Phenolic Compound (as C_6H_5OH)	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	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA	0.5	Relaxation No	
40	Oil & Grease	mg/Lit	2003 IS 3025 (Part 39):1991, RA		Relaxation	N.D.
licro	biological Analysis	1119/ 110	2003		-	N.D.
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be any 100 r		Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be any 100 n	detectable in	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be	detectable in	Absent
estic	ides		I	any 100 n	iii sample	- Million - Land
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	0.0		
8	Beta-HCH	µg/L	US EPA 508-1995	0.0		N.D.

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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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Report No.03146

			TEST REPORT			
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	RAMETER UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
9	Delta HCH	μg/L	US EPA 508-1995	0.	0.04	
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	3	0	N.D.
20	Alachlor	µg/L	US EPA 508- 1995	2	0	N.D.
21	Atrazine	µg/L	US EPA 532-2000	2	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	19	90	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.0	03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.0		N.D.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

> The report for publication, arbitration or as legal dispute is forbidden.

> Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.

> This is for information as the party has asked 80 bHQ45 ((s) only.

PREPARED BY 3 12 2020

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

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

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

5 LTR



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 Cu	stomer	REPO	RT NO	UES/TR/20-	UES/TR/20-21/03176 UES/20-21/W/02823		
TO,		LAB	ref no	UES/20-21/			
HINDALCO INDUSTR		DATE	OF SAMPLING	ECEIPT 26/11/2020			
GARE PALMA – IV/5,		DATE	OF RECEIPT				
U/G COAL MINE,VILI	AGE – MILUPARA,	DATE	OF REPORT				
BLOCK-TAMNAR, DISTT RAIGARH (C	DATE	OF ANALYSIS	START: 26/11/	START:26/11/2020 END:03/1			
erne y		SAMP	LE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE: M/PO/SRV/2021/ DTD. 21-AUG-20		O/SRV/2021/0044, . 21-AUG-2020		
CUSTMER SAMPLE ID STAFF QUARTER-BANJIKHOL PIEZOMETER (AWLR)		L	SAMPLE CONDIT	TION AT RECEIPT	ок		
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS	SEALED	SAMPLE COLLEC	CTED BY	СНЕ	MIST	

QUANTITY RECEIVED

REPORT NO. 03176

SAMPLING PROCEDURE

BOTTLE

IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39

			TEST REPORT			
SR. NO.	PARAMETER				E LIMIT FOR R (IS 10500:2012) Permissible limit	RESULT
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	- month	IS 3025:(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025:(part-8)	Agreeable	Agreeable	Agreeable
4	рН	-	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	-	ļ -	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 rd 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 22nd Ed.2012,4500-P-C, 4-153			N.D.
21	Sodium (as Na)	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97	-	-	8.8



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	Name of the second seco		TEST REPORT			
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABL DRINKING WATER Acceptable Limit	Permissible	RESULT
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	Limit	limit	1.6
23	Boron (as B)	mg/Lit	87 APHA 22 nd Ed.2012,4500–B-B, 4-	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	25 APHA 22 nd Ed.2012,3111-B,3-18	0.3	No	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B	1	Relaxation 1.5	0.12
26	Manganese (as Mn)	mg/Lit	&D, 4-84 & 87 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	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-	0.02	Relaxation No	N.D.
29	Zinc (as Zn)	mg/Lit	108 APHA 22 nd Ed.2012,3111-B, 3-18	5	Relaxation 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-	0.003	No	N.D.
32	Mercury (as Hg)	mg/Lit	105 APHA 22 nd Ed.2012,3112-B, 3-23	0.001	Relaxation No	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	Relaxation 0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B,	0.05	Relaxation No	N.D.
36	Anionic Detergent	mg/Lit	3-69 APHA 22 nd Ed.2012,5540-C, 5-53	0.2	Relaxation 1.0	N.D.
	(as MBAS) Phenolic Compound		APHA 22 Ed.2012,5540-B & C,		0.002	No
37	(as C ₆ H ₅ OH)	mg/Lit	5-47	0.001	0.002 No	N.D.
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	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.
Microb	piological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981; RA:2019	Shall not be of any 100 n	The short of the second of the	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be a	detectable in	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be of any 100m	detectable in	Absent
estic	ides	1 1001111	J	I dity 10011	ii sairipica	entimontentominimonole = =
1	p,p DDT	µg/L	US EPA 508-1995	1		N.D.
2	o.p DDT	µg/L	US EPA 508-1995	.1	months part that a company	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	0.0	01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995 ·	0.0)4	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.0)4	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.	PARAMETER	Original and Security			ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)						
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT					
11	Beta-Endosulfan	μg/L	US EPA 508-1995	0.4	0.4						
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.	4	N.D.					
13	Monocrotophos	μg/L	US EPA 8141A-1994	1	1						
14	Ethion	µg/L	US EPA 8141A-1994	3	3						
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	7		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	3	N.D.					
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-		N.D.					
24	Malathion	µg/L	US EPA 8141A-1994	19	0	N.D.					
25	Malaoxon	μg/L	US EPA 8141A-1994	-		N.D.					
26	Aldrin	µg/L	US EPA 508- 1995	0.0	3	N.D.					
27	Dieldrin	µg/L	US EPA 508-1995	0.0	3	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 (2014) est(s) only.

PREPARED BY 2020

Solo I. C. S. Solo II. C. Solo III. C. S

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-End of the test report-----



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Name & Address Of The Cu	stomer	REPO	ORT NO	UES/TR/20-2:	1/03177	
TO,		LAB	REF NO	UES/20-21/W	/02824	
HINDALCO INDUSTR	하는 사람들은 아이들은 아이들은 아이들은 아이들은 아이들은 아이들은 아이들은 아이	DATE	OF SAMPLING	25/11/2020		
GARE PALMA - IV/5,		DATE	OF RECEIPT	26/11/2020		
U/G COAL MINE,VILL	AGE – MILUPARA,	DATE	OF REPORT	03/12/2020	***************************************	
BLOCK-TAMNAR, DISTT RAIGARH (C	.G.) 496107	DATE	OF ANALYSIS	START: 26/11/20	20 END:03/12/2020	
		SAMPL	E DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE;		M/PO/SRV/2021/0044, DTD. 21-AUG-2020	
CUSTMER SAMPLE ID	NEAR MILUPARA MINES (PIEZOMETER -AWLR	OFFICE	SAMPLE CONDI	ITION AT	<i>o</i> ĸ	
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 COLLE	ECTED BY	CHEMIST	
SAMPLING PROCEDURE	IS:3025(PART I):1987 APHA 22ND ED. 2012,		QUANTITY REC	CEIVED	5 LTR	

REPORT NO. -03177

TEST REPORT										
SR.				AS PER IS	10500:2012					
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
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	рН	-	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	T in	-	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-CI-B, 4-72	250	1000	6.9				
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-\$O 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 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.				



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REPORT NO. -03177

			TEST REPORT						
	AS PER IS 10500:2012								
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT			
20	Sodium (as Na)	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97	_	-	6.0			
21	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	A service in property of	-	0.85			
22	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4- 25	0.5	1.0	N.D.			
23	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.			
24	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.12			
25	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.			
26	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.			
27	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-	0.02	No Relaxation	N.D.			
28	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.			
29	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.			
30	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd,3-	0.003	No Relaxation	N.D.			
31	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.			
32	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.			
33	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.			
34	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.			
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.			
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.			
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	μg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.			
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.			
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.			
Micro	biological Analysis	-	**************************************	Parameter - Continue - Hoof	The second secon	alministration of the second			
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		etectable in any sample	Absent			
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be de	etectable in any sample	Absent			
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	etečtable in any sample	Absent			
Pesti	cides		#\$1#CONTROL OF BUILDING CO. T.			- VIII - III			
1	p,p DDT	µg/L	US EPA 508-1995		1	N.D.			
2	o.p DDT	µg/L	US EPA 508-1995	rampinetica: ra-sar-poolina	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	i - comminue comminue - mo	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.	PARAMETER			AS PER IS	10500:2012					
NO.		R UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
	(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).4	N.D.				
11	Beta-Endosulfan	µg/L	US EPA 508-1995	C	0.4	N.D.				
12	Endosulfansulphat e	μg/L	US EPA 508-1995	0.4		N.D.				
13	Monocrotophos	µg/L	US EPA 8141A-1994		1					
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					
17	Phoratesulphoxide	μg/L	US EPA 8141A-1994	The second of th	-	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	C	.3	N.D.				
23	Methyl paraxone	μg/L	US EPA 8141A-1994		-	N.D.				
24	Malathion	μg/L	US EPA 8141A-1994	1	90	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 a

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

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2020



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Name & Address Of The	Customer	REPO	ORT NO	UES/TR/2	20-21/0	3178	
TO,		LAB	REF NO	UES/20-21/W/02825 25/11/2020 26/11/2020 03/12/2020			
HINDALCO INDUSTRI	IES LIMITED,	DATE	E OF SAMPLING				
GARE PALMA - IV/5, I		DATE	OF RECEIPT				
U/G COAL MINE, VILL	AGE – MILUPARA,	DATE	E OF REPORT				
BLOCK-TAMNAR, DISTT RAIGARH (C.	.G.) 496107	DATE	E OF ANALYSIS	START: 26/.	11/2020	END:03/12/2020	
	7	SAMPI	E DETAILS		****		
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:		13.2	SRV/2021/0044, 21-AUG-2020	
CUSTMER SAMPLE ID	MILUPARA VILLAGE NEAR P. HIL (DUGWELL)	HC-	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 COLLEC	TED BY	CHEMI	ST	
SAMPLING PROCEDURE IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39			QUANTITY RECEIVED		5 LTR		

REPORT NO. - 03178

			,	AS PER IS	10500:2012	
SR. NO.	PARAMETER	TINU	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	рН	-	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	4 - 69			N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	÷ ,	- The state of the	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	n sinniger it gap	-	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 CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	_	-	32.0
14	Magnesium Hardness (as CaCO3)	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 22ndEd.2012,4500-P-C, 4-153		-	N,D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500–Na- B, 3-97	-	3	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.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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-	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	18 APHA 22 nd Ed.2012,3500-Cd, 3-	0.003	Йо	N.D.
		- ASMINIATED TO THE	105 APHA 22 nd Ed.2012,3112-B, 3-		Relaxation No	
32	Mercury (as Hg)	mg/Lit	23 APHA 22 nd Ed.2012,3114-C, 3-	0.001	Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	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	<u></u>	-	N.D.
Micro	biological Analysis	L	1 2005	annumb continues	i	
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	 Internal control of the control of the	tectable in any sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019		tectable in any sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	tectable in any sample	Absent
Pesti	cides	L	Timplesonia moderna de nascembro e e e e e e e e e e e e e e e e e e e	1001111	<u> </u>	
1	p,p DDT	µg/L	US EPA 508-1995		ļ.	N.D.
2	o.p DDT	µg/L	US EPA 508-1995		L	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1		N.D.
4	p,p DDD	μg/L	US EPA 508-1995	manually & manualments may deman	L.	N.D.
5	O,p DDD	µg/L	US EPA 508-1995			N.D.
6	Gamma-HCH (Lindane)	μg/L	US EPA 508-1995	2	2	N.D.
7	Alpha-HCH	μg/L	US EPA 508-1995 1	0.1	01	N.D.
8	Beta-HCH	μg/L	US EPA 508-1995		04	N.D.
9	Delta HCH	μg/L	US EPA 508-1995	0.1		N.D.



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REPORT NO. - 03178

	BHILL			AS PER IS	AS PER IS 10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	
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	3	0	N.D.
20	Alachlor	µg/L	US EPA 508- 1995-	2	0	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	19	90	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	0.0	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 (**CONVINES** seport unless otherwise agreed with customer.
> This is for information as the party has a fund present as (**) only.

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End of the test report---



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Name & Address Of The	Gustomes	REPO	ORT NO	UES/TR/	UES/TR/20-21/03179		
TO,		LAB	REF NO	UES/20-21/W/02826			
HINDALCO INDUSTR	IES LIMITED,	DATE	E OF SAMPLING	25/11/2	25/11/2020		
GARE PALMA - IV/5,		DATE	E OF RECEIPT	26/11/2	020	of the second se	
U/G COAL MINE, VILL	AGE – MILUPARA,	DATE	E OF REPORT	03/12/2	020	*****	
BLOCK-TAMNAR, DISTT RAIGARH (C	.G.) 496107	DATE OF ANALYSIS		START:26/11/2020		END: 03/12/2020	
		SAMPI	E DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:		M/PO/SRV/2021/0044, DTD. 21-AUG-2020		
CUSTMER SAMPLE ID	SIDARPARA VILLAGE (DUGV	VELL)	SAMPLE CONDITION AT RECEIPT		ок	and the state of t	
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 COLLEC	TED BY	СНЕМІ	ST	
SAMPLING PROCEDURE IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39			QUANTITY RECEIVED		5 LTR		

REPORT NO. - 03179

SR.				AS PER IS	0500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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-CI-G, 4 - 69	PHA 22 nd Ed.2012,4500-CI-G, 4 0.2		N.D.
8	Total Solid	mg/Lit	PHA 22 nd Ed.2012,2540- B, 2-		-	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-	-		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 CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	-	-	38.0
14	Magnesium Hardness (as CaCO3)	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-CI-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 22ndEd.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd 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



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REPORT NO. - 03179

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		
				Acceptable Limit	Permissible limit	RESULT
			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-	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.
4icro	biological Analysis	E	1 2-Marie 1975			- we
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
esti	cides					
1	p,p DDT	μg/L	US EPA 508-1995	1		N.D.
2	o.p DDT	µg/L	US EPĄ 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 ⁷	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. - 03179

	TEST REPORT									
SP	SR. AS PER IS 10500:2012									
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
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	19	0	N.D.				
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.				
26	Aldrin	µg/L	US EPA 508- 1995	0.0)3	N.D.				
27	Dieldrin	µg/L	US EPA 508-1995	. 0.0)3	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 sources report unless otherwise agreed with customer.
> This is for information as the party has a few and the second sec

> This is for information as the party has

End of the test report-----

For ULTIMATE ENVIROLYTICAL SOLUTIONS



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

Name & Address Of	The Customer	REPORT NO	UES/TR/20-21/0	3975	
то,		LAB REF NO	UES/20-21/W/03660		
HINDALCO INDUSTR		DATE OF SAMPLING	22/01/2021		
GARE PALMA – IV/4, (VILLAGE – BANKHET	,	DATE OF RECEIPT	23/01/2021		
POST -MILUPARA.	^,	DATE OF REPORT	02/02/2021		
DISTT RAIGARH (C.	.G.) 496107.	DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021	
	S	AMPLE DETAILS	λ		
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/ DTD. 21-AUG-20		
CUSTMER 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 SEALED 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST		
IS:3025(PART I):1987 RA SAMPLING PROCEDURE 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR		

Repor	t No	0.03	975
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			TEST REPORT			
SR.				AS PER IS		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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-CI-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	IS 3025(part-23):1986, RA 2003 200		28.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45			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 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	14.3
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	1.05



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			TEST REPORT			
SR. PARAMETER UNIT METHOD OF TES				AS PER IS		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
			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 Relamation	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.
Micro	biological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in ml sample	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019		detectable in ml sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be	detectable in ml sample	Absent
Pesti	cides					
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.				AS PER IS	10500:2012			
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT		
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		-			
19	2,4-D	μg/L	US EPA 515.1-1995	3	80	N.D.		
20	Alachlor	μg/L	US EPA 508- 1995	2	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	1	190			
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 Booke test(s) only.

PREPARED BY 02 02 202

SOLUTION STATE

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

End of the test report-



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REPORT NO	UES/TR/20-21/03976 .
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
	LAB REF NO DATE OF SAMPLING DATE OF RECEIPT DATE OF REPORT

SAMPLE DETAILS								
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD. 21-AUG-2020					
CUSTMER SAMPLE ID	BANJIKHOL MINE (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	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

SR.	PARAMETER			AS PER IS		
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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-CI-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	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	2,2540- D, 2-		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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	14.2



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			TEST REPORT			
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL1
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 rd 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.
1icro	biological Analysis		2303,			
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		etectable in any sample	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019		etectable in any sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	etectable in any sample	Absent
estic	cides		,	2001111		-
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.				AS PER IS	AS PER IS 10500:2012		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT	
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	1	N.D.	
14	Ethion	µg/L	US EPA 8141A-1994		3		
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	Phoratesuiphone	µg/L	US EPA 8141A-1994		-	N.D.	
19	2,4-D	μg/L	US EPA 515.1-1995	3	0	N.D.	
20	Alachlor	μg/L	US EPA 508- 1995	2	0	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	19	90	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 jest report unless otherwise agreed with customer.
 This is for information as the party has asked to be party only.

PREPARED BY

For ULTIMATE ENVIROLYTICAL SOLUTIONS

02/02 AUTHORIZED SIGNATORY

End of the test report-



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

Name & Address Of The Gus	tomer		REPORT NO	UES/TR/20-21/0	3977 .
то,			LAB REF NO	UES/20-21/W/03	662
HINDALCO INDUST	RIES LIMITED,		DATE OF SAMPLING	22/01/2021	
GARE PALMA - IV/4	I, COAL MINE, VILLAG	E	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 TYPE	GROUND WATER	-	ORDER /REFERENCE:	N/PO/SRV/2021/003: DTD, 21-AUG-2020	5,
CUSTMER SAMPLE ID	E 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 2003; APHA 22ND ED.		QUANTITY RECEIVED	5 LTR	

Report No.03977

TEST REPORT							
SR.				AS PER IS	10500:2012		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT	
1	Colour	Hazen	IS:3025:(Port 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-CI-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 CaCO₃)	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 22nd Ed.2012,4500-P- C,4-153	-		N.D.	
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na- B,3-97	-	-	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.		-		AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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-	5	15	N.D.
30	Copper (as Cu)	mg/Lit	18 APHA 22 nd Ed.2012,3111-B, 3-	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	18 APHA 22 nd Ed.2012,3500-Cd, 3-	0.003	No	N.D.
32	Mercury (as Hg)	mg/Lit	105 APHA 22 nd Ed.2012,3112-B, 3-	0.001	Relaxation No	N.D.
33	Arsenic (as As)	mg/Lit	23 APHA 22 nd Ed.2012,3114-C, 3-	0.01	Relaxation 0.05	N.D.
		-	38 APHA 22 nd Ed.2012,3114-C, 3-		No	
34	Selenium (as Se)	mg/Lit	38 APHA 22 nd Ed.2012,3500-Cr-B,	0.01	Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	3-69	0.05	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.
Micro	biological Analysis	-	2003	4		
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		etectable in any sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019		etectable in any sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	etectable in any sample	Absent
Pesti	cides			2001111		-
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.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	L	N.D.
14	Ethion	μg/L	US EPA 8141A-1994	3	3	N.D.
15	Chloropyrifos	μg/L	US EPA 8141A-1994	3	0	N.D.
16	Phorate	μg/L	US EPA 8141A-1994	2	2	
17	Phoratesulphoxide	μg/L	US EPA 8141A-1994		-	
18	Phoratesulphone	μg/L	US EPA 8141A-1994	-	-	N.D.
19	2,4-D	μg/L	US EPA 515.1-1995	3	0	N.D.
20	Alachlor	μg/L	US EPA 508- 1995	2	0	N.D.
21	Atrazine	μg/L	US EPA 532-2000	2	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	19	90	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994		-	
26	Aldrin	µg/L	US EPA 508- 1995	0.0	03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.0	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.

This is for information as the party has asked,

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

02 02 202

End of the test report-



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

Name & Address Of The Cus	itomer		REPORT NO	UES/TR/20-21/0	3978 .	
TO,			LAB REF NO	UES/20-21/W/03663		
HINDALCO INDUST	RIES 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 TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/003. DTD. 21-AUG-2020	5,	
SAMPLE TYPE	GROUND WATER	NI THE COLUMN	ORDER /REFERENCE:	N/PO/SRV/2021/003	5,	
CUSTMER SAMPLE ID	BELJOR VILLAGE (DUGWELL	L)	SAMPLE CONDITION	OK		
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN	SEALED	AT RECEIPT SAMPLE COLLECTED	CHEMIST		
	1 L X I NO. GLASS HOTTLE		BY			
	IS:3025 (PART I):1987 F	7.5				

Report No.03978

			TEST REPORT			
SR.		2		AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
T	Colour	Hazen	15:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	рН	-	APHA 22 rd 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 CI)	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 22nd Ed.2012,4500-P- C,4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500~Na- B,3-97	-	-	4.0



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Report No.03978

				AS DED IS	10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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-	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 rd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 rd Ed.2012,3111-B, 3- 18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 rd Ed.2012,3111-B, 3- 18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 rd Ed.2012,3500-Cd, 3- 105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 rd Ed.2012,3112-B, 3- 23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 rd 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-	0.2	1.0	N.D.
37	Phenolic Compound	mg/Lit	APHA 22 [™] Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	(as C ₆ H ₅ OH) Poly-nuclear Aromatic Hydrocarbon (PAH)	μg/Lit	APHA 22 rd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Micro	biological Analysis		2003			
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in ml sample	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be any 100	detectable in ml sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019		detectable in ml sample	Absent
Pesti	cides					
1	p,p DDT	µg/L	US EPA 508-1995	1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	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		10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	
15	Chloropyrifos	µg/L	US EPA 8141A-1994	3	30	
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	3	80	N.D.
20	Alachlor	μg/L	US EPA 508- 1995	2	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	1	90	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

PREPARED

Terms & conditions

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This is for information as the party has asked too Obvey test(s) only.

For ULTIMATE ENVIROLYTICAL SOLUTIONS

02 02 AUTHORIZED SIGNATORY

2021

End of the test report-



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

Name & Address Of The Cu	Vame & Address Of The Eustomer			REPORT NO UES/TR/20-21/04011			
TO,	LAB I	LAB REF NO UES/2		0-21/W/03696			
HINDALCO INDUSTR	,	DATE	OF SAMPLING	22/01/2021	22/01/2021		
GARE PALMA - IV/5,		DATE	OF RECEIPT	23/01/2021			
U/G COAL MINE, VILLAGE - MILUPARA,			DATE OF REPORT 02/02/2021				
BLOCK-TAMNAR, DISTT RAIGARH (C	.G.) 496107	DATE	OF ANALYSIS	START: 23/01/	2021	END: 02/02/2021	
		SAMP	LE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERE	NCE:		O/SRV/2021/0044, . 21-AUG-2020	
CUSTMER SAMPLE ID	USTMER 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	SEALED	SAMPLE COLLEC	TED BY	СНЕ	MIST	

QUANTITY RECEIVED

5 LTR

IS:3025(PART I):1987 RA 2003;

APHA 22ND ED. 2012, 1060-B, 1-39

REPORT NO. 04011

SAMPLING PROCEDURE

			TEST REPORT			
SR.		4.2			E LIMIT FOR R (IS 10500:2012)	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	pН	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.74
5	Turbidity	NTU	APHA 22 rd 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 rd 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,4-190	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	0.92
20	Phosphate (as P)	mg/Lit	APHA 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97	-	*	7.6



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			TEST REPORT			
SR.					E LIMIT FOR R (IS 10500:2012)	DEC. II
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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.
Microl	piological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in nl sample	Absen
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be	detectable in nl sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019		detectable in nl sample	Absent
Pestic	ides				***************************************	
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.
G	Gamma-IICH (Lindana)	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	Deita 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.					ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	
11	Beta-Endosulfan	μg/L	US EPA 508-1995	0.4	1	N.D.	
12	Endosulfansulphate	μg/L	US EPA 508-1995	0.4	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	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	0.0	3	N.D.	
27	Dieldrin	µg/L	US EPA 508-1995	0.0	3	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 Royan st(s) only.

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-End of the test report-



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Name & Address Of The Gu.	stomer	REPORT NO	UES/TR/20-21	
		LAB REF NO	UES/20-21/W/	03697
HINDALCO INDUSTR		DATE OF SAMPLING	22/01/2021	
GARE PALMA - IV/5,		DATE OF RECEIPT	23/01/2021	
U/G COAL MINE, VILL BLOCK-TAMNAR,	AGE - MILUPARA,	DATE OF REPORT	02/02/2021	
DISTT RAIGARH (C	.G.) 496107	DATE OF ANALYSIS	START: 23/01/202	21 END: 02/02/2021
	S	AMPLE DETAILS		
SAMPLE TYPE	GROUND WATER	ORDER /REFER	PRDER /REFERENCE: M/PO/SRV/2021, DTD. 21-AUG-20	
CUSTMER SAMPLE ID	NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR	SAMPLE CONDI RECEIPT	TTION AT	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 COLLE	SCTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003:		CEIVED	5 LTR

REPORT NO. -04012

			TEST REPORT			
		- 22		AS PER IS	10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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/l it	APHA 22 nd Ed.2012,4500-CI-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 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.



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REPORT NO. -04012

			TEST REPORT			
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
20	Sodium (as Na)	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97	-	-	6.2
21	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3- 87	-	-	0.78
22	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4- 25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87			0.14
25	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd,3- 105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	μg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Micro	obiological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		letectable in any	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be d	letectable in any il sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be d	letectable in any I sample	Absent
Pesti	cides					
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 REPOR	T			
				AS PER IS	10500:2012		
SR. NO.	PARAMETER	UNIT	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
	(Lindane)						
7	Alpha-HCH	μg/L	US EPA 508-1995	C	0.01		
8	Beta-HCH	μg/L	US EPA 508-1995	C	.04 、	N.D.	
9	Delta HCH	μg/L	US EPA 508-1995	C	.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	Endosulfansulphat e	μg/L	US EPA 508-1995		0.4		
13	Monocrotophos	μg/L	US EPA 8141A-1994		1		
14	Ethion	μg/L	US EPA 8141A-1994		3		
15	Chloropyrifos	μg/L	US EPA 8141A-1994		30		
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 opan test(s) only

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-End of the test report-



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Name & Address Of The	Customer	REPO	RT NO	UES/TR/2	0-21/0	4013
TO,		LAB	REF NO	UES/20-21/W/03698 22/01/2021		
HINDALCO INDUSTRI	ES LIMITED,	DATE	OF SAMPLING			
GARE PALMA - IV/5, I	WILUPARA	DATE	OF RECEIPT	23/01/20	21	
U/G COAL MINE, VILL	AGE – MILUPARA,	DATE	OF REPORT	02/02/2021		
BLOCK-TAMNAR, DISTT RAIGARH (C.	G.) 496107	DATE	OF ANALYSIS	START: 23/0	1/2021	END: 02/02/2021
		SAMPL	E DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:		M/PO/SRV/2021/0044 DTD. 21-AUG-2020	
CUSTMER SAMPLE ID	MILUPARA VILLAGE NEAR PI HIL (DUGWELL)	HC-	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 COLLEC	TED BY	CHEMI	ST
SAMPLING PROCEDURE IS:3025(PART I):1987 RA 2003 APHA 22ND ED. 2012,1060-B,1-			QUANTITY RECEIVED		5 LTR	

			TEST REPORT			
e n		Sept.		AS PER IS	10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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 CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	-	-	38.0
14	Magnesium Hardness (as CaCO3)	mg/Lit	APHA 22 ^{no} 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-CI-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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REPORT NO. - 04013

			TEST REPORT			
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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 rd 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	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	(as C ₆ H ₅ OH) Poly-nuclear Aromatic	μg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Hydrocarbon (PAH) Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA	0.5	No	N.D.
40	Oil & Grease	mg/Lit	2003 IS 3025 (Part 39):1991, RA	_	Relaxation	N.D.
	biological Analysis	mg/ cit	2003			11101
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		etectable in any	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019		letectable in any	Absen
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be d	letectable in any	Absen
Pesti	cides	1001111		100111	, Jumple	
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,D 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	C	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

SR.				AS PER IS	AS PER IS 10500:2012		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT	
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	3	30		
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	3	0	N.D.	
20	Alachlor	μg/L	US EPA 508- 1995	2	0	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	19	90	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 1.5 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

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AUTHORIZED SIGNATORY

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Name & Address Of The	Customer	REPORT NO	UES/TR/20-21/	04014	
то,		LAB REF NO	UES/20-21/W/0	3699	
HINDALCO INDUSTR	IES LIMITED,	DATE OF SAMPLING	22/01/2021		
		DATE OF RECEIPT	23/01/2021		
GARE PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107	AGE – MILUPARA,	DATE OF REPORT	02/02/2021		
BLOCK-TAMNAR, DISTT RAIGARH (C	.G.) 496107	DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021	
	S	AMPLE DETAILS			
SAMPLE TYPE	GROUND WATER	ORDER /REFERE	NCE:	/SRV/2021/0044, 21-AUG-2020	

L			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTMER 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	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			
		100		AS PER IS	10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	pН	-	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 CaCO₃)	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 CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	-	-	46.0
14	Magnesium Hardness (as CaCO3)	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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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 [™] Ed.2012,4500-NO ₃ - B,4-122	45	NO Relaxation	3.1
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	-	-	8.0
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	0.8



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

REPORT NO. - 04014

A. S. Sec. 41			TEST REPORT			
SR.					10500:2012	BERLUS
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
			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)	ma/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 100	0.02	No Relamation	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 rd 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 rd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 rd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 rd 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.
Micro	biological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in ml sample	Absen
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019		detectable in ml sample	Absen
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019		detectable in nl sample	Absen
Pesti	cides					
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. - 04014

			TEST REPORT	•			
SR.				AS PER IS 1	AS PER IS 10500:2012		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT	
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	0	N.D.	
20	Alachlor	μg/L	US EPA 508- 1995	20	0	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	19	0	N.D.	
25	Malaoxon	μg/L	US EPA 8141A-1994	-		N.D.	
26	Aldrin	μg/L	US EPA 508- 1995	0.0	03	N.D.	
27	Dieldrin	µg/L	US EPA 508-1995	0.0)3	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 (at Object test(s) only.

End of the test report

For ULTIMATE ENVIROLYTICAL SOLUTIONS

02 02 202 AUTHORIZED SIGNATORY

Annexure - 7



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 – Bhanjikhol, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.

We would like to inform you that automatic water level recorder installed at Banjikhol (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 Secretory, Chhattisgarh Environment Conservation Board, Paryavas Bhawan, Raipur, Chhattisgarh.

2) Regional Officer, Chhattisgarh Environment Conservation Board, TV tower Road, Raigarh (CG).

- 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

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.	Ground Water level (BGL) Dec.
1	Bankheta (Near HIL Office)	Borewell/AWLR	4.64	2020 8.69	2020 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	Boreweli/ 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	Belj or Village AWLR*-Automatic Water level recorder un	Dugwell	4.06	6.00	6.08

(A WLR * - Automatic Water level recorder under maintenance)



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Name & Address Of The Customer REPORT NO TO, UES/TR/20-21/03143 HINDALCO INDUSTRIES LIMITED, LAB REF NO UES/20-21/W/02790 GARE PALMA - IV/4, COAL MINE, DATE OF SAMPLING 24/11/2020 VILLAGE - BANKHETA, DATE OF RECEIPT 25/11/2020 POST -MILUPARA, DATE OF REPORT 03/12/2020 DISTT. - RAIGARH (C.G.) 496107. DATE OF ANALYSIS START: 26/11/2020 END: 03/12/2020

SAMPLE TYPE	GROUND WATER BANKHETA MINE (PIEZOMETER) AWLR		ORDER /REFERENCE:	N/PO/SRV/2021/0035,
CUSTMER SAMPLE ID			SAMPLE CONDITION AT	DTD. 21-AUG-2020
DACKTING OF OUR	3 L X 1 NO. PVC CAN		RECEIPT	OK
PACKING OF SAMPLE	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 2003; APHA 22ND ED. : 1060-B, 1-39	RA 2012,	QUANTITY RECEIVED	5 LTR

			TEST REPORT			
SR	DADAMPER	UNIT	The Property of the Control of the C	AS PER IS	10500:2012	27 (E) (A)
NO.	Colour		""= 11100 OF 1E31	Acceptable Limit	Permissible limit	RESULT
		Hazer	10.0025.(1410-4)	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	1	_	-	128
7	Residual Chlorine	mg/Lit	1 - 69	. 0.2	1	N.D.
8	Total Solid	mg/Lit	D4	• •	-	79.7
9	Total Dissolved Solids	mg/Lit		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
.5	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	8.8
6	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	- 100	2.4
7	Chloride (as Cl)	mg/Lit	APHA 22 rd Ed.2012,4500-CI-B, 4-72	250	1000	16.9
8	Sulphate (as SO ₄)	mg/Lit	APHA 22 rd Ed.2012,4500-SO ₄ -E, 4-190	200	400	12.8
9	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.68
0	Phosphate (as P)	יווש/בונ	APHA 22nd Ed.2012,4500-P-C, 4-153		MARKET TO A SERVICE CONTRACT OF THE PROPERTY O	N.D.
	Sodium (as Na)	mg/cit	APHA 22nd Ed.2012,3500-Na-B, 3-97	Control of the same of the sam	Antan (19) pe samel Sauterans, April 1900 men. Pro-	16.4
2	Potassium (as K)	mg/Lit	APHA 220 Ed.2012,3500-K-B, 3-	and the last of the distribution of the desired to		1.64



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Report No.03143

			TEST REPORT			
SR.	DADAMETER	DADAMETER		AS PER IS	10500:2012	
NO.	FARAMETER	UNIT	WEITHOU OF TEST	Acceptable Limit	Permissible limit	RESUL
			87			
23	Boron (as B)	mg/Li	APHA 22 nd Ed.2012,4500-B-B, 4- 25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit		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		0.1	0.3	
27	Lead (as Pb)	mg/Lit			No	N.D.
28	Nickel (as Ni)	mg/Lit	ADUA 2200 E A 2010	. 0.02	Relaxation No	
29	Zinc (as Zn)	mg/Lit		1	Relaxation	N.D.
30	Copper (as Cu)	mg/Lit			15	N.D.
31	Cadmium (as Cd)		ADILA SOM TIME	0.05	1.5	N.D.
32	<u> </u>	mg/Lit	105	0.003	No Relaxation	- N.D.
33	Mercury (as Hg) Arsenic (as As)	mg/Lit		0.001	No Relaxation	N.D.
		mg/Lit	APHA 22 [™] 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/l_it	APHA 22 rd 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	
38	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No.002	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39): 1991, RA		Relaxation	N.D.
10	Oil & Grease	mg/Lit	2003 IS 3025 (Part 39):1991, RA	0.5	Relaxation	N.D.
cro	biological Analysis	mg/ Lit	2003			N.D.
		MPN/				
L	Total Coliforms	100 ML	IS:1622:1981: RA:2019	Shall not be d any 100 m	etectable in	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be d	etectable in	
	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	Sample	Absent
stic	ides	1 -001111		any 100ml	sample	Absent
	p,p DDT	µg/L	US EPA 508-1995			
	o.p DDT		US EPA 508-1995	1		N.D.
	P,PDDE		US EPA 508-1995	1		N.D.
1	p,p DDD			1		N.D.
-	O,p DDD		US EPA 508-1995	1	-	
	Gamma-HCH (Lindane)		US EPA 508-1995	1		N.D.
-	Alpha-HCH		US EPA 508-1995	2		N.D.
-	Beta-HCH		US EPA 508-1995	0.01	m paramin after 6 d'une à c'année comparant de tents	N.D.
-	Delta HCH		US EPA 508-1395	0.04		N.D.
_ -	rena nen	pg/L	US EPA 508-1995	O.U4		N.D.



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	S 57 a 5 tree 5		TEST REPORT			-
SR. NO.	PARAMETER	UNIT	METHOD OF TEST		10500:2012	
10 Alpha-Endocution	The second secon	-		Acceptable Limit	Permissible limit	RESULT
11	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.		4.0
	Beta-Endosulfan	µg/L	US EPA 508-1995	0.		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995			N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	0.		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		2		N.D.
18	Phoratesulphone		US EPA 8141A-1994	•		N.D.
19	2,4-D	µg/L	US EPA 8141A-1994		-	
20	Alachlor	µg/L	US EPA 515.1-1995	30)	N.D.
21	Atrazine	µg/L	US EPA 508- 1995	20)	N.D.
22	Methyl parathion	µg/L	US EPA 532-2000	2		N.D.
23		µg/L	US EPA 8141A-1994	0.3	3	N.D.
24	Methyl paraxone	µg/L	US EPA 8141A-1994			N.D.
-	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
_	Aldrin	µg/L	US EPA 508- 1995	0.03	3	
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- > The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.

This is for information as the party has asked

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

End of the test report-



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

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

REPORT NO UES/TR/20-21/03144 LAB RET 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

ORDER /REFERENCE: N/PO/SRV/2021/0035, DTD. 21-AUG-2020 SAMPLE CONDITION AT SAMPLE COLLECTED BY CHEMIST

PACKING OF SAMPLE 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 SAMPLING PROCEDURE

BANJIKHOL MINE (PIEZOMETER) AWLR

GROUND WATER

3 L X 1 NO. PVC CAN

QUANTITY RECEIVED

5 LTR

Report No. 03144

CUSTNER SAMPLE ID

SAMPLE TYPE

<u>_</u> = 13			TEST REPORT	S Parenter Parent		
SR.	DADA	UNIT	METHOD	AS PER IS	3 10500:2012	energy years
1	Colour	1	METHOD OF 1EST	Acceptable Limit	Permissible	RESULT
2	Odour	Hazer	IS:3025:(Part-4)	5	limit 15	
3		-	IS 3025(part-5)	Agreeable		<1
	Taste		IS 3025(part-8)	Agreeable	Agreeable	Agreeabl
4	pH	-	APHA 22 nd Ed.2012,4500-H+-B,		Agreeable	Agreeabl
5	Turbidity	NTU	4-92 APHA 22 nd Ed.2012,2130-B,2-13	6.5-8.5	No Relaxation	6.86
6	Electrical Conductivity	µS/cm	IS 3035(cont to)	1	5	4.2
7	Residual Chlorine	mg/Lit	10114 2013	- '	-	138.0
8	Total Solid	mg/Lit	- 69 APHA 22 nd Ed.2012,2540- B, 2-	0.2	1	N.D.
9	Total Dissolved Solids	mg/Lit	104	-	-	86.0
10	Total Suspended	1	IS 3025(part-16):1984, RA 2006	500	2000	
	Solids Alkalinity Total	mg/Lit	APHA 22 rd Ed.2012,2540- D, 2-	-	-	84.0
11	(as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200		2.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C 2-		600	38.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,	200	600	66.0
14	Magnesium Hardness		3-6/	•	-	28.0
	(as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-		
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B,	75	•	16.0
16	Magnesium (as Mg)	mg/Lit	APHA 22 rd Ed.2012.3500-Mg-B		200	11.2
17	Chloride (as CI)	mg/Lit	APHA 22 rd Ed.2012,4500-CI-B	30	100	3.8
18	Sulphate (as SO ₄)		4-72 APHA 22 nd Ed.2012,4500-SO ₄ -E,	250	1000	16.9
19	Nitrata /a- 110 t		4-190 APHA 22 nd Ed.2012,4500-NO ₃ -	200	400	22.8
20	Phosphate		5,4-122	45	No	-
1	Sadium 4	-	APHA 22nd Ed.2012,4500-P-C,	and a second	Relaxation	2.8
	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97		-	N.D.
					•	16.2



HDD>://Z Phase III/ Near JP Chowls Ring Road No.2 Kabli Nagar Raipur (C.C.) / 492099 Ph. 0771 A027777 Email Ultimatenviro@gmail.com;

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			TEST REPORT			
SR.	4-45-2-1			AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUI
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	And the state of t		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		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		No	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-	0.02	Relaxation No	
29	Zinc (as Zn)	mg/Lit	108 APHA 22 nd Ed.2012,3111-B, 3-18		Relaxation	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
31	Cadmium (as Cd)		APHA 22 rd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
		mg/Lit	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	
39	Mineral Oil	mg/Lit	IS 3025 (part-39): 1991, RA		Relaxation No	N.D.
40	Oil & Grease		2003 IS 3025 (Part 39):1991, RA	0.5	Relaxation	N.D.
	piological Analysis	mg/Lit	2003,	-	•	N.D.
1	Noiogical Allalysis	AADNIZ				
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be det 100 ml	tectable in any	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be det	ectable in any	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	100 ml s Shall not be det	ectable in any	
stici	ides	1001111		100ml s	ample	Absent
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.
•	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
5	O,p DDD		US EPA 508-1995	1		N.D.
5	Gamma-HCH			1		N.D.
,	(Lindane) Alpha-HCH	µg/L	US EPA 508-1995	2		N.D.
3			US EPA 508-1995	0,0	1	N.D.
	Beta-HCH .	µg/L	US EPA 508-1995	0.0	The state of the s	N.D.



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Report No. 03144

			TEST REPORT			
SR.	BARAMETER			AS PER IS	10500:2012	
NO.	PARAMETER	ER UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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.	•	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994			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		-	
18	Phoratesulphone	µg/L	US EPA 8141A-1994			N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	3	0	N.D.
20	Alachlor	µg/L	US EPA 508- 1995	2		N.D.
21	Atrazine	µg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.		
23	Methyl paraxone	µg/L	US EPA 8141A-1994	U.	,	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	19	0	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	19		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.0		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.0		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 to AH log st(s) only.

Trake 0 3 12 2021

LYNNLY TO THE LEST report-

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY



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Name S Address of the Cu TO, HINDALCO INDUSTR GARE PALMA – IV/5, U/G COAL MINE, VILL BLOCK-TAMNAR, DISTT RAIGARH (C	IES LIMITED, MILUPARA .AGE – MILUPARA,	DATE DATE	ORT NO REF NO E OF SAMPLING E OF RECEIPT E OF REPORT E OF ANALYSIS	1/03177 /02824 20 END:03/12/2020	
		SAMPI	E DETAILS		
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:		M/PO/SRV/2021/0044,
CUSTMER SAMPLE ID	NEAR MILUPARA MINES (PIEZOMETER -AWLR	OFFICE	SAMPLE CONDITION AT OK		DTD. 21-AUG-2020 DK
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 COLLE	CTED BY	CHEMIST
SAMPLING PROCEDURE	Te. 2025 (Dane 21 400)			EIVED 5	LTR

REPORT NO. -03177

			TEST REPORT	-		
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	рН	-	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-CI-G,4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	+	7	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-	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-CI-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 22nd Ed.2012,4500-P-C, 4-153		-	N.D.



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REPORT NO. -03177

			TEST REPORT			
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
20	Sodium (as Na)	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97	-	- 1	6.0
21	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3- 87	-	-	0.85
22	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4- 25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.12
25	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22 rd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22 rd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd,3- 105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01 0.05		N.D.
33	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01 No Relaxation		N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-8, 3-69	0.05 No Relaxation		N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2 1.0		N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	μg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39): 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
icrol	biological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be de	etectable in any sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be de	etectable in any sample	Absent
3	E. Coll	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	etectable in any	Absent
estic	ides			Toomi	sample	
1	p,p DDT	µg/L	US EPA 508-1995		1	ND
2	o.p DDT	µg/L	US EPA 508-1995		i	N.D.
3	p,pDDE	µg/L	US EPA 508-1995		1	N.D.
	p,p DDD	µg/L	US EPA 508-1995			N.D.
4				1		
	O,p DDD	µg/L	US EPA 508-1995		1	N.D.



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REPORT NO. -03177

_			TEST REPOR	RT		
SR.	DADARETER			AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
	(Lindane)				l	
7	Alpha-HCH	µg/L	US EPA 508-1995	1	.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	***	.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	4	.04	NAMES AND ADDRESS OF THE OWNER, THE
10	Alpha-Endosulfan	µg/L	US EPA 508-1995		.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995		man a second a second a	N.D.
12	Endosulfansulphat e	µg/L	US EPA 508-1995	-	0.4	
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			N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994			N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	Drawn and Company		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30	0	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.		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994		J	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	19	0	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	19		N.D.
26	Aldrin	µg/L	US EPA 508- 1995	0.0	12	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	-		N.D.
	Note: mg/lit.: milligram	per liter. N	D Not Detected	0.0	13	N.D.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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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 ULTIMATE ENVIROLYTICA AL SOLUTIONS

AUTHORIZED SIGNATORY

End of the test report----



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TO, HINDALCO INDUS GARE PALMA – IV/ BANKHETA, POST DISTT RAIGARH	TRIES LIMITED, 4, COAL MINE,VILLAGE – -MILUPARA, (C.G.) 496107.	REPORT NO LAB REF NO DATE OF SAMPLING DATE OF RECEIPT DATE OF REPORT DATE OF ANALYSIS	UES/TR/20-21/03145 UES/20-21/W/02792 24/11/2020 25/11/2020 03/12/2020 START: 26/11/2020 END: 03/12/2020
SAMPLE TYPE	GROUND WATER	SAMPLE DETAILS	N/PO/CEN/2001/0001
CUSTMER SAMPLE ID	SAKTA VILLAGE, (DUGWELL)	ORDER /REFERENCE: SAMPLE CONDITION	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	AT RECEIPT SAMPLE COLLECTED BY	OK CHEMIST
SAMPLING PROCEDURE	18:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

Report No.03145

			TEST REPORT			
SR.	DADAMENT	UNIT	METHOR	AS PER IS	10500:2012	1
1	Colour		WETHOD OF TEST	Acceptable Limit	Permissible	RESULT
2	Odour	Hazer	IS:3025:(Part-4)	5	15	1
3		-	IS 3025(part-5)	Agreeable	Agreeable	2.5
	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeab
4	pH	-	APHA 22 rd Ed.2012,4500-H*-B,	6.5-8.5	No	Agreeab
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13		Relaxation	7.24
6	Electrical Conductivity	µS/cm		1	5	3.8
7	Residual Chlorine	mg/Lit	ADUL 2003		-	236.0
8		mg/Lit	- 69	0.2	1	N.D.
	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-	4	-	
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	-	147.8
10	Total Suspended Solids	mg/Lit	APHA 22 rd Ed.2012,2540- D. 2-	300	2000	143.0 .
11	Alkalinity Total		66	-	-	4.8
11	(as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	60.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 rd Ed.2012,2340-C, 2-	200		68.0
13	Calcium Hardness (as		44,45	200	600	96.0
13	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,			44.0
15	Calcium (as Ca)	-	3-84 APHA 22 nd Ed.2012,3500–Ca-B,	-		52.0
		mg/Lit	3-67	75	200	17.6
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30		17.6
17	Chloride (as CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-B.		100	12.6
8		-	4-72 APHA 22 nd Ed.2012,4500-SO ₄ -E,	250	1000	28.2
.0	Sulphate (as SO ₄)	mg/Lit	4-190	200	400	
9	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No	20.4
0	Phosphate (as P)	ma// 14	APHA 22nd Ed.2012,4500-P-	45	Relaxation	0.32
-		mg/Lit	C,4-153	-	-	N.D.
1	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na- B,3-97	-		
2	Potassium (as K)	mg/Lit	APHA 22 rd Ed.2012,3500-K-B.			12.6
-			3-87	-	-	0.86



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Report No. 03145

_			TEST REPORT			
SR.	PARAMETER			AS PER IS	10500:2012	
NO.	100000000000000000000000000000000000000	UNIT	WEIHOD OF 1E21	Acceptable Limit	Permissible limit	RESUI
23	Boron (as B)	mg/Li	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Li	t APHA 22 nd Ed.2012,3111-B,3-18	0.3	Мо	-
25	Fluoride (as F)	mg/Li	APHA 22 nd Ed.2012 4500-F-B	and the second s	Relaxation	N.D.
26	Manganese (as Mn)	mg/Li	&D, 4-84 & 87	1	1.5	0.18
27	Lead (as Pb)	-	18	0.1	0.3	0.10
		mg/Lif	18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22"d Ed.2012,3500-Ni, 3- 108	0.02	No	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-	5	Relaxation	
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B. 3-		15	N.D.
31	Cadmium (as Cd)	-	18	0.05	1.5	N.D.
		mg/Lit	105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	23	0.001	No	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-	0.01	Relaxation	
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-		0.05	N.D.
35	Chromium (as Cr)	-	38 APHA 22 nd Ed.2012,3500-Cr-B,	0.01	Relaxation	N.D.
-	Anionic Detergent	mg/Lit	3-69	0.05	No Relaxation	N.D.
36	(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		IV.U.
38	Poly-nuclear Aromatic	μg/Lit			0.002	N.D.
	Hydrocarbon (PAH)	pg/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	ND
10	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	_	Relaxation	N.D.
icro	biological Analysis		2003		-	N.D.
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be det	ectable in any	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be dete	ectable in any	Absent
	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be dete	ectable in any	
stic	ides	1		100ml sa	ample	Absent
_	p,p DDT	µg/L	US EPA 508-1995	•		
-	o.p DDT	µg/L	US EPA 508-1995	1.		N.D.
	p,pDDE	µg/L	US EPA 508-1995	1	the same of the sa	N.D.
1	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
-	O,p DDD	µg/L	US EPA 508-1995	1	the second secon	N.D.
	Gamma-HCH (Lindane)		US EPA 508-1995	1		N.D.
1	Alpha-HCH		US EPA 508-1995	2	100 v - 14	N.D.
1	Beta-HCH		US EPA 508-1995	0.01	British reserved the control of the	N.D.
1	Delta HCH		US EPA 508-1995	0.04	THE RESERVE OF THE PARTY OF THE	N.D.
		1 0		0.04		N.D.



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Report No.03145

	100000000000000000000000000000000000000		TEST REPORT			
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10 Acceptable	500:2012 Permissible	RESULT
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	Limit	limit	
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	1	N.D.
13	Monocrotophos	HQ/L	I .	0.4		N.D.
14	Ethion	Pg/L	US EPA 8141A-1994	1		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	3		N.D.
16	Phorate	HQ/L	US EPA 8141A-1994	30		N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	2	1	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994		-	N.D.
19	2,4-D	µg/L	US EPA 8141A-1994			N.D.
20	Alachlor	µg/L	US EPA 515.1-1995	30		N.D.
21	Atrazine	µg/L	US EPA 508- 1995	20		N.D.
22	Methyl parathion	µg/L	US EPA 532-2000	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 8141A-1994	-		N.D.
27	Dieldrin	1000000	US EPA 508- 1995	0.03		N.D.
	Note: mg/lit.: milligram p	µg/L	US EPA 508-1995 Not Detected.	0.03		N.D.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

> The report for publication, arbitration or as legal dispute is forbidden.

> Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer

This is for information as the party has asked for a few asked for the few asked for

-- End of the test report----

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY



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

TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE, VILLAGE – MILUPARA, BLOCK-TAMNAR.			RT NO REF NO OF SAMPLING OF RECEIPT OF REPORT	UES/TR/20- UES/20-21/ 25/11/2020 26/11/2020 03/12/2020	/W/02	
DISTT RAIGARH (C	.G.) 496107	DATE	OF ANALYSIS	START: 26/11/2020 E		END: 03/12/2020
		SAMP	LE DETAILS			
SAMPLE TYPE	GROUND WATER		CRDER /REFERENCE:			0/SRV/2021/0044, 21-AUG-2020
CUSTMER SAMPLE ID	STAFF QUARTER-BANJIKHOL PIESOMETER (AMLR)		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 SOTTLE		SEALED	SAMPLE COLLEC	TED BY	CHEN	HIST
SAMPLING PROCEDURE 16:3025 (PART 1):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECE	IVED	5 II	R	

REPORT NO. 03176

			TEST REPORT			
SR.	PARAMETER	UNIT	METHOD OF TEST	DRINKING WATE	E LIMIT FOR R (IS 10500:2012)	RESULT
NO.	PARAMETER	ONII	METHOD OF TEST	Acceptable Limit	Permissible limit	RESOLI
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	рН	-	APHA 22°d 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 rd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 rd 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 [™] Ed.2012,3500-Mg-B, 3-84		-	40.0
15	Calcium (as Ca)	mg/Lit	APHA 22 rd 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 CI)	mg/Lit	APHA 22 rd Ed.2012,4500-Cl-B, 4-72	250	1000	32.9
18	Sulphate (as 50 ₄)	mg/Lit	APHA 22 rd Ed.2012,4500-50 ₄ - E,4-190	200	400	24.2
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 rd Ed.2012,4500-NO ₃ - B,4-122	45	No Relaxation	0.96
20	Phosphate (as P)	mg/Lit	APHA 22nd Ed.2012,4500-P-C, 4-153		-	N.D.
21	Sodium (as Na) 4	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97		-	8.8



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REPORT NO. 03176

			TEST REPORT			
SR.	PARAMETER	UNIT	METHOD OF TEST		Permissible	RESU
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 2284 Ed 2012 4500 P. P. 4	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	and the familiary of the same	0.3	No	N.D.
25	Fluoride (as F)	mg/Lit	АРНА 22 nd Ed.2012,4500-Г-В	1	Relaxation	141010
26	Manganese (as Mn)		orb, 4-04 or 67		AND DESCRIPTION OF THE PARTY OF	0.12
-		mg/Lit		0.1	0.3 No	N.D.
27	Lead (as Pb)	mg/Lit		0.01	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	ΑΡΗΛ 22 nd Ed.2012,3112-B, 3-23	0.001	No Rolaxation	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.
10	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
crob	iological Analysis		L save see			
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981; RA:2019	Shall not be d any 100 m		Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be d any 100 m	etectable in	Absent
3	E. Coll	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be d any 100ml	etectable in	Absent
stici	des					A THE RESIDENCE TO
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	h8/r	US EPA 508-1995	1		N.D.
1	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
	O,p DDD	µg/L	US EPA 508-1995	1	The state of the s	N.D.
	Gamma-HCH (Undane)	µg/L	US EPA 508-1995	2		N.D.
-	Alpha-HCH	µg/L	US EPA 508-1995	0.01		N.D.
	Beta-HCH	µg/L	US EPA 508-1995 ·'	0.04		N.D.
-	Delta HCH	µg/L	US EPA 508-1995	0.04		N.D.
0	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 DRINKING WATER Acceptable Limit		RESULT
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	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	2		N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30	11:7	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		-
23	Methyl paraxone	µg/L	US EPA 8141A-1994	0,3		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	190		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.

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 18000016 cest(s) only.

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FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-End of the test report-



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Name & Address Of The Customer TO,	REPORT NO	UES/TR/20-21/0	
HINDALCO INDUSTRIES LIMITED,	DATE OF SAMPLING	UES/20-21/W/02 25/11/2020	2825
GARE PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA,	DATE OF RECEIPT	26/11/2020	
BLOCK-TAMNAR,	DATE OF REPORT	03/12/2020	
DISTT RAIGARH (C.G.) 496107	DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020

SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044,
CUSTMER SAMPLE ID	MILUPARA VILLAGE NEAR PHC- HIL (DUGWELL)	SAMPLE CONDITION AT	DTD. 21-AUG-2020 OK
PACKING OF SAMPLE	3 L X I NO. PVC CAN 1 L X I NO. PVC CAN 1 L X I NO. FVC CAN 1 L X I NO. GLASS BOTTLE	RECEIPT 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

SR.			1	AS PEP IS	10500:2012	1
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	pН	-	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-CI-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	* 4	-	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 CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	-		32.0
14	Magnesium Hardness (as CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg- B.3-84	-		44.0
15	Calcium (as Ca)	mg/Lit	APHA 22 rd Ed.2012,3500-Ca- B,3-67	75	200	12.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 rd Ed.2012,3500-Mg-B, 3-84	30	: 100	10.6
17	Chloride (as CI)	mg/Lit	APHA 22 rd Ed.2012,4500-CI-B, 4-72	250	1000	8.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 ^{ne} 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 22ndEd.2012,4500-P-C, 4-153	-	* TOXAGETON	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na- B, 3-97	No.	•	4.8
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	-	***************************************	1.6



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24 Ir 25 FI 26 M 27 Le 28 Ni 29 Zi 30 Cc 31 Ca 32 Mi 33 Ar 34 Se 35 Cr 36 An 36 An 37 (as 38 Pol 38 Hy 39 Mir 0 Oil crobiol	PARAMETER Boron (as B) ron (as Fe) fluoride (as F) flanganese (as Mn) ead (as Pb) flickel (as Ni) inc (as Zn) opper (as Cu) admium (as Cd) fercury (as Hg) resenic (as As) elenium (as Se) hromium (as Cr) nionic Detergent s MBAS) nenolic Compound	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18 APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-108 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18	AS PER IS Acceptable Limit 0.5 0.3 1 0.1 0.01 0.02 5 0.05 0.003 0.001 0.001 0.01 0.01	Permissible limit 1.0 No Relaxation 1.5 0.3 No Relaxation No Relaxation 15 1.5 No Relaxation 0.05 No Relaxation 0.05 No Relaxation No Relaxation	N.D. N.D. 0.11 0.28 N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D
23 B 24 Ir 25 FI 26 M 27 Le 28 N 29 Zi 30 Cc 31 Ca 33 Ar 34 Se 35 Cr 36 An (a: 87 Ph (as 88 Pol 99 Mir 0 Oil crobiol	Boron (as B) ron (as Fe) fluoride (as F) flanganese (as Mn) ead (as Pb) flickel (as Ni) inc (as Zn) opper (as Cu) admium (as Cd) fercury (as Hg) rsenic (as As) elenium (as Se) hromium (as Cr) nionic Detergent s MBAS) penolic Compound	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25 APHA 22 nd Ed.2012,3111-B,3-18 APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-108 APHA 22 nd Ed.2012,3111-B, 3-108 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-105 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	Acceptable Limit 0.5 0.3 1 0.1 0.01 0.02 5 0.05 0.003 0.001 0.01 0.01	Permissible limit 1.0 No Relaxation 1.5 0.3 No Relaxation No Relaxation 15 1.5 No Relaxation O.05 No Relaxation	N.D. N.D. 0.11 0.28 N.D. N.D. N.D. N.D. N.D. N.D.
24 Ir 25 FI 26 M 27 Le 28 N 29 Zi 30 Ce 31 Ca 33 Ar 34 Se 35 Cr 36 An (a: 87 Ph (as 88 Po Po Mir 9 Mir 0 Oil crobiol	ron (as Fe) Iluoride (as F) Ianganese (as Mn) ead (as Pb) lickel (as Ni) inc (as Zn) opper (as Cu) admium (as Cd) ercury (as Hg) rsenic (as As) elenium (as Cr) nionic Detergent s MBAS) nenolic Compound	mg/Lit	4-25 APHA 22 nd Ed.2012,3111-B,3-18 APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-108 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-38 APHA 22 nd Ed.2012,3112-B, 3-33 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.5 0.3 1 0.1 0.01 0.02 5 0.05 0.003 0.001 0.01	1.0 No Relaxation 1.5 0.3 No Relaxation No Relaxation 15 1.5 No Relaxation O.05 No Relaxation	N.D. 0.11 0.28 N.D. N.D. N.D. N.D. N.D.
25 FI 26 M 27 Le 28 N 29 Zi 30 Cc 31 Ca 33 Ar 34 Se 35 Cr 36 An 37 Ca 38 Po Hy 9 Mir 0 Oil crobiol	Iluoride (as F) Idanganese (as Mn) Idanganese (as Mn) Idanganese (as Mn) Idanganese (as Mn) Idanganese (as Ni) Idanganese (as Ni) Idanganese (as Ni) Idanganese (as Cu) Idanganese (as Cu) Idanganese (as As) Idanganese (as Mas) Idanganese (as Mn) Idanganese (as	mg/Lit	18 APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-108 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	1 0.1 0.01 0.02 5 0.05 0.003 0.001 0.01	Relaxation 1.5 0.3 No Relaxation No Relaxation 15 1.5 No Relaxation No Relaxation No Relaxation No Relaxation No Relaxation O.05 No Relaxation	N.D. 0.11 0.28 N.D. N.D. N.D. N.D. N.D.
26 M 27 Le 28 N 29 Zi 30 Cc 31 Ca 33 Ar 34 Se 35 Cr 36 An 37 (as 37 Ph (as 48 Po Hy 9 Mir 0 Oil crobiol	tanganese (as Mn) ead (as Pb) lickel (as Ni) linc (as Zn) opper (as Cu) admium (as Cd) fercury (as Hg) rsenic (as As) elenium (as Cr) nionic Detergent s MBAS) penolic Compound	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-108 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.1 0.01 0.02 5 0.05 0.003 0.001 0.01	1.5 0.3 No Relaxation No Relaxation 15 1.5 No Relaxation No Relaxation O.05 No Relaxation	0.11 0.28 N.D. N.D. N.D. N.D. N.D.
27 Le 28 Ni 29 Zi 30 Cc 31 Ca 32 Mi 33 Ar 34 Se 35 Ch 36 An (a: 48 Pol 48 Pol 49 Mir 0 Oil crobiol	ead (as Pb) lickel (as Ni) linc (as Zn) opper (as Cu) admium (as Cd) lercury (as Hg) rsenic (as As) elenium (as Se) hromium (as Cr) nionic Detergent s MBAS)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-108 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-105 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.1 0.01 0.02 5 0.05 0.003 0.001 0.01	0.3 No Relaxation No Relaxation 15 1.5 No Relaxation No Relaxation 0.05 No Relaxation	0.28 N.D. N.D. N.D. N.D. N.D.
28 Ni 29 Zi 30 Cc 31 Ca 32 Mi 33 Ar 34 Se 35 Cr 36 An (a: 48 Pol 48 Pol 49 Mir 0 Oil crobiol	inc (as Zn) inc (as Zn) opper (as Cu) admium (as Cd) ercury (as Hg) rsenic (as As) elenium (as Se) hromlum (as Cr) nionic Detergent s MBAS) nenolic Compound	mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-108 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Cd, 3-105 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.01 0.02 5 0.05 0.003 0.001 0.01	No Relaxation No Relaxation 15 1.5 No Relaxation No Relaxation O.05 No Relaxation	N.D. N.D. N.D. N.D. N.D.
28 Ni 29 Zi 30 Cc 31 Cc 32 Mi 33 Ar 34 Se 35 Cr 36 An (a: 48 Pol 68 Hy 69 Mir 0 Oil crobiol	inc (as Zn) inc (as Zn) opper (as Cu) admium (as Cd) ercury (as Hg) rsenic (as As) elenium (as Se) hromlum (as Cr) nionic Detergent s MBAS) nenolic Compound	mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit	18 APHA 22 nd Ed.2012,3500-Ni, 3-108 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Cd, 3-105 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.02 5 0.05 0.003 0.001 0.01	Relaxation No Relaxation 15 1.5 No Relaxation No Relaxation 0.05 No Relaxation	N.D. N.D. N.D. N.D.
29 Zi 30 Cc 31 Ca 32 Mi 33 Ar 34 Se 35 Cr 36 An 37 Ph (as 88 Po Hy 9 Mir 0 Oil crobiol	opper (as Cu) admium (as Cd) ercury (as Hg) rsenic (as As) elenium (as Se) hromlum (as Cr) nionic Detergent s MBAS)	mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Cd, 3-105 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	5 0.05 0.003 0.001 0.01	Relaxation 15 1.5 No Relaxation No Relaxation 0.05 No Relaxation	N.D. N.D. N.D. N.D.
30 Co 31 Ca 32 Ma 33 Ar 34 Se 35 Cr 36 An 37 (as 38 Po Hy 9 Mir 0 Oil crobiol	opper (as Cu) admium (as Cd) ercury (as Hg) rsenic (as As) elenium (as Se) hromium (as Cr) nionic Detergent s MBAS) penolic Compound	mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit	18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Cd, 3-105 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05 0.003 0.001 0.01	No Relaxation No Relaxation 0.05 No Relaxation	N.D. N.D. N.D.
31 Ca 32 Mi 33 Ar 34 Se 35 Cr 36 An (a) 37 (a) 38 Po (a) 49 Mir 0 Oil crobiol	admium (as Cd) lercury (as Hg) rsenic (as As) elenium (as Se) hromlum (as Cr) nionic Detergent s MBAS)	mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit	18 APHA 22 nd Ed.2012,3500-Cd, 3-105 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.003 0.001 0.01 0.01	No Relaxation No Relaxation 0.05 No Relaxation	N.D.
32 Mi 33 Ar 34 Se 35 Cr 36 An (a: 48 Pol 68 Pol 69 Mir 0 Oil crobiol	rsenic (as As) elenium (as Se) hromium (as Cr) nionic Detergent s MBAS)	mg/Lit mg/Lit mg/Lit mg/Lit	105 APHA 22 nd Ed.2012,3112-B, 3-23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.001 0.01 0.01	Relaxation No Relaxation 0.05 No Relaxation	N.D.
33 Ar 34 Se 35 Cr 36 An (a: 37 Ph (as 8 Po) Mir 0 Oil crobiol	rsenic (as As) elenium (as Se) hromium (as Cr) nionic Detergent s MBAS) nenolic Compound	mg/Lit mg/Lit mg/Lit	23 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.01	No Relaxation 0.05 No Relaxation	N.D.
34 See 35 Cr 36 (a. 37 Ph 37 (as 8 Po Hy 99 Mir 0 Oil crobiol	elenium (as Se) hromium (as Cr) nionic Detergent s MBAS) nenolic Compound	mg/Lit mg/Lit	38 APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.01	0.05 No Relaxation	N.D.
35 Cr 36 An (a: 37 Ph (as 8 Pol 9 Mir 0 Oil crobiol	hromium (as Cr) nionic Detergent s MBAS) nenolic Compound	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38 APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.01	No Relaxation	
An (a: Ph (as Pol Hy Pol Hy Pol Hy Pol	nionic Detergent s MBAS) nenolic Compound	+	APHA 22 nd Ed.2012,3500-Cr-B, 3-69			IV.D.
36 (a: 37 Ph (as 88 Po Hy 9 Mir 0 Oil crobiol	nionic Detergent s MBAS) nenolic Compound	+		U.U.		42.20
Ph (as Pol Hy 9 Mir 0 Oil crobiol	enolic Compound	i mg/Lit	ALTIA 22 EU.2012,3340-C. 5-		Relaxation	N.D.
(as Pol Hy 9 Mir 0 Oil		-	53 APHA 22 nd Ed.2012,5540-B & C,	0.2	1.0	N.D.
9 Mir 0 Oil crobiol	s C ₆ H ₅ OH)	mg/Lit	5-47	0.001	0.002	N.D.
0 Oil	ly-nuclear Aromatic drocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
crobiol	neral Oil	mg/Lit	IS 3025 (part-39): 1991, RA 2003	0.5	No	N.D.
	& Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	Relaxation	N.D.
Total	ogical Analysis					14.0.
	al Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be det 100 ml s	ectable in any	Absent
Fae	cal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be det 100 ml s	ectable in any	Absent
E, C	Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be det	ectable in any	Absent
sticides	s		the second of th	100ml s	ample	Hosciic
p,p	DDT	µg/L	US EPA 508-1995	i:		N.D.
	DDT	µg/L	US EPA 508-1995	1		
p,pt	DDE	µg/L	US EPA 508-1995	1		N.D.
p,p	DDD	µg/L	US EPA 508-1995	1		N.D.
O,p	DDD	4-4-4-5-4-110-4	US EPA 508-1995	1		N.D.
Gam	nma-HCH (Lindane)		US EPA 508-1995	me, a pull-parameter and the entry's		N.D.
-	па-НСН		US EPA 508-1995	2		N.D.
			US EPA 508-1995	0.01		N.D.
Delta	a-HCH	managed and section in the section in	US EPA 508-1995	0.04		N.D.



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REPORT NO. - 03178

			TEST REPOR	Т			
SR.	PARAMETER	UNIT		Particular commencement and a second com-	AS PER IS 10500:2012		
NO.	TARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	-	1 Hmit	N.D.	
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0		N.D.	
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.	******	N.D.	
13	Monocrotophos	µg/L	US EPA 8141A-1994		-	N.D.	
14	Ethion	µg/L	US EPA 8141A-1994			N.D.	
15	Chloropyrifos	µg/L	US EPA 8141A-1994	1	30		
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		-	
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	0,,		N.D.	
24	Malathion	µg/L	US EPA 8141A-1994	190		N.D.	
25	Malaoxon	µg/L	US EPA 8141A-1994	190		N.D.	
26	Aldrin	µg/L	US EPA 508- 1995	0.0	9	N.D.	
27	Dieldrin	µg/L	US EPA 508-1995	0.0		N.D.	

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

> The report for publication, arbitration or as legal dispute is forbidden,

Test sample will be retained for 15 days after the control report unless otherwise agreed with customer.

This is for information as the party has a fust in preserve and so only.

End of the test report-----

AUTHORIZED SIGNATORY



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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

REPOR

LAB R

DATE

DATE

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 M/PO/SRV/2021/0044, ORDER /REFERENCE: DTD. 21-AUG-2020 CUSTMER SAMPLE ID SIDARPARA VILLAGE (DUGWELL) SAMPLE CONDITION AT RECEIPT 3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN PACKING OF SAMPLE 1 L X 1 NO. GLASS SAMPLE COLLECTED BY CHEMIST BOTTLE IS:3025 (PART I):1987 RA 2003; SAMPLING PROCEDURE APHA 22ND ED. 2012,1060-B,1-39 QUANTITY RECEIVED 5 LTR

REPORT NO. - 03179

			TEST REPORT			
SR.	PARAMETER			AS PER IS	10500:2012	1
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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-CI-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 CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	•	-	38.0
14	Magnesium Hardness (as CaCO3)	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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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 22ndEd.2012,4500-P-C, 4-153	*	- waterdolou	N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	THE RESIDENCE OF STREET	*	8.2
22	Potassium (as K)	mg/Lit	APHA 22nd Ed.2012,3500-K-B, 3-			0.9



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23 24 25 26 27 28 29 30 31	PARAMETER Boron (as B) Iron (as Fe) Fluoride (as F) Manganese (as Mn) Lead (as Pb) Nickel (as Ni) Zinc (as Zn) Copper (as Cu) Cadmium (as Cd)	mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit	87 APHA 22 nd Ed.2012,4500–B-B, 4-25 APHA 22 nd Ed.2012,3111-B,3-18 APHA 22 nd Ed.2012,4500–F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18	0.5 0.3 1	Permissible limit 1.0 No Relaxation 1.5 0.3	N.D. N.D. 0.14
23 24 25 26 27 28 29 30	Boron (as B) Iron (as Fe) Fluoride (as F) Manganese (as Mn) Lead (as Pb) Nickel (as Ni) Zinc (as Zn) Copper (as Cu)	mg/Lit mg/Lit mg/Lit mg/Lit mg/Lit	87 APHA 22 nd Ed.2012,4500–B-B, 4-25 APHA 22 nd Ed.2012,3111-B,3-18 APHA 22 nd Ed.2012,4500–F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18	0.5 0.3 1	Permissible limit 1.0 No Relaxation 1.5 0.3	N.D. N.D.
24 25 26 27 28 29 30	Iron (as Fe) Fluoride (as F) Manganese (as Mn) Lead (as Pb) Nickel (as Ni) Zinc (as Zn) Copper (as Cu)	mg/Lit mg/Lit mg/Lit mg/Lit	APHA 22 nd Ed.2012,4500–B-B, 4-25 APHA 22 nd Ed.2012,3111-B,3-18 APHA 22 nd Ed.2012,4500–F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-	0.5	No Relaxation 1.5	N.D. 0.14
24 25 26 27 28 29 30	Iron (as Fe) Fluoride (as F) Manganese (as Mn) Lead (as Pb) Nickel (as Ni) Zinc (as Zn) Copper (as Cu)	mg/Lit mg/Lit mg/Lit mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18 APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni. 3-	0.5	No Relaxation 1.5	N.D. 0.14
25 26 27 28 29 30	Fluoride (as F) Manganese (as Mn) Lead (as Pb) Nickel (as Ni) Zinc (as Zn) Copper (as Cu)	mg/Lit mg/Lit mg/Lit mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni. 3-	0.1	Relaxation 1.5 0.3	0.14
26 27 28 29 30	Manganese (as Mn) Lead (as Pb) Nickel (as Ni) Zinc (as Zn) Copper (as Cu)	mg/Lit mg/Lit mg/Lit	&D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-	0.1	1.5	0.14
27 28 29 30	Lead (as Pb) Nickel (as Ni) Zinc (as Zn) Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-	0.1	0.3	
28 29 30	Nickel (as Ni) Zinc (as Zn) Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18 APHA 22 nd Ed.2012,3500-Ni, 3-		The same of the sa	0.08
29	Zinc (as Zn) Copper (as Cu)		APHA 22 nd Ed.2012,3500-Ni, 3-	0.01	No	
30	Zinc (as Zn) Copper (as Cu)		108		Relaxation	N.D.
30	Copper (as Cu)	mg/Lit	4 4	0.02	No Relaxation	N.D.
31			-1-10	5	15	N.D.
		mg/Lit	ADUA 2200 E L 2012	0.05	1.5	N.D.
		mg/Lit	105 Ed.2012,3500-Cd, 3-	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22nd Ed.2012,3112-B, 3-23	0.001 No		
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	Relaxation	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 rd Ed.2012,3114-C, 3-38	0.01	0.05 No	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B.		Relaxation	N.D.
36	Anionic Detergent	+	3-69	0.05	Relaxation	N.D.
-	(as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.000	
88	Poly-nuclear Aromatic	μg/Lit	APHA 22 nd Ed.2012,6440-6-93		0.002	N.D.
1	Hydrocarbon (PAH)			0.0001 No Relaxation		N.D.
-	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	Retaxation	
crobi	iological Analysis					N.D.
. 1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be de any 100 ml	etectable in	Absent
-	aecal coliform	MPN/ 100ml MPN/	IS:1622:1981: RA:2019	Shall not be de	etectable in	Absent
	. Coli	100ml	IS:1622:1981:RA:2019	Shall not be de	tectable in	Abcont
sticio				any 100ml	sample	Absent
-	,p DDT	µg/L	US EPA 508-1995	1		ALD
	.p ODT	ha/r	US EPA 508-1995	1		N.D.
-	PDDE		US EPA 508-1995	1		N.D.
	,p DDD	µg/L	US EPA 508-1995	1		N.D.
-	,p DDD	hg/r	US EPA 508-1995	1		N.D.
	amma-HCH (Lindane)	µg/L	US EPA 508-1995	2		N.D.
444	lpha-HCH	µg/L	US EPA 508-1995 :			N.D.
-	eta-HCH		US EPA 508-1995	0.01		N.D.
D	elta HCH		US EPA 508-1995	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 Acceptable Permissible	RESULT
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	Limit limit	11.5
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	*	N.D.
13	Monocrotophos	hg/r	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		+	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	190	N.D.
26	Aldrin	7	US EPA 8141A-1994		N.D.
27	Dieldrin	Hg/L	US EPA 508- 1995	0.03	N.D.
_	Note: mg/lit.: milligram pe	l μg/L	US EPA 508-1995	0.03	N.D.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

> The report for publication, arbitration or as legal dispute is forbidden.

> Test sample will be retained for 15 days after a least report unless otherwise agreed with customer.

This is for information as the party has after

FOT ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-End of the test report-



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Report No.03146

			TEST REPORT			
SR.				AS PER I	\$ 10500:2012	
NO.	PARAMETER	UNIT		Acceptable Limit	Permissible limit	RESU
_			3-87			
23	Boron (as B)	mg/Lit	APHA 22 rd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit		8 0.3	, No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	au, 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 rd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	ADUA 2205 E4 2012 2111 P. 2	5	15	N.D.
30	Copper (as Cu)	mg/Lit	ADHA 2200 Ex 2012 2111 E. 2	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	ADDIA 2005 F. 2015 2544 4.1.	0.003	No	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 [™] Ed.2012,3112-B, 3- 23	0.001	Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 [™] Ed.2012,3114-C, 3- 38	0.01	Relaxation 0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 rd Ed.2012,3114-C, 3- 38	0.01	No	
35	Chromium (as Cr)	mg/Lit	APHA 22°C Ed.2012,3500-Cr-B, 3-69	0.05	Relaxation No	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	APHA 22° Ed.2012,5540-C, 5-	0.2	Relaxation	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	53 APHA 22 rd Ed.2012,5540-8 & 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	
39	Mineral Oil	mg/Lit	1S 3025 (part-39) : 1991, RA 2003	0.5	Relaxation No	N.D.
10	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA		Relaxation	N.D.
icro	biological Analysis		2003		-	N.D.
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be d any 100 m	etectable in	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be d	etectable in	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	any 100 m Shall not be d	etectable in	
estic	ides	200111		any 100 m	sample	Absent
	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.
	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.
5	Gamma-HCH	µg/L	US EPA 508-1995	1	1	N.D.
,	(Lindane) Alpha-HCH			2		N.D.
3	Beta-HCH	µg/L	US EPA 508-1995	0.01		N.D.
-		µg/L	US EPA 508-1995	0.04		N.D.



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

Name & Address Of The Co.	stamer		REPORT NO	UES/TR/20-21/0	3146 .	
то,			LAB REF NO	UES/20-21/W/02793 24/11/2020		
HINDALCO INDUST	TRIES LIMITED,		DATE OF SAMPLING			
GARE PALMA - IV	4, COAL MINE, VILLA	GE -	DATE OF RECEIPT	25/11/2020		
BANKHETA, POST	-MILUPARA,		DATE OF REPORT	03/12/2020		
DISTT RAIGARH	(C.G.) 496107.		DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020	
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/003	5,	
CUSTMER SAMPLE ID	E ID BELJOR VILLAGE (DUGWELL)		SAMPLE CONDITION AT RECEIPT	DTD. 21-AUG-20 2 0 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		
IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39			5 LTR			

Report No.03146

			TEST REPORT			
SR.	To provide the			AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	рН	-	APHA 22 nd Ed.2012,4500-H*-B, 4-92			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-CI-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 CI)	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 22nd Ed.2012,4500-P- C,4-153	-		N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na- B,3-97		-	4.2
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B,	-	-	1.6



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Report No. 03146

_			TEST REPORT			
SR.	PARAMETER	UNIT	METUOD OF THE	AS PER IS	10500:2012	
			METHOD OF TEST	Acceptable	Permissible	RESULT
9	Delta HCH	µg/L	US EPA 508-1995	Limit	limit	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	And the second second second	04	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	State of the state of the state of	.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	And the second second second second	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	3	3	
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	-	-	
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	The state of the s	20		N.D.
22	Methyl parathion	µg/L	US EPA 532-2000	2		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	0.3		N.D.
24	Malathion		US EPA 8141A-1994	-		N.D.
5	Malaoxon	μg/L	US EPA 8141A-1994	190		N.D.
6	Aldrin	µg/L	US EPA 8141A-1994	_		N.D.
7	Dieldrin	µg/L	US EPA 508- 1995	0.03		N.D.
-	Note: mg/lit.: milligram p	µg/L	US EPA 508-1995 Not Detected.	0.03		N.D.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

> The report for publication, arbitration or as legal dispute is forbidden.

> Test sample will be retained for 15 days after issue of rest report unless otherwise agreed with customer.

This is for information as the party has as

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

End of the test report---



Letter No. : HIL/EC/GP-IV/4 -Q4/2020-21 /2 7

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.

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 – Bhanjikhol, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.

Thanking you,

Yours faithfully.

Dipesh Bhatia

(Vice President - GP Mines)

Civil Line, Nagpur - 440001

For Hindalco Industries Limited

Encl: As above

CC: 1) Member Secretory, 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

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	Banjikhol (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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Name & Address Of 1	The Customer	REPORT NO	UES/TR/20-21/03975			
то,		LAB REF NO	UES/20-21/W/03660 22/01/2021			
HINDALCO INDUSTRI	,	DATE OF SAMPLING				
VILLAGE - BANKHET	ARE PALMA - IV/4, COAL MINE, DATE OF RECEIPT 23/01/2021					
POST -MILUPARA,	Α,	DATE OF REPORT	02/02/2021			
DISTT RAIGARH (C.	G.) 496107.	DATE OF ANALYSIS	START: 23/01/2021	END: 02/02/2021		
	S	AMPLE DETAILS	À.			
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/ DTD. 21-AUG-20			
CUSTMER SAMPLE ID	BANKHETA MINE (PIEZOMETER) AWLR	SAMPLE CONDITION AT RECEIPT	OK			
PACKING OF SAMPLE	3 L X 1 NO. FVC CAN 1 L X 1 NO. FVC 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			

	TEST REPORT									
SR.		1 7 3		AS PER IS	10500:2012					
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1				
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeabl				
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeabl				
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 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.				
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	14.3				
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-	-	-	1.05				



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			TEST REPORT			
SR.			1	AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
			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 Relamation	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.
Micro	biological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in ml sample	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019		detectable in ml sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be	detectable in ml sample	Absent
Pesti	cides					
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		.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.				AS PER IS	10500:2012		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT	
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	3	30		
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	3	0	N.D.	
20	Alachlor	μg/L	US EPA 508- 1995	2	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 appreciast(s) only.

PREPARED BY

End of the test report

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY



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

Name & Address Of The Cu.	stomer	REP	ORT NO	UES,	UES/TR/20-21/03976		
TO,	STRIES LIMITED,	LAB	REF NO	UES/20-21/W/03661			
GARE PALMA - I	,	DAT	E OF SAMPLING	22/0	01/2021		
VILLAGE - BANK	,	DAT	E OF RECEIPT	23/0	23/01/2021		
POST -MILUPARA	DAT	DATE OF REPORT 0:		02/02/2021			
DISTT RAIGAR	DISTT RAIGARH (C.G.) 496107.			DATE OF ANALYSIS STAR		END: 02/02/2021	
		SAME	LE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENC	Z:	N/PO/SRV/20 DTD. 21-AUG		
CUSTMER SAMPLE ID	TMER SAMPLE ID BANJIKHOL MINE (PIEZOMETER) AWLR		SAMPLE CONDITION RECEIPT	N AT	OK		
PACKING OF SAMPLE	3 L X I NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTE	D BY	CHEMIST		
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA APHA 22ND ED. 2012, 106		QUANTITY RECEIV	ŒD	5 LTR		

Report No. 03976

			TEST REPORT	AS PER IS	10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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-CI-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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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 22nd Ed.2012,4500-P-C, 4-153	_		N.D.
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97	-	-	14.2



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Report No. 03976

	The same of the sa		TEST REPORT			
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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	-	-	N.D.
Micro	biological Analysis	-	2003,		1	
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		etectable in any I sample	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019		etectable in any	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	etectable in any sample	Absent
Pesti	cides	100111		100111	sample	-
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		N.D.	
7	Alpha-HCH	µg/L	US EPA 508-1995	0	.01	N.D.
8	Beta-HCH	μg/L	US EPA 508-1995		.04	N.D.

Format No.: UES/FORM/09



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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Report No. 03976

	TEST REPORT									
SR.	PARAMETER			AS PER IS	10500:2012					
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
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	3	30	N.D.				
20	Alachlor	μg/L	US EPA 508- 1995	2	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 at test report unless otherwise agreed with customer.
 This is for information as the party has asked to be so when the public sample is the public sample.

For ULTIMATE ENVIRORYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

PREPARED BY End of the test report-



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Name & Address Of The Gu	slamer	REPOR	RT NO	UES/TR/20-2	1/0	4012
то,		LAD I	AB REF NO UES/20-21/W/		/03	697
HINDALCO INDUSTR		DATE	OF SAMPLING	MPLING 22/01/2021		
GARE PALMA - IV/5,		DATE	OF RECEIPT	23/01/2021		
U/G COAL MINE, VILL BLOCK-TAMNAR,	AGE - MILUPARA,	DATE	OF REPORT	02/02/2021		
DISTT RAIGARH (C	.G.) 496107	DATE	OF ANALYSIS	START: 23/01/20	21	END: 02/02/2021
		SAMPLE	DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFER	RENCE:		O/SRV/2021/0044, . 21-AUG-2020
CUSTMER SAMPLE ID	NEAR MILUPARA MINES OFF PIEZOMETER -AWLR	FICE	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 COLLE	CCTED BY	СНЕ	MIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA APHA 22ND ED. 2012, 106		QUANTITY REC	CEIVED	5 L	TR

REPORT NO. -04012

TEST REPORT									
		**		AS PER IS	10500:2012]			
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT			
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/l it	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 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.			



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REPORT NO. -04012

				AS DER IS	10500:2012	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
20	Sodium (as Na)	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97	-	-	6.2
21	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3- 87	-		0.78
22	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4- 25	0.5	1.0	N.D.
23	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
25	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
26	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	Relaxation	N.D.
27	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
29	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
30	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd,3- 105	0.003	No Relaxation	N.D.
31	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
32	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.05	No Relaxation	N.D.
35	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
36	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
37	Poly-nuclear Aromatic Hydrocarbon (PAH)	μg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
38	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
39	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	-	N.D.
Micro	biological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		etectable in any	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be d	etectable in any	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be d	letectable in any I sample	Absent
Pesti	cides					
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									
				AS PER IS	10500:2012				
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT			
	(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	Endosulfansulphat e	μg/L	US EPA 508-1995	S 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	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	μġ/L	US EPA 508- 1995	PA 508- 1995 0.03		N.D.			
27	Dieldrin	μg/L	US EPA 508-1995	C	.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 15days after issue of test report unless otherwise agreed with customer.
 This is for information as the party has asked for the test (s) only

For ULTIMATE ENVIROLYTICAL SQLUTIONS

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2021

AUTHORIZED SIGNATORY

End of the test report-



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Name & Address Of The Cut TO, HINDALCO INDUSTR		LAB I	RT NO REF NO	UES/TR/20- UES/20-21/	W/03		
GARE PALMA - IV/5,	MILUPARA		OF RECEIPT	23/01/2021	22/01/2021 23/01/2021		
BLOCK-TAMNAR, DISTT RAIGARH (C	•		DATE OF REPORT 02/02/202 DATE OF ANALYSIS START: 23/01			END: 02/02/2021	
		SAMP	LE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERE	NCE:		O/SRV/2021/0044, . 21-AUG-2020	
CUSTMER SAMPLE ID	STAFF QUARTER-BANJIKHOL PIEZOMETER (AWLR)		SAMPLE CONDIT	ION 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 COLLEC	TED BY	СНЕ	MIST	
SAMPLING PROCEDURE IS:3025 (PART I):1987 RA 200 APHA 22ND ED. 2012, 1060-B,			QUANTITY RECEIVED		5 LTR		

REPORT NO. 04011

TEST REPORT									
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABL DRINKING WATER Acceptable	Permissible	RESULT			
				Limit 5	limit 15				
1	Colour	Hazen	IS:3025:(Part-4)			<1 Agreeable			
2	Odour		IS 3025:(part-5)	Agreeable	Agreeable	Agreeabl			
3	Taste pH	-	IS 3025:(part-8) APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	Agreeable 6.5-8.5	No Relaxation	6.74			
5	Turbidity	NTU	APHA 22 rd 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 rd 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 CaCO₃)	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 CI)	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,4-190 200		400	19.6			
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ - B,4-122		0.92				
20	Phosphate (as P)	mg/Lit	APHA 22nd Ed.2012,4500-P-C, 4-153	-	-	N.D.			
21	Sodium (as Na)	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97	-	-	7.6			



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			TEST REPORT			
SR.				ACCEPTABLE DRINKING WATER		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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.
Microt	piological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in nl sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be	detectable in nl sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be	detectable in	Absent
Pestic	ides	200111		3.17 2.301		
1	p,p DDT	μg/L	US EPA 508-1995		i	N.D.
2	o.p DDT	µg/L	US EPA 508-1995		1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995		ı	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.
G	Gamma-IICH (Lindana)	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	Deita 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.					ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)			
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT		
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	-	-			
18	Phoratesulphone	μg/L	US EPA 8141A-1994	-		N.D.		
19	2,4-D	µg/L	US EPA 515.1-1995	3	0	N.D.		
20	Alachlor	μg/L	US EPA 508- 1995	2	0	N.D.		
21	Atrazine	μg/L	US EPA 532-2000	2	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	19	190			
25	Malaoxon	μg/L	US EPA 8141A-1994	-		N.D.		
26	Aldrin	μg/L	US EPA 508- 1995	0.0	0.03			
27	Dieldrin	μg/L	US EPA 508-1995	0.0	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 horas est(s) only.

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-End of the test report-



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Name & Address Of The	Customer	REPO	RT NO	UES/TR/20-21/04013 UES/20-21/W/03698			
TO,		LAB I	REF NO				
HINDALCO INDUSTRI	ES LIMITED,	DATE	OF SAMPLING	22/01/2021			
GARE PALMA - IV/5, I	MILUPARA	DATE	OF RECEIPT	23/01/202	21		
U/G COAL MINE,VILL	AGE – MILUPARA,	DATE	OF REPORT	02/02/2021			
BLOCK-TAMNAR, DISTT RAIGARH (C.	.G.) 496107	DATE	OF ANALYSIS	START: 23/01	1/2021	END: 02/02/2021	
		SAMPLI	EDETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERE	NCE:		SRV/2021/0044, 21-AUG-2020	
CUSTMER SAMPLE ID	MILUPARA VILLAGE NEAR PHO HIL (DUGWELL)	-	SAMPLE CONDIT	ION AT	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 COLLEC	TED BY	CHEMI	ST	
SAMPLING PROCEDURE IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-39			QUANTITY RECE	IVED	5 LTR	!	

PEPORT NO. - 04013

TEST REPORT									
SR.			METHOD OF TEST	AS PER IS					
NO.	PARAMETER	UNIT		Acceptable Limit	Permissible limit	RESULT			
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	рН	-	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 CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500–Ca- B,3-67	-	-	38.0			
14	Magnesium Hardness (as CaCO3)	mg/Lit	APHA 22 ^{no} 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-CI-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 22nd 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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			TEST REPORT			
SR.				AS PER IS		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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.
Micro	biological Analysis		2000			
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		etectable in any	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019		etectable in any I sample	Absent
Pesti	cides	2001111				,
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	C	.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.				AS PER IS						
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
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	3	0	N.D.				
20	Alachlor	μg/L	US EPA 508- 1995	2	.0	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.				
2.5	Malaoxon	μg/L	US EPA 8141A-1994	-		N.D.				
26	Aldrin	µg/L	US EPA 508- 1995	0.	03	N.D.				
27	Dieldrin	µg/L	US EPA 508-1995	0.	03	N.D.				

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

REMARKS: RESULTS ARE AS ABOVE

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

PREPARED BY 02 2021

For ULTIMATE ENVIROLYFICAL SOLUTIONS

AUTHORIZED SIGNATORY



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

Name & Address Of The Cus	tomer	REPORT NO	UES/TR/20-21/03977 UES/20-21/W/03662		
то,		LAB REF NO			
HINDALCO INDUST	RIES LIMITED,	DATE OF SAMPLING	22/01/2021		
GARE PALMA - IV/4	I, 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 TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/003. DTD. 21-AUG-2020	5,	
SAMPLE TYPE	GROUND WATER			5,	
CUSTMER 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		
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.	PARAMETER		METHOD OF TEST	AS PER IS						
NO.		UNIT		Acceptable Limit	Permissible limit	RESULT				
1	Colour	Hazen	IS:3025:(Port 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-CI-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 CI)	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 22nd Ed.2012,4500~P- C,4-153	-	- ,	N.D.				
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na- B,3-97	-	-	11.4				
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500–K-B, 3-87	-	-	0.81				



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			TEST REPORT						
ep.	AS PER IS 10500:2012								
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT			
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-	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-	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	-	- Netaxacton	N.D.			
Micro	biological Analysis		2003						
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		etectable in any sample	Absent			
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019		etectable in any sample	Absent			
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	etectable in any sample	Absent			
Pesti	cides					-			
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.				AS PER IS	10500:2012					
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT				
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		L	N.D.				
14	Ethion	μg/L	US EPA 8141A-1994	3	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	3	0	N.D.				
20	Alachlor	μg/L	US EPA 508- 1995	2	0	N.D.				
21	Atrazine	μg/L	US EPA 532-2000	2	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	19	90	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 the legal only.

End of the test report-

For ULTIMATE ENVIROLYTICAL SOLUTIONS

02 02 202 **AUTHORIZED SIGNATORY**



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Name & Address Of The	Customer	REPOR	RT NO	UES/TR/20)-21/0	4014
TO,		LAB I	REF NO	UES/20-21	699	
HINDALCO INDUSTRIES LIMITED,			OF SAMPLING	22/01/202	1	
GARE PALMA - IV/5,	MILUPARA	DATE	OF RECEIPT	23/01/202	21	
U/G COAL MINE, VILLAGE - MILUPARA,			OF REPORT	02/02/202	21	
BLOCK-TAMNAR, DISTT RAIGARH (C	.G.) 496107	DATE	OF ANALYSIS	START: 23/01	/2021	END: 02/02/2021
		SAMPLE	DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFERE	NCE:		SRV/2021/0044, 21-AUG-2020
CUSTMER SAMPLE ID	SIDARPARA VILLAGE (DUGWE	LL)	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 COLLEC	TED BY	СНЕМІ	ST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA APHA 22ND ED. 2012,1060-		QUANTITY RECE	IVED	5 LTF	

REPORT NO. - 04014

	TEST REPORT								
SR.	PARAMETER	PARAMETER UNIT METHOD OF		AS PER IS 1	10500:2012				
NO.			METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT			
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 CaCO₃)	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 CaCO3)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca- B,3-67	-	-	46.0			
14	Magnesium Hardness (as CaCO3)	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-CI-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 ^{no} Ed.2012,4500-NO ₃ - B,4-122	45	NO Relaxation	3.1			
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	-	-	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.	PARAMETER			AS PER IS	10500:2012	
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
			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)	ma/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 100	0.02	No Relamation	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 rd 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 rd 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.
Micro	obiological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in ml sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019		detectable in ml sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019		detectable in nl sample	Absent
Pesti	icides					
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		01	N.D.
8	Beta-HCH	μg/L	US EPA 508-1995		04	N.D.
9	Delta HCH	μg/L	US EPA 508-1995	0.	04	N.D.



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REPORT NO. - 04014

	TEST REPORT									
SR.				AS PER IS 1	AS PER IS 10500:2012					
NO. PARAMETER		UNIT	METHOD OF TEST	Acceptable Limit	4					
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	1	N.D.				
15	Chloropyrifos	μg/L	US EPA 8141A-1994	30	0	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							
19	2,4-D	μg/L	US EPA 515.1-1995	30	0	N.D.				
20	Alachior	μg/L	US EPA 508- 1995	20	0	N.D.				
21	Atrazine	μg/L	US EPA 532-2000	2	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	19	0	N.D.				
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.				
26	Aldrin	µg/L	US EPA 508- 1995	0.0	03	N.D.				
27	Dieldrin	µg/L	US EPA 508-1995	0.0	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 a although test(s) only.

PREPARED BY 02 202

For ULTIMATE ENVIROLYTICAL SOLUTIONS

02/02/2021 AUTHORIZED SIGNATORY

End of the test report-



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Name & Address Of The Cus	tomer	REPORT NO	UES/TR/20-21/03978		
TO,		LAB REF NO	UES/20-21/W/03	663	
HINDALCO INDUST	RIES LIMITED,	DATE OF SAMPLING	22/01/2021		
GARE PALMA - IV/4	t, 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 TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/003 DTD. 21-AUG-2020	5,	
SAMPLE TYPE CUSTMER SAMPLE ID	BELJOR VILLAGE (DUGWELL)	ORDER /REFERENCE: SAMPLE CONDITION AT RECEIPT		5,	
		SAMPLE CONDITION	DTD. 21-AUG-2020	5,	

Report No.03978

TEST REPORT									
SR.		y		AS PER IS	AS PER IS 10500:2012				
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT			
1	Colour	Hazen	15:3025:(Part-4)	5	15	<1			
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable			
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable			
4	рН	-	APHA 22 rd 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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500Cl-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 22nd Ed.2012,4500-P- C,4-153	-	-	N.D.			
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500~Na- B,3-97	-	-	4.0			



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Report No.03978

	The state of the s		TEST REPORT			
SR.				AS PER IS		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
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 rd Ed.2012,3111-B, 3- 18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 rd Ed.2012,3111-B, 3- 18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 rd Ed.2012,3500-Cd, 3- 105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 rd Ed.2012,3112-B, 3- 23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 rd 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	mg/Lit	APHA 22 rd Ed.2012,5540-B & C, 5-47	0.001	0.002	N.D.
38	(as C ₆ H ₅ OH) Poly-nuclear Aromatic	μg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Hydrocarbon (PAH) Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA	0.5	No	N.D.
40	Oil & Grease	mg/Lit	2003 IS 3025 (Part 39):1991, RA		Relaxation	N.D.
Micro	biological Analysis		2003			
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in ml sample	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be	detectable in ml sample	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be	detectable in ml sample	Absent
Pesti	cides	1001111		uny 100	surripie	
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			• N.D.
5	O,p DDD	µg/L	US EPA 508-1995			N.D.
6	Gamma-HCH (Lindane)	μg/L	US EPA 508-1995		2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	n	.01	N.D.



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Report No.03978

TEST REPORT									
SR.				AS PER IS	AS PER IS 10500:2012				
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable 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				
15	Chloropyrifos	µg/L	US EPA 8141A-1994	3	0	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	3	0	N.D.			
20	Alachlor	µg/L	US EPA 508- 1995	2	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	19	90	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 Obygo test(s) only.

End of the test report-

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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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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/0	2273		
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		

	S	SAMPLE D	DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONIT	CUSTOMER REI	F. 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 C	HEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				
SAMPLE QUARTITY/PACKING	FILTER PAPER (PM;c): 1X1 N SO2: 30MLX1 NO. PVC BOTTLE RUBBERBLADDER: 1X1 NO.		100000000000000000000000000000000000000		

Parameter	Method Reference	NAAQM Standard	
Particulate Malter size less than 10 microns (PM:0)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol1	100	
Particulate Matter size less than 2.5 microns (PM:)	CPCBGuidelines VolI	60	
Sulphur Dioxide (SO)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	80	
Nitrogen Dioxide (NO:)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	80	
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0	
Mercury (Hg)	EPA Method 10-5	1	

TEST REPORT										
Date of Sampling	PM ₁₀ µg/m ³	РМ _{2.5} µg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³				
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	4.4	26	12.0	22	1.0	N.D.				
24.10.2020	46	2.4	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.				

End of the test report-

Terms & conditions

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AUTHORIZED SIGNATORY



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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	UBS/TR/20-21/03122		
		LAB RES	100	UES/20-21/A	AQM/C	2769
		DATE OF	SAMPLING.	62/11/2020	to 25	7/11/2020
		DATE OF REPORT DATE OF ANALYSIS		03/11/2020 to 30/11/2020		
				03/12/2020 START: 03/11/2020 END: 03/12/20		
						END: 03/12/2020
		SAMPLE I	DETAILS		_	
MUNITORING FOR	AMBIENT AIR QUALITY	MONITORING	CUSTOMER REF. NO. & DATE		N/PO/SEV/2021/0035, DTD: 21-ADG-2020	
SAMPLING LOCATION	OFFICE AREA, BANJINH	OZ.			212	£1-AUG-2020
DURATION OF SAMPLING	24 HOURS	SAMPLE	COLLECTED BY	LABORATORY CH	EMIST	
SAMPLING PROCEDURE	AS PER METHOD REFEREN	NCE			-	
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): SO ₂ : JOMLKI NO. PVC I RUBBER BLADDER: 1X1	POTTLE, NO. 1 3	ER PAPER (PM. OMEXI NO. PYC	D: INT NO. NOTTLE		

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM:0)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100
Particulate Matter size less than 2.5 microns (PMp.s)	CPCB Guidelines VolI	60
Sulphur Dioxide (SO;)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	90
Nitrogen Dioxide (NO ₃)	IS 5162 (Part 6): 2806 & CPCB Guidelines Vol1	30
Carbon Monoxide (CO)*	IS 5182 (Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	4.0

TEST REPORT									
Date of Sampling	PM ₁₀ µg/m ³	PM _{2,5} μg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m			
02.11.2020	42	22	06	20	0.8	N.D.			
05.11.2020	40	24	12	36	1.0	N.D.			
09,11,2020	46	26	10	20	0.8				
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	4.1	N.D.			
23.11.2020	44	22	08	22	1.1	N.D.			
29.11.2020	42	24	14	20	4+4	N.D.			

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End of the test report-



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Hatte & Address Of The Custon	то,		NO CN	UES/TR/20-21/03530			
And the late of the first of the second			LAB REF NO		UES/20-21/AAQM/03177		
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		DATE OF	SAMPLING	01/12/2020	to 28	/12/2020	
		DATE OF RECEIPT DATE OF REPORT DATE OF ANALYSIS		02/12/2020 to 29/12/2020 02/01/2021			
							START: 03/12/2020
						SAMPLE I	ETAILS
MONITORING FOR	AMBIENT ATR QUALITY	MONITORING	CUSTOMER REF. NO. & DATE		W/PO/SRV/2021/0035, DED. 21-AUG-2020		
SAMPLING LOCATION	OFFICE AREA, BANJIKE	4OL				22 200 2020	
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY		Y LABORATORY CHEMIST			
SAMPLING PROCEDURE	AS FER METHOD REFERS	NACE:					
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₀₀): SO ₂ : 3GMLXI NO. PVC:	BOTTLE, NO.: 30	ER PAPER (PM ₂ , DHLX1 NO. PVC	s): 1XI NO. BOTTLE			

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM _{tf})	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100
Particulate Matter size less than 2.5 microns (PM2.3)	CPCB Guidelines VolI	60
Sulphus Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	80
Nitrogen Dioxide (NO ₇)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	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 _{3.5} μg/m ³	SO ₁ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m			
01,12,2020	4.6	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	4.4	22	8	24	0.6	N.D.			

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Test seriods will be recalled for |5 days after lease of test regular attest bishurwise agreed with customer.

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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 LAB REF NO		UES/TR/20-21/03954 UES/20-21/AAQM/03639		
		DATE OF	RECEIPT	05/01/2021	to 30	0/01/2021
		DATE OF REPORT DATE OF ANALYSIS		02/02/2021		
				START: 05/01/2021		END: 02/02/2021
				SAMPLE D	ETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING		CUSTOMER RE	USTOMER REF. NO. 6 DATE		0/SRV/2021/0035, 21-AUG-2020
SAMPLING LOCATION	OFFICE AREA, BANJIKH	OL				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY		Y LABORATORY CHEMIS		r
SAMPLING PROCEDURE	AS PER METHOD REFERE	NCE				
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM:0); SO2: 3CMLX1 NO. PVC 1 RUBBER BLADDER: 1X1	BOTTLE, NO: 30				

Test Method and NAAQM Standard for Ambient Air Quality Monitoring						
Parameter	Method Reference	NAAQM Standard				
Particulate Matter size less than 10 microns (PM;)	IS 5102 (Part 23): 2006 a CPGB Guidelines VolI	100				
Particulate Matter size less than 2.5 microns (PM2.5)	CPCB Guidelines VolI	60				
Sulphur Dioxide (SO:)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	BO				
Nitrogen Dloxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol7	80				
Carbon Monogide (CO)*	IS 5182(Part 10):1999, RA 2003	4+0				
Mercury (Hg)	EFA Method 10-5					

TEST REPORT									
Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} μg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³			
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	9.0	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	1.0	20	1.0	N.D.			
29.01.2021	4.0	22	12	18	1.1	N.D.			

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First sample will be reliated for 13 days of the bose of test person United privaries agreed with customer.

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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.		UES/TR/20-21/04596 UES/20-21/AAQM/04288		
		DATE OF REPORT DATE OF ANALYSIS		02/02/2021 to 27/02/2021		
				02/03/2021 START:02/02/2021 KMD:02/03/202		
						IND: 02/03/2021
				SAMPLE DE	TAILS	
MONITORING FOR	AMBIENT AIR QUALITY	ENTIVEZHU	CUSTOMER REF. NO. & DATE		N/VO/SHV/2021/0035, DTD. 21-AUG-2020	
SAMPLING LOCATION	OFFICE AREA, BANJIKH	DL.			-	
DURATION OF SAMPLING	24 Notices	SAMPLE COLLECTED B		Y LABORATORY CHIM		
SAMPLING PROCEDURE	AS PER METROD REFEREN	WCE				
SAMPLE QUANTITY/PACKING	FIRTER PAPER (PM;s); SO;: JOMLKI NO. PVC B RUBBER BLADDER: IXI I	OTTLE, NO: 3				

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microna (PMio)	is 5182 (Part 23): 2006 & CPCB Guidelines Vol. 7	1.00
Farticulate Matter size less than 2,5 microns (PM-1)	CPCB Guidelines Vol1	60
Sulphur Dioxide (SO ₂)	TS 5162 (Part 2): 2001, RA 2006 & CPCB Guidelines VolT	69
Nitrogen Dioxide (NO2)	IS 5182 (Part 6): 2006 A CPCB Guidelines VolI	69
Carbon Monoxide (CO) 4	IS 5182 (Part 101:1999, 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/m³	CO* mg/m³	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	1.0	20	1.2	N.D.			
12.02.2021	42.	22	14	24	0.8	N.D.			
15.02.2021	38	20	1.2	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.U.			
26.02.2021	4.4	26	14	20	1.2	N.D.			

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Albert S Address DF The Chicker	THE CONTRACTOR OF THE CONTRACT	LAB DEF NO		UES/TR/20-21/05012 UES/20-21/AAQM/04103			
TO,							
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		DATE OF RECEIPT DATE OF REPORT DATE OF ANALYSIS		01/03/2021	to 26	/03/2021	
				02/03/2021 to 27/03/2021 01/04/2021			
							51387:02/03/2021
						SAMPLE DE	TAILS
MONITORING FOR	AMSTERT AIR QUALITY A	CUSTOMER REF. NO. & DATE		M/PO/SRV/2021/0035, DID 21-AUG-2020			
SAMPLING LOCATION	OFFICE AREA, BANJIKK	OFFICE AREA, BANJINNOL					
DURATION OF SAMPLING	24 HOURS	COLLECTED BY	BY LABORATORY CHEMI				
SAMPLING PROCEDURE	AS PER METHOD REFERMS	VCE:					
SAMPLE CUAPTITY/PACKING	FILTER PAPER (FM _{LR}): . SO _B : JOMLXI NO. PVC B SUMMER BLADDER: IXI P	OTTLE, NO: 3					

Test Method and NAAQM Standard for Ambient Air Quality Monitoring						
Parameter	Method Reference	NAAQM Standard				
Particulate Matter size less than 10 microns (PM;m)	IS 5182 (Part 23): 2006 & GPCB Guidelines VolI	100				
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCBGuidelines VolI	- 60				
Sulphur Dioxide (SOz)	18 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	30				
Nitrogen Bioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol1	30				
Carbon Monoxide (CO)*	IS 5182 (Part 10):1999, RA 2003	4.0				
Mercury [Hg]	EPA Method IC-5	-				

TEST REPORT									
Date of Sampling	PM ₁₀ μg/m ³	РМ _{2.5} µg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m ³			
1505.60.10	44	24	DB	20	1,2	N.D.			
05.03.2021	38	26	06	24	0.8	N.D.			
08.03.2021	48	20	0.8	26	1.1	N.D.			
12.03.2021	44	24	10	20	0.8	N.D.			
15.03.2021	40	28	12	24	1.8	N.D.			
19.03.2021	44	20	2.4	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.			

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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 UES/TR/20-21/01794 LAB REF NO UES/20-21/AAQM/02274 DATE OF SAMPLING 05/10/2020 to 30/10/2020	
DAME OF CHARTING DE/10/2020 to 20/10/2020	
DATE OF SAMPLIAG 05/10/2020 CG 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: 02/11/20	020

SAMPLE DETAILS CUSTOMER REF. NO. 6 DATE DTD. 21-AUG-2020 AMBIENT AIR QUALITY MONITORING SAMPLING LOCATION ETP AREA, BANJIKHOL DURATION OF SAMPLING 24 HOURS SAMPLE COLLECTED BY LABORATORY CHEMIST SEMPLING PROCEDURE AS PER METHOD REFERENCE FILTER PAPER (PM_{20}) : 1XI NO., FILTER PAPER (PM_{20}) : 1XI NO. SO₂: 30MLX1 NO. PVC BOTTLE RUBBERBLADDER: 1X1 NO. QUARTITY/PACKING

Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 10 microns (PM:0)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	1 00	
Particulate Matter size less than 2.5 microps (PM:)	CPCB Guidelines VolI	60	
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	80	
Mitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol1	80	
Carbon Monoxide (CO)*	TS 5182(Part 10):1999, RA 2003	4.0	
Heroury (Hg)	EPA Method IO-5		

TEST REPORT										
Date of Sampling	PM ₁₀ μg/m ³	PM _{2.5} μg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m				
05.10.2020	40	24	12	30	1.0	N.D.				
19,10.2020	4.6	28	1.0	24	1.2	N.D.				
12,10,2020	40	22	14	22	1.6	N.D.				
16.10.2020	4.4	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	4.4	28	1.6	22	1.2	N.D.				
30.10.2020	42	22	10	20	1.0	N.D.				

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		DAS	REPORT NO UES/TR/20-21/0312 LAB REF NO UES/20-21/AAQM/02 DATE OF SAMPLING 02/11/2020 to 29/ DATE OF RECEIPT 03/11/2020 to 30/ DATE OF REPORT 03/12/2020 DATE OF AMALYSIS START: 03/11/2020)/11/2020	
		AMPLE	DETAILS				1,100,000,000,000
MONITORING FOR	AMBIENT AIR QUALITY MONITORING		CUSTOMER REP. NO. 6 DATE			0/SRV/2021/0035, 21-AUG-2020	
SAMPLING LOCATION	ETF AREA, MANUTHHOL					2/4/2	X1-N00-2020
DURATION OF SAMPLING	24 HOURS	EMPLE COLLECTED B		BY LABORATOR		er con	DATES
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				1	- Gin	******
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM;o): IX1 M SO: 30MLX1 NO. PVC BOTTLE RUBBER BLADGER: IX1 NO.	, NO ₂ :	TER PAPER (DIG. A 30MLX1 NO. DVC); I BOTI	KI NO.		

Method Reference			
rt 23): 2006 & GPCB VolI	Standard		
ines VolI	50		
rt 2): 2001, RA 2006 4 inea Vol1	80		
rt 6): 2006 % CPCB VolI	90		
t 10):1999, RA 2003	4.0		
	t 10):1999, RA 2003 10-5		

TEST REPORT									
Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} μg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m			
02.11.2020	44	22	0.6	26	1.2	N.D.			
05.11.2020	42	20	80	22	0.6				
09,11,2020	38	28	10	20		N.B.			
12.11.2020	46	20	0.6	24	0.0	N.D.			
16.11.2020	42	26	1.9		1.1	N.D.			
19.11,2020	38		2.0	18	1.4	N.D.			
23.11.2020		24	1.0	20	1.2	N.D.			
	34	22	09	28	1.0	N.D.			
29.11.2020 lemarks: * Durat	36	28	1.2	14	0.6	N.D.			

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Feet sample will be remained partity does your remark of the Control of the Contr

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Name & Address Of the Custon	MMT.	REI			UES/TR/20-21/03531			
The second secon	DIES I IMITED	LAB REY NO		UES/20-21/AAQM/03178				
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		Das	E OF SAMPLING	01,	/12/2020	to 28	3/12/2020	
		DATE OF REPORT		02/12/2020 to 29/12/2020				
				02/01/2021				
				START: 03/12/2020		EMD: 02/01/2021		
		SAMPLE	DETAILS			-2		
MONITORING FOR	AMBIENT AIR QUALITY MO	IR QUALITY MONITORING		NOMER REF. NO. & DATE		N/PO/SRV/2021/0035 DED, 21-AUG-2020		
SAMPLING LOCATION	FTF AREA, BANJINHOL					1.000	. 5- 10	
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED E		BY LABORATORY C		RY CH	RMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE	E						
SAMPLE DUANTITY/PACKING	FILTER PAPER (PM;s): 1A SO;: 30MLXI NO. PVC BO: RUBBER BLADDER: 1X1 NO	TTLE, NO:						

Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 10 microns (FM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100	
Particulate Matter size less than 2.5 microns (PM2.3)	CPCB Guidelines VolI	60	
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	90	
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCH Guidelines VolI	90	
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0	
Mercury (Rg)	EPA Method IO-5	700	

TEST REPORT								
Date of Sampling	PM ₁₀ µg/m ³	PM _{2,5} μg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³		
01.12.2020	46	24	10	22	1 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	0.6	N.D.		
26.12.2020	42	28	12	26	0.6	N.D.		
28.12.2020	46	22	10	22	0.8	N.D.		

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA.		REPORT NO LAB REF NO DATE OF SAMPLING DATE OF RECEIPT		UES/TR/20-21/03955 UES/20-21/AAQM/03640 04/01/2021 to 29/01/2021 05/01/2021 to 30/01/2021		
POST -MILUPARA, DISTT RAIGARH	(C.G.) 496107	DATE OF REPOR		/02/2021 ART:05/01/202	1 END: 02/02/2021	
MONITORING FOR SAMPLING LOCATION	AMBIENT AIR QUALITY MONITORI ETF AREA, BANJIKHOL		REF. NO.		M/FO/SRV/2021/0035, DTD. 21-AUG-2020	
DURATION OF SAMPLING	24 HOURS			LABORATORY	CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE					
SAMPLE QUANTITY/PACKING		LTER PAPER (PM ₂₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. 2: 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE				

Parameter	NAAQM Standard	
Particulate Matter size less than 10 microns (PM10)	ID 5102 (Part 23): 2006 & CPCD Guidelines VolI	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines VolI	60
Sulphur Dioxide (SO ₂) IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI		80
Nitrogen Dioxide (NO2)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	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	SO₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³
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	0.8	- 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.

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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 LAB REF MO LATE OF SAMPLING LATE OF RECEIPT LATE OF REPORT DATE OF ANALYSIS	AB REF NO UES/20-21/AAQM/04289 ATE OF SAMPLING 01/02/2021 to 26/02/2021 ATE OF RECEIPT 02/02/2021 to 27/02/2021 ATE OF REPORT 02/03/2021		04289 5/02/2021
		e details			
MEMISTERING FOR	ANHIENT AIR QUALITY MONITORI	MG CUSTOMER REF.	NO. & DATE		0/8RV/2021/0095, 0. 21-ANG-2020
SAMPLING LOCATION	ETP AREA, BANJIRHOL				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED !	BY LABORATO	one cu	DMTST.
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				
SAMPLE DGARTITY/PACKING	FILTER PAPER (PM.,): 1X1 NO., SO3: 30MLXI NO. PVC BOTTLE, 1 BURBER 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:0)	(S 5182 (Part 23): 2006 & dPCB Guidelines Vol1	100		
Perticulate Matter size less than 2.5 microns (PM2:0)	CPCB Guidelines VolI	60		
Sulphur Diexide (BO:)	IS 5102 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	BC		
Nitroges Diexide (NO2)	TS 5182 (Part 6): 2006 A CPCB Guidelines Vol1	BE		
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/m³	Hg ng/m³
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	1V1	N.D.
15.02.2021	44	25	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	24	12	19	0.6	N.D.

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End of the test report-



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Name 2 Address Of The Castis	Mer.	REPORT HO	DES/TR/2	0-21/05	013
то,		LAB ROLF NO	UES/20-2	1/AAQM/	04104
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	01/03/20	21 to 2	6/03/2021
GARE PALMA - IV/4, COAL MINE,		DATE OF RECEIPT		21 to 2	7/03/2021
VILLAGE - BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		DATE OF ANALYSIS		01/04/2021	
				03/2021	EMD:31/03/2021
	SAMP	LE DETAILS			
HONITORING FOR	AMBIEST ATH QUALITY MONTTON	ING CUSTOMER REF.	BO, E DAT		PO/SRV/2021/0035, D. 21-ADG-2020
SAMPLING LOCATION	ETP AREA, BANJIKHOL				
DERATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY LANCRATORY CHEMIST			
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				
EAMPLE CONNTITY/EACHING	FILTER PAPER (PM,s): 1X1 NO. SO.: SOMIXI NO. PVC BOTTLE, ROBBER 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 5162 (Part 23): 2006 & CPCB Guidelines VolI	100		
Particulate Matter size less than 2.5 microbs (PM, .)	CPCBGuidelines VolI	60		
Sulphur Dioxide (50 ₂)	IS 5162 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	80		
Nitrogen Dioxide (NO ₂)	ES 5162 Part 6): 2006 & CPCB Guidelines Vol1	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/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³
01.03.2021	42	24	60	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.

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HDD-272, PHASE III- NEAR JP CHOWK.

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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	UES/TR/20-21/017	95	
LAB REF NO	UES/20-21/AAQM/0	2275	
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	

	5	SAMPLE	DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONIT	ORING	CUSTOMER REI	F. 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 C	HEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				
SEMPLE GEARTITY/PACKING	FILTER PAPER (PM;0): IXI N SO;: 30MLXI NO. PVC BOTTL RUBBERBLADDER: 1XI NO.		The second secon		

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than IO microns (PM:0)	IS 5182 (Part 23): 2006 & SPCB Guidelines Vol1	100
Particulate Matter size less than 2.5 microns (PM))	CPCB Guidelines VolI	60
Sulphur Dioxide (50)	TS 5182 (Part 2): 2001, RA 2006 (CPCB Guidelines Vol1	80
Nitrogen Dioxide (N():)	IS 5182 (Fart 6): 2006 & CPCB Guidelines Vol1	80
Carbon Monoxide (CO) *	IS 5182 (Part 10):1999, BA 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/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³	
05.10.2020	42	28	1.2	24	1.00	N.D.	
09.10.2020	50	24	1.8	.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.	
24.10.2020	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.	

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Test sample will be retained for 13 days after issue of test report tollars alberwise agreed with costomer. This is for information as the party has asked for above many or tollar.

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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	UES/TR/20-21/03124 UES/20-21/AAQM/02771		
		LAN REF NO			
		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	END:03/12/2020	
		DATE OF ANALYSIS	START: 03/11/2020		
		SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY N	MONITORING CUSTOMER		0/SRV/2021/6035, 21-AUG-2020	
SAMPLING LOCATION	OFFICE AREA, BANKHETA	ı.			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCESURE	AS PER METHOD REPARES	ACM:			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): : SO ₂ : 30MLX1 NO. PVC B RUMBER BLADDER: 1X1 N	IXI NO., FILTER PAPER (PM) OTTLE, MO: JUMLXI NO. PVC	(s): IXI NO. C BOTTLE		

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 a CPCB Guidelines VolI	100				
Particulate Matter size less than 2.5 microns (PM _{1.1})	CPCB Suidelines VolI	60				
Sulphur Dioxide (SO;)	IS 5182 (Part 2); 2001, RA 2008 5 CPCB Guidelines VolI	80				
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	80				
Carbon Monoxide (CO) =	IS 5182(Part 10):1999, RA 2003	4.0				
Mercury (Bg)	EPA Method ID-5	11.0				

TEST REPORT						
Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} μg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³
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	0.8	14	1,0	N.D.
19.11.2020	48	20	0.6	1.8	1.1	M.D.
23.11.2020	40	28	12	20	0.6	
29.11.2020	52	26	80	24	0.8	N.D.

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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		UES/TR/20-21/03532			
		LAB REF	NO .	UES/20-21/AAQM/03179			
		DATE OF	SAMPLING	01/12/2020 to	28/	12/2020	
		DATE OF REPORT DATE OF AMALYSIS		02/12/2020 to 29/12/2020 02/01/2021			
							START: 03/12/2020
						SAMPLE D	ETAILS
MONITORING FOR	AMBIENT AIR QUALITY	HOWITORING	CUSTOMER I	CUSTOMER REF. NO. & DATE		0/SRV/2021/0035, 21-AUG-2020	
SAMPLING LOCATION	OFFICE ARKA, MANNIET	SA.					
DURATION OF SAMPLING	24 NOURS	SAMPLE COLLECTED BY LA		LABORATORY CHEMIST			
SAMPLING PROCEDURE	AS PER METHOD REFERE	WCM:			-		
SAMPLE QUARTITY/PACKING	FILTER PAPER (PMLs): SO ₂ : JOHLEI NO. PVC: RUBBER BLADDER: IXI	SOTTLE, NO.: 30	R PAPER (PM, MLXI NO. PVC	e): IXI NO. BOTTLE			

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than IC microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100
Particulate Matter size less than 2.5 microns (PM2.5)	CPCB Guidelines Vol,-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VoiI	80
Nitrogen Dioxide (NG2)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol1	60
Carbon Monoxide (CO) +	IS 5182 (Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IC-5	

TEST REPORT						
Date of Sampling	PM ₁₀ μg/m ³	PM _{2.5} μg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	co+ mg/m³	Hg ng/m
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.

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- Test sample with an retained for 15 days after asses of test report unless otherwise agreed with customer.

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Name & Address Of The Customer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA,		REPORT NO LAB REF NO DATE OF SAMPLING DATE OF RECEIPT DATE OF REPORT		UES/TR/20-21/03956			
				UES/20-21/AAQM/03641 04/01/2021 to 29/01/2021 05/01/2021 to 30/01/2021			
							02/02/2021
				DISTT RAIGARH	C.G.) 496107	DATE OF ANALYSIS	
		SAMPLE DE	TAILS				
MONITORING FOR	AMBIENT AIR QUALITY MONIT	TORING	CUSTOMER I	REF. NO. & DATE		0/SRV/2021/0035, 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 I SO ₂ : 30MLX1 NO. PVC BOTTL RUBBER BLADDER: 1X1 NO.						

Test Method and NAAQM Standard for Ambient Air Quality Monitoring						
Parameter	NAAQM Standard					
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5102 (Part 23): 2006 & CFCD Guidelines VolI	100				
Particulate Matter size less than 2.5 microns (PM2.5)	CPCB Guidelines VolI	60				
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	80				
Nitrogen Dioxide (NO ₂) IS 5182 (Part 6): 2006 & CPCB Guidelines VolI		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/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³
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.

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		HEPORT NO LAB REF NO		UES/TR/20-21/04598 UES/20-21/AAQM/04290		
		DATE OF RECOIPT DATE OF REPORT DATE OF ARALYSIS		02/02/2021 to	27/	02/2021
				02/03/2021 GTART: 02/02/2021 END: 02/		
						EMD: 02/03/2021
				SAMPLE DETA	ILS	
MONITORING FOR	AMBIENT AIR QUALITY A	KNITOKING	CUSTOMER	HEY NO. & DATE		/SRY/2021/0035, 21-AUG-2020
SAMPLING LOCATION	DEFICE AREA, BANKHETZ	A .				
DURATION OF SAMPLING	24 HOURS SAMPLE COLLECTED BY LABORATORY CHEMIST					
SAMPLING PROCEDURE	AS PER METHOD REFEREN	RCE				
SAMPLE QUANTITY/PACKING	FILTER PAPER (FM.s); SO: 30MLXI NO. PVC B RUBBER BLANCER: 1X1)	OTTLE, NO.: 30M				

Test Method and NAAQM Standard for Ambient Air Quality Monitoring					
Parameter	Method Reference	NAAQM Standard			
Farticulate Metter size less than 10 microns (PM:0)	IS 5182 (Part 23): 2006 & CPCB Quidelines VolI	100			
Particulate Matter size less than 2.5 microns (PM2.5)	CPCB Guidelines VolI	60			
Sulphur Dioxide (\$O ₂)	IS 5182 (Part 2): 2001, RA 2006 4 CPCB Guidelines VolI	80			
Nitrogen Dioxide (NO)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol1	8.0			
Carbon Monoxide (00) *	TS 5182(Part 10]:1999, RA 2003	4.0			
Mercury (Hg)	EPA Method IO-5	4-			

TEST REPORT							
Date of Sampling	PM ₁₀ µg/m ³	PMz.s µg/m³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m	
01.02.2021	46	24	10	22	0.8	N.D.	
05.02.2021	52	20	14	24	1.0	N.D.	
03.02.2021	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	9.4	24	12	20	1.0	N.D.	
26.02.2021	51	22	14	24	1.2	N.D.	

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-End of the test report-

END:31/03/2021



HDD-272, Phase III - Near JP Chowk Ring Road No -2 Kabir Negar Raipur (G.G.) - 492099 Ph 19771 - 4027777 | Email ultimaterviro@gmail.com

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GARE PALMA – IV VILLAGE – BANKI POST -MILUPARA	D INDUSTRIES LIMITED, MA – IV/4, COAL MINE, BANKHETA, UPARA, AIGARM (C.G.) 496107	DATE OF	MO SAMPLING PECKIPS	UES/TR/20-21/05014 UES/20-21/AAQM/04105 01/03/2021 to 26/03/2021 02/03/2021 to 27/03/2021 01/04/2021 START: 02/03/2021 END: 31/		
DISTT RAIGART	(0.0.) 498107	SAMPLE DES	PAILS	Transfer design		
HONITORING FOR	AMBIENT AIR QUALITY	MONITORING	COSTOMER	REF. NO. & DATE	100	21-AUG-2
SAMPLING LOCATION	OFFICE AREA, BANKHET	SA.				

HOWITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	N/VG/SRV/2021/0035, DTD 21-ADG-2020			
SAMPLING LOCATION	OFFICE AREA, HANKHETA					
DURATION OF SAMPLING	24 HOURS SAMPLE	COLLECTED BY LABORATORY CHE	HIST .			
SAMPLING PROCEDURE	AS PER METHOD REFERENCE					
SAMPLE QUAMTITY/PACKING	FILTER PAPER (PM:0): IXI MO., FILE SO: JUMLXI NO. PVC BOTTLE, NO: 1 ROTHER BLADGER: IXI NO.					

Test Method and NAAC	QM Standard for Ambient Air Quality Mo	nitoring	
Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100	
Particulate Matter size less than 2.5 microns (PMa.s)	CPCBGuidelines Vol1	60	
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, BA 2006 s CPCB Guidelines Vol:-I	60	
Nitrogen Dioxide (NO ₂)	18 5162 (Part 6): 2006 & CPCB Guidelines Vol1	60	
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0	
Mercury (Hg)	EFA Method IO-5	- 40	

TEST REPORT							
Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ²	SO ₂ µg/m³	NO ₂ µg/m³	CO+ mg/m³	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	5.0	22	1.0	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.	

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That sample will be returned for 15 days with make of sect report and re-efferable agrand with determine

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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	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		

1000	S	AMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITS	ORING CUSTOMER RE	F. NO. & DATE	N/PO/SRV/2021/0035, DTD. 21-AUG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA			
DURATION OF SAMPLING	24 HOURS	HOURS SAMPLE COLLECTED BY		HEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE CHATITY/PACKING	FILTER PAPER (PM;): 1X1 N SO; 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!	100			
Particulate Matter size less than 2.5 microns (PM:)	CPCB Guidelines VolI	60			
Sulphur Dioxide (SO:)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	80			
Nitrogen Dioxide (NO _N)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol1	8:0			
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/m³	NO ₂ μg/m ³	CO* mg/m³	Hg ng/m³		
05.10.2020	42	24	12	24	1.1	N.D.		
09.10.2020	4.6	28	10	26	1.6	N.D.		
12,10,2020	40	22	16	20	1.2	N.D.		
15.10.2020	4.4	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	4.0	24	10	26	1.8	N.D.		
30.10.2020	46	22	14	20	1.2	N.D.		

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

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		DATE O	LAW REF NO DATE OF SAMPLING DATE OF RECEIPT DATE OF REPORT		UES/TR/20-21/03125 UES/20-21/AAQM/02772 02/11/2020 to 29/11/2020 03/11/2020 to 30/11/2020 03/12/2020	
		SAMPLE DETAILS		START: 03/11/2020		END:03/12/2020
		SAMPLE	DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY I	AMBIENT AIR QUALITY MONITORING CUSTOMER REF.				/SRV/2021/0035. 21-AUG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BANK	KEEN			-	
DURATION OF SAMPLING	24 HOURS	24 HOURS SAMPLE COLLECTED BY			LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REPEREN	MCE				
SAMPLE QUARTITY/PACKING	FILTER PAPER (PM ₁₀): . SO ₂ : 30MLX1 NO. PVC B RUBBER BLADGER: 1X1 N	SOTTLE, MOZI	TER PAPER (PM SOMENI NO. PVC	J: 1X1 NO NOTTLE		

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolF	100
Particulate Matter size less than 2.5 microns (PM2,5)	CPCB Guidelines VolI	60
Sulphur Dioxide (SO ₀)	is 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	ar.
Nitrogen Dioxide (ND ₂)	IS 5162 (Part 6): 2006 & CPCB Guidelines Vol1	RO
Carbon Monoxide (CO)+	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hq)	EPA Method IO-5	-

TEST REPORT							
Date of Sampling	PM ₁₀ μg/m ³	PM _{2.5} μg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³	
02.11.2020	40	26	12	22	1.4	N.D.	
05.11.2020	48	22	0.6	26	0.6	N.D.	
09.11.2020	38	28	14	18	0.8	N.D.	
12.11.2020	46	20	12	20	1,2	N.D.	
16.11.2020	42	26	OB	22	1.0	N.D.	
19.11.2020	44	28	10	26	1.2	N.O.	
23.11.2020	50	22	14	18	0.8	N.J.	
29,11,2020	46	28	10	24	1.0	N.D.	

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Name & Address Of The Gustan	nde	REPORT	T NO	UES/TR/20-21/03533		
TO,		DATE OF SAMPLING		UES/20-21/AAQM/03180		
HINDALCO INDUST				01/12/2020	to 2	3/12/2020
GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		DATE OF REPORT DATE OF ANALYSIS		02/12/2020 to 29/12/2020		
				02/01/2021 START: 03/12/2020 END: 02/01/202		
						EMD: 02/01/2021
		SAMPLE	DETAILS		-	
MONITORING FOR	AMBIENT AIR QUALITY	MONITORING	CUSTOMER REF.	NO. C DATE		/SRV/2021/0035, 21-AUG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BANG	NULL				
DURATION OF SAMPLING	24 MOURS	SAMPLE COLLECTED BY LABORA		LABORATORY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METROD REFERENCE					
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₀₀): IXI NO., FILTER PAPER (FM ₀₀): IXI NO. SO ₂ : 30MLXI NO. PVC BOTTLE, NO ₂ : 30MLXI NO. PVC BOTTLE RUBBER BLADDER: IXI NO.					

Test Method and NAA	QM Standard for Ambient Air Quality Mo	nitoring	
Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 10 microns (PM ₁₅)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100	
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines VolI	60	
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	80	
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	90	
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0	
Mercury (Hg)	EPA Method IO-5	1 32	

TEST REPORT						
Date of Sampling	PM ₁₀ μg/m ²	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³
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.

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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/20-21/03957 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		03642 9/01/2021	
		AMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONIT	CORING CUSTOMER REF.	NO. & DATE		/SRV/2021/0035, 21-AUG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BANKHETA				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY	CHEMIS	r
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 N SO ₂ : 30MLX1 NO. PVC BOTTL RUBBER BLADDER: 1X1 NO.				

Test Method and NAAQM Standard for Ambient Air Quality Monitoring					
Parameter	Method Reference	NAAQM Standard			
Particulate Matter size 1 than 10 microns (PM:0)	ess IS 5182 (Part 23): 2006 & CPCD Guidelines VolI	100			
Particulate Matter size 1 than 2.5 microns (PM2.5)	ess CPCB Guidelines VolI	60			
Sulphur Dioxide (SO2)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	80			
Nitrogen Dioxide (NO2)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	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	SO₂ µg/m³	NO ₂ μg/m³	CO* mg/m³	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.

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		DATE (UES/TR/20-21/04599 UES/20-21/AAQM/04291 01/02/2021 to 26/02/2021 02/02/2021 to 27/02/2021 02/03/2021 start: 02/02/2021 EMD: 02/03/		04291 6/02/2021
1000		SAMPLE D	ETAILS			
MONITORING FOR	AMBIENT AIR QUALITY &	CONTRORING	COSTOMER REF.	NO. S DATE		/8RV/2021/0035, 21-AUG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BAND	ACEDA			-	
DURATION OF SAMPLING	24 MOURS SAMPLE COLLECTED B		COLLECTED BY	LABORATORY CHEMIST		r
SAMPLING PROCEDURE	AS PER METHOD REFEREN	VCE.				
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM _{st}): SO ₂ : 30MLX1 NO. PVC E MODBER BLADUER: 181 1	OTTLE, NO:				

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM:0)	IS 5182 (Fart 23): 2006 & CPCB Guidelines VolI	100
Particulate Matter size less than 2.5 microns (PMg.a)	CPCB Guidelines VolD	60
Sulphir Nioxide (SO ₂)	IS 5182 (Part 2): 2081, RA 2006 & CPCB Guidelines VolI	30
Nitrogen Dioxide (NOs)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	90
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Rg)	EPA Method 10-5	

TEST REPORT						
Date of Sampling	PM ₁₀ μg/m ³	PM _{2.5} μg/m ³	50 ₂ µg/m ³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³
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	0.8	22	0.6	N.D.
19.02.2021	44	24	10	26	1.0	N.D.
22.02.2021	46	18	1.4	18	0.8	N.D.
26.02.2021	42	24	10	24	3.0	N.D.

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

REFORT NO	UES/TR/20-21/05015			
LAN REF NO	UES/20-21/AAQM/	04106		
DATE OF SAMPLING	01/03/2021 to 2	6/03/2021		
DATE OF RECEIPT	02/03/2021 to 2	7/03/2021		
DATE OF REPORT	01/04/2021			
DATE OF ANALYSIS	START: 02/03/2021	BND: 31/03/2021		

ALC: A SECTION OF	SAMPL	DETAILS	
HOWETONING FOR	AMBIENT AIR QUALITY MONITORIS	G CUSTOMER REF. NO. \$ DATE	M/PO/SRV/2021/0035, DZD. 21-AUG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BANKRETA		
DURATION OF SAMPLING	24 HOURS SA	THE COLLECTED BY LABORATORS	CHRIST
SAMPLING PROCEDURE	AS FER METHOD REFERENCE		
SAMPLE QUARTITY/FACKING	FILTER PAPER (PM;): 1XI NO., SO: JUMLXI NO. PVC BOTTLE, N 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;0)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100			
Farticulate Matter size less than 2.5 microns (PM _{2.5})	CPCBGuidelines VolI	60			
Sulphur Dioxide (SO ₂)	IS 5182 (Part Z): 2001, RA 2006 A CPCB Guidelines VolI	80			
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	80			
Carbon Monoxide (CO)+	IS 5182(Part 10):1999, RA 2003	4.0			
Marcury (Hg)	SPA Method IO-5	-			

TEST REPORT									
Date of Sampling	PM ₁₀ μg/m ³	РМ _{2.5} µg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³			
D1.03.2021	46	26	0.0	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	2.0	10	16	0.8	N.D.			
19.03.2021	46	26	12	20	1.2	N.D.			
22.03.2021	48	22	18	19	1.0	N.D.			
26.03.2021	44	20	16	22	1.1	N.D.			

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA,		REPORT NO	UES/TR/20-21/0213 UES/20-21/AAQM/0257 19/03/2021 20/03/2021		
		LAB REF NO			
		DATE OF SAMPLING			
		DATE OF PECKIPT			
POST -MILUPARA	١,	DATE OF REPORT	27/03/2021		
DISTT RAIGARH (C.G.) 496107		DATE OF ANALYSIS	START: 22/03/2021	END: 26/03/2021	
		SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MO	NITORING CUSTOMER RE		PO/SRV/2021/0035, D. 21-AUG-2020	
SAMPLING LOCATION	OFFICE AREA, BANJIRHOL			22 400 2020	
DUMATION OF SAMPLING 24 HOURS		SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	AS PER METROD REFERENCE		The same of the service of		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM;s): IX NH4: 10MLX1 NO. BROWN P	2 NO., CENS: CARCOAL TUB VC BOTTLE	E. OBONE: IGMENT 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/m³	1.4	20	CPCB Guidelines (AAS Method)			
3	Lead(as Pb)	µg/m³	0.08	1.0	IS 5182 (Part 22): 2004:RA-2009			
4	Mercury (Hg)	ng/m ³	N.D.	-	EPA Method 10-5			
5	Chromium (as Cr)	µg/m³	N,D	7	EPA Method IO-5			
6	Cadmium (as Cd)	µg/m³	N.D.		EPA Method IO-5			
7	Ozone (03)*	µg/m³	9.6	180	CPCB Guidelines Vol-I			
8	Ammonia (NH3)	µg/m³	18.2	400	CPCB Guidelines Vol-I			
9	Benzene (C6H6)	µg/m³	N.D.	5.0	IS 5182 (Part 11):2006			
10	Benzo(a)Pyrene	ng/m³	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 I HOUR SAMPLING, N.D.: NOT DETECTED

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REPORT NO UES/TR/20-21/0214 TO, LAB REF NO. UES/20-21/AAQM/0258 HINDALCO INDUSTRIES LIMITED. DATE OF SAMPLING 19/03/2021 GARE PALMA - IV/4, COAL MINE, VILLAGE - BANKHETA, DATE OF RECEIPT 20/03/2021 POST -MILUPARA, 27/03/2021 DISTT. - RAIGARH (C.G.) 496107 DATE OF ANALYSIS START: 22/03/2021 END: 26/03/2021 SAMPLE DETAILS MONITORING FOR N/FO/SRV/2021/0035 AMBIENT AIR QUALITY MONITORING CUSTOMER REF. NO. . DATE DTD 21 AUG 2020 SAMPLING LOCATION ETP AREA. BANJIEROL DUNATION OF SAMPLING 24 HOURS SAMPLE COLLECTED BY SAMPLING PROCEDURE AS PER METROD REFERENCE FILTER PAPER (PM;c): IXI NO., C686: CARCOAL TURE., OLUME: 10MLXI NO. BROWN PVC BOTTLE, NO.4:10MLX1 NO. BROWN PVC BOTTLE. SAMPLE

	TEST REPORT								
SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE				
1	Arsenic (as As)	ng/m³	0.2	6.0	CPCB Guidelines(AAS Method)				
2	Nickel (as Ni)	ng/m³	1.2	20	CPCB Guideline (AAS Method)				
3	Lead(as Pb)	µg/m³	0.06	1.0	IS 5182 (Part 22): 2004:RA-2009				
4	Mercury (Hg)	ng/m³	N.D.	-	EPA Method IO-5				
5	Chromium (as Cr)	µg/m³	N.D.	19	EPA Method IO-5				
6	Cadmium (as Cd)	µg/m³	N.D.	-	EPA Method IO-5				
7	Ozone (03)*	μg/m³	6.8	180	CPCB Guidelines Vol-I				
8	Ammonia (NH3)	µg/m³	18.6	400	CPCB Guidelines Vol-I				
9	Benzene (C6H6)	µg/m³	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 I HOUR SAMPLING, N.D.: NOT DETECTED

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA.		REPORT NO LAS REF NO DATE OF SAMPLING DATE OF RECEIPT		751 771 775									
							POST -MILUPARA	4	DATE OF S	MEPORT	27/03/2021		
							DISTT RAIGARH (C.G.) 496107		DATE OF ANALYSIS		START 22/03/2021		END:26/03/2021
									SAMPLE DE	TAILS			
MONITORING FOR	AMBIENT AIR QUALITY MO	NITORING	CUSTOMER 2	REF. NO. 4 DATE		0/8RV/2021/0035, 21-AUG-2020							
SAMPLING LOCATION	OFFICE AREA, BANKHETA				1.55								
DURATION OF SAMPLING 24 HOURS		SAMPLE COLLECTED BY LABORATORY CO.		LABORATORY CHEM	IST								
SAMPLING PROCEDURE	AS PER METHOD REFERENCE												
SAMPLE QUANTITY/VACKING		1 NO., CERE:	CARCOAL TUB	E., ORONE: 10MLX1	WO: 1	BROWN PVC BOTTLE							

TEST REPORT							
SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE		
1	Arsenic (as As)	ng/m³	0.4	6.0	CPCB Guidelines(AAS Method)		
2	Nickel (as NI)	ng/m³	1.2	20	CPCB Guideline (AAS Method)		
3	Lead(as Pb)	µg/m³	0.12	1.0	IS 5182 (Part 22): 2004:RA-2009		
4	Mercury (Hg)	ng/m³	N.D.		EPA Method IO-5		
5	Chromium (as Cr)	µg/m³	N.D	4	EPA Method IO-5		
6	Cadmium (as Cd)	µg/m ³	N.D.	-	EPA Method IO-5		
7	Ozone (O3)*	pg/m³	10.2	180	CPCB Guidelines Vol-1		
8	Ammonia (NH3)	µg/m³	18.6	400	CPCB Guidelines Vol-1		
9	Benzene (C6H6)	µg/m³	N.D.	5.0	IS 5182 (Part 11):2006		
10	Benzo(a)Pyrene	ng/m³	N.D.	1.0	IS 5182 (Part 12):2014		

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

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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 LAB REF NO DATE OF SAMPLING DATE OF RECEIPT DATE OF REPORT DATE OF ANALYSIS		UES/TR/20-21/0216						
				UES/20-21/AAQM/0260						
				19/03/2021 20/03/2021 27/03/2021						
							START: 22/03/2021 END: 26/03/2		END: 26/03/2021	
									SAMPLE	DETAILS
				HOWITORING FOR	AMBIENT AIR QUALITY MO	NITORING	CUSTOMER REF.	NO. & DATE		/SRV/2021/0035, 21-ADG-2020
SAMPLING LOCATION	PIT OFFICE AREA, BANKHO	ETA			1	2-70-7-0-0				
DURATION OF SAMPLING	SAMPLE COLLECTED BY LABORATORY CHEMIST				T					
EAMPLING PROCEDURE	AS PER METHOD REFERENCE									
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM;0): IXI NO., C6H6: CARCOAL TUNE., OSCHE: IOMLEI NO. BROWN PVC BOTTLE, NH4: IOMLEI NO. BROWN PVC BOTTLE									

TEST REPORT							
SR. NO.	PARAMETER	UNIT	RESULT	NAAQM STANDARD	METHOD REFERENCE		
1	Arsenic (as As)	ng/m³	0.4	6.0	CPCB Guidelines(AAS Method)		
2	Nickel (as Ni)	rig/m³	1.2	20	CPCB Guideline (AAS Method)		
3	Lead(as Pb)	µg/m³	0.06	1.0	IS 5182 (Part 22): 2004:RA-2009		
4	Mercury (Hg)	ng/m³	N.D.	-	EPA Method IO-5		
5	Chromium (as Cr)	µg/m³	N.D	- 2	EPA Method IO-5		
6	Cadmium (as Cd)	μg/m ³	N.D.	3	EPA Method IO-5		
7	Ozone (O3)*	μg/m³	9.2	190	CPCB Guidelines Vol-I		
8	Ammonia (NH3)	µg/m³	12.6	400	CPCB Guidelines Vol-I		
9	Benzene (C6H6)	µg/m³	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 forbuiden.

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 past(s) only.

PREPARED BY

FUFULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-- End of the test report-

Annexure - 10



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

Recognized By Ministry of Environment Forest & 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/20-21/01807
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				
USTOMER REF. NO. &	N/PO/SRV/2021/G035, DTD. 21-AUG-2020				
AMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)				
AMPLE COLLECTED BY	LABORATORY CHEMIST				
AMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION				
AMPLING PROCEDURE					

	TE	ST REP	PORT			
		RE	SULT	LIMIT (INDUSTRIAL ZONE)		
LOCATION	UNIT	DAY	NIGHT	DAY TIME	NIGHT TIME	
OFFICE AREA, BANJIKHOL	dB(A)	58	42			
INCLINE AREA, BANJIKHOL	dB(A)	64	46		70	
SUNKER AREA, BANJIKHOL	dB(A)	52	44			
DG SET AREA, BANJIKHOL	dB(A)	66	52			
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	62	48	75		
TRUCK PARKING AREA, BANJIKHOL	dB(A)	54	38			
OFFICE AREA, BANKHETA	dB(A)	50	40			
WEIGHBRIGE AREA, BANKHETA	dB(A)	66	54			
100000000000000000000000000000000000000		RES	RESULT LIMIT (RES		NTIAL ZONE)	
LOCATION	UNIT	DAY	NIGHT	DAY TIME	NIGHT TIME	
Outside Plant						
EMBUIRHOL VILLAGE (NEAR ANGANBADI)	dB(A)	44	40	55	45	
BELACE VILLAGE (NEAR MANBOOH HOUSE)	dB(A)	46	38			

BEMARES: RESULTS ARE AS ABOVE

Terms & conditions

The use of the report for publication, orbitration or as legal dispute is forbidden.

Test sample will be retained for 13 days after issue of test proof unless otherwise agreed with customer. This is for information as the party has asked for above for the U.C.

PREPARED BY

End of the test report-

For ULTIMATE ENVIROLYTICAL SQLUTIONS June Jour 23/10/2020

AUTHORIZED SIGNATORY



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

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

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

PEPORT NO	UES/TR/20-21/03135	
LAB REF NO	UES/20-21/N/02782	1
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. 4 DATE	H/PO/SRV/2021/0035, DTD, 21-AUG-2020	
SAMPLING LOCATION	INSIDE COAL MINE 4 OUTSIDE COAL MINE (AS DESCRIBED BELOW)	
SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION	

	TE	ST REP	ORT		
LOCATION		RES	SULT	LIMIT (INDUSTRIAL ZONE)	
	UNIT	DAY	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	62	46		
INCLINE AREA, BANJIKHOL	dB(A)	58	42		70
BUNKER AREA, BANJIKHOL	dB(A)	52	48	75	
DG SET AREA, MANJINNOL	dB(A)	60	54		
WEIGHBRIGE AREA, HANJIKHOL	dB(A)	66	50		
TRUCK PARKING AREA, BANJIRHOL	dB(A)	54	46		
OFFICE AREA, BANKHOTA	dB(A)	52	42		
WEIGHBRIGE AREA, BANKHETA	dB(A)	58	48		
5000000		RESULT		LIMIT (RESIDENTIAL ZON	
LOCATION	UNIT	DAY	NIGHT	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (MEAR ANGANBADI)	dB(A)	48	40	55	45
BELJOR VILLAGE (NEAR MANBODH HOUSE)	dB(A)	42	38		

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- > The report for publication, arbitration or an legal elegate is foresiden.
- Test sample will be returned for 1 Sdary after crows of test report unless afficience agreed with rustomer.

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AUTHORIZED SIGNATORY

-End of the test report.....



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

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

Minima S. Address of The Gustomer TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107		REPORT NO LAB REF NO DATE OF REPORT DATE OF SAMPLING	UES/TR/20-21/03543 UES/20-21/N/03190 30/12/2020 23/12/2020 to 24/12/2020				
DISTT KAIGAK	(0.0.) 430107	SAMPLE DETAILS					
MONITORING FOR	NOISE LEVEL MONITORING						
CUSTOMER RET, NO. 6	N/PO/SRV/2021/0035, DTD	N/PO/SRV/2021/0035, DED. 21-AUG-2020					
SAMPLING LOCATION	INSIDE COAL MINE & OUTSI	THE COAL MINE (AS DESCRIBED NELOW)					
SAMPLE COLLECTED BY	LANGRATORY CHRMIST						
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION						

	TE	ST REP	ORT		
	RESULT		LIMIT (INDUSTRIAL ZONE)		
LOCATION	UNIT	DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, MANJIROND	dB(A)	64	54		
INCLINE AREA, BANJIRHOL	dB(A)	52	44		70
BUNKER AREA, BANJIKHOL	dB(A)	50	42		
DG SET ARMA, MANAJIMOL	dB(A)	62	58		
WEIGHERIGE AREA, BANJIKHOL	dB(A)	68	46	75	
TRUCK PARKING ANDA, BANJIKHOL	dB(A)	64	52		
OFFICE AREA, BANKHETA	dB(A)	58	48		
WEIGHBRIGE AREA, BANKBETA	dB(A)	54	42		
0.70		RESULT		LIMIT (RESIDE	ENTIAL ZONE)
LOCATION	UNIT	DAY	NIGHT	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	46	42	55	45
BELJOR VILLAGE (NEAR MANBOON HOUSE)	dB(A)	40	36		100

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

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 I Email: ultimatenviro@gmail.com

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

Name & Address Of The Custon	rates.	REPORT NO	UES/TR/20-21/03967			
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. &	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					

	TE	ST REP	ORT		
	RE		BULT	LIMIT (INDUSTRIAL ZONE)	
LOCATION	UNIT	DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, BANJIKHOL	dB(A)	54	44		
INCLINE AREA, BANJIKHOL	dB(A)	50	40		70
BUNKER AREA, BANJIKHOL	dB(A)	48	42		
DG SET AREA, BANJIKHOL	dB(A)	52	46		
WEIGHBRIGE AREA, BANJIKHOL	dB(A)	58	42	75	
TRUCK PARKING AREA, BANJIKHOL	dB(A)	52	44		
OFFICE AREA, BANKHETA	dB(A)	50	38		
WEIGHBRIGE AREA, BANKHETA	dB(A)	54	42		
		RES	ULT	LIMIT (RESIDI	ENTIAL ZONE)
LOCATION	UNIT	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

- > 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 to a property only.

For ULTIMATE ENVIROLYTICAL SOLUTIONS

102/202 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 - 40277777 I Email uitimatenviro@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		MENORY NO UES/TR/20-21/04609 LAB REF NO UES/20-21/N/04301 DATE OF REPORT 02/03/2021 DATE OF SAMPLING 18/02/2021 to 19/02/20			
	SA	MPLE DETAILS			
MONITORING FOR	NOISE LEVEL MONITORING				
COUTOMEN HEF. NO. 4 DATE	N/PO/SRV/2021/0035, DTD	21-AUG-2020			
SAMPLING LOCATION	INSIDE COAL MINE 6 OUTSI	THE COAL MINE (AS DESCRIP	MED BELOW)		
SAMPLE COLLECTED BY	LABORATORY CHEMIST				
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION				

	TES	T REPO	RT		
		RESULT		LIMIT (INDUSTRIAL ZONE)	
LOCATION	UNIT	DAY	NIGHT TIME	DAY TIME	NIGHT TIME
DIFFICE AREA, BANJIKHOL	dB(A)	52	42		
INCLINE AREA, BANJIKHOL	dB(A)	48	38	75	70
BUNKER AREA, BANJIKHOL	dB(A)	46	40		
DG SET AREA, HANJIKHOL	dB(A)	50	44		
WRIGHBRIGE AREA, SANJIRHOL	dB(A)	56	40		
TRUCK PARKING AREA, BANUIRHOL	dB(A)	54	42		
OFFICE AREA, BANKHETA	dB(A)	52	40		
HEIGHERIGE AREA, BANKHETA	dB(A)	56	44		
		RESULT		LIMIT (RESIDENTIAL ZONE	
LOCATION	UNIT	DAY	NIGHT	DAY TIME	NIGHT TIME
Outside Plant					
BANJIKHOL VILLAGE (NEAR ANGANBADI)	dB(A)	42	36	55	45
BELJON VIALAGE (NEAR MANBODE HOUSE)	dB(A)	38	34		11000

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 prior issue of tost report unioss otherwise agreed with customer.

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

For ULTIMATE ENVIRONTICAL SOLUTIONS AUTHORIZED SIGNATORY

End of the lest report.....

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



HDD-272, Phase III - Near JP Chowk Ring Road Nu -2, Kabii Nagai, Ralpui (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		LAB REP MO DATE OF REPORT DATE OF SAMPLING	UES/TR/20-21/05025 UES/20-21/N/04116 01/04/2021 16/03/2021 to 17/03/2021		
	SA	MPLE DETAILS			
MONITORING FOR	MOISE LEVEL MONITORING				
CUSTOMER REF. NO. A DATE	W/PO/SRV/2021/0035, DMD, 21-AUG-2020				
RAMPLING LOCATION	INSIDE COAL MINE & DUTSIDE COAL MINE (AS DESCRIBED BELOW)				
SAMPLE COLLECTED BY	LABORATORY CHIMIST				
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION				

TEST REPORT							
	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)			
LOCATION		DAY	NIGHT TIME	DAY TIME	NIGHT TIME		
OFFICE AREA, BANJIKHOL	dB(A)	54	46		70		
INCLINE AREA, DAMJINGOL	dB(A)	62	32	75			
SUNGER AREA, BAMJIRBOL	dB(A)	44	46				
DG SHT AREA, BANJINGOL	dB(A)	52	42				
WEIGHERIGE AREA, BANJIKHOL	dB(A)	58	38				
THUCK PARKING AREA, SAMJIRMOL	dB(A)	50	46				
OFFICE AREA, BANKHETA	dB(A)	54	42				
WEIGHBRIGH AREA, BANKSCHA	dB(A)	58	48				
7/2	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)			
LOCATION		DAY	NIGHT	DAY TIME	NIGHT TIME		
Outside Plant							
BAMJIKNOZ VILLAGE (NEAR ANGANBADI)	dB(A)	48	34	55	45		
BELJOR VILLAGE (NEAR MANHODE HOUSE)	dB(A)	36	30		I V		

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 may 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

AUTHORIZED SIGNATORY

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Annexure - 11



छत्तीसगढ़ पर्यावरण संरक्षण मंडल

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

क्रमांक

मुख्या. / वैज्ञा. / छ.ग.प.सं.मं. / 2019

नवा रायपुर, अटल नगर दिनांक24/9 / 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 कमांक UES/2019-20/RL/3033 दिनांक 27.07.2019
- 2. नेशनल एकीडिटेशन बोर्ड फॉर टेस्टिंग एंड कैलिब्रेशन लेबोरेट्रीज (NABL) गुरूग्राम हरियाणा से प्राप्त प्रमाणीकरण पत्र दिनांक 01.08.2019.

---:00:----

उपरोक्त विषयांतर्गत लेख है कि मंडल मुख्यालय द्वारा आपके निजी प्रयोगशाला को मंडल द्वारा संदर्भित पत्र कमांक 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 प्रमाणिकरण 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 वैद्यता दिनांक 31.07.2021 तक प्रदान की जाती है। कृपया आपकी प्रयोगशाला में प्रचालकों की अद्यतन विश्लेषण दर सूची से मंडल को अवगत कराये।

सर्दस्य सचिव छत्तीसगढ पर्यावरण संरक्षण मंडल,

र्भवा 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 Envirolytical Solution HDD 272, Phase-3 Near J.P Chawk Kabir Nagar, Ring Road-2 Raipur-492099, Chhattisgarh

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

Sir.

I am directed to refer to your application dated:01.09.2017 for recognition of your laboratory under Environment (Protection) Act, 1986. Based on the recommendations of the Expert Committee for Recognition of Environmental Laboratories in its 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 Envirolytical Solutions, HDD 272, Phase-3, Near J.P Chawk Kabir Nagar, Ring Road-2, Raipur 492099, Chhattisgarh, as shall be notified in the Gazette of India. Considering the current validity of mandatory accreditations/certifications of the laboratory, this shall be valid up to 25.06.2022.

- 2. As sought in your aforementioned application M/s Ultimate Envirolytical Solutions, Chhattisgarh may undertake the following tests:
- (i) Physical Tests: Conductivity, Colour, pH, Fixed & volatile solids, Total solids, Total dissolved solids, Total suspended solids, Turbidity, Temperature, Velocity & discharge measurement of industrial effluent stream, Salinity, Settleable solids and Sludge volume index (SVI).
- (ii) Inorganic (General & Non-metallic): Acidity, Alkalinity, Ammonical nitrogen, Chloride, Chlorine residual, Dissolved oxygen, Fluoride, Total hardness, Total kjehldal nitrogen (TKN), Nitrite nitrogen, Nitrate nitrogen, Phosphate, Sulphate, Chlorine demand, Iodine and Silica.
- (iii) Inorganic (Trace metals): Boron, Cadmium, Calcium, Chromium Total, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium, Sodium absorption ratio, Zinc, Arsenic, Barium, Manganese and Tin.
- (iv) Organics (General) and Trace Organics: Bio-chemical oxygen demand (BOD), Chemical oxygen demand (COD), Oil & grease, Phenol, Pesticide ((Organo-chlorine, Organo nitrogen-phosphorous), Poly-chlorinated biphenyl (PCB's) each, Polynuclear aromatic hydrocarbon (PAH) each and Organic Carbon (in Solid).
- (v) Microbiological Tests: Total Coliform, Faecal Coliform, Faecal streptococci, E. coli, Total Plate count.
- (vi) Toxicological Tests: Bioassay method for evaluation of toxicity using fish, Bio-accumulation, bio magnification and bio-transformation studies.
- (vii) Biological Tests: Macrophytic identification, Planktonic identification count and Chlorophyll.
- (viii) Hazardous Waste: Corrosivity, Ignibility (Flash Point) and Measurement of heavy metals/pesticides in the waste /leachate.
- (ix) Soil/ Sludge/ Sediment and Solid Waste: Boron, Cation Exchange Capacity (CEC), Electrical Conductivity, Nitrogen available, Organic carbon/ matter (chemical method), pH, Phosphorous (available), Phosphate (ortho), Phosphate (total), Potassium, SAR in soil extract, Sodium, Soil moisture, TKN, Calorific value, Bicarbonate, Calcium, Calcium carbonate, Chloride, Bicarbonate, Calcium, Calcium carbonate, Chloride, Heavy metal, Magnesium, Nitrate, Potash (available), Sulphate and water holding capacity.

- (x) Ambient Air/ Fugitive Emissions: Nitrogen dioxide (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:

- 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		