

Letter No.: HIL/EC/GP- IV/5/2021 - 22 /90 20th May, 2021

The 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 Under Ground Captive Coal Mine, Gare Palma IV/5 Coal Mines of Hindalco Industries Limited, Village – Milupara, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.

Respected Sir,

This has reference to the Environment Clearance Letter no. – J-11015/8/1998- IA –II. (M) dated 16.04.2015 (Transferred in favour of HIL). We are submitting herewith the Half Yearly EC Compliance Report along with Environmental Monitoring Report (Hard & Soft) for the period from **October 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 Secretory, 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 conditions of Environment Clearance for Gare-Palma IV/5 coal mining project Transfer by Ministry of Environment, Forests & Climate Change vide letter no. J-11015/8/1998-IA. II (M) Dated: - 16th April 2015 for Under Ground Mining 1.0 Million Ton/Annum Production Capacity.

Sr. No.	Conditions	Status
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.
	11015/8/1998-IA.II (M) dated 31st August, 2000	
	shall remain unchanged.	
3	The successful bidder shall be liable, if any, for any	Noted.
	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 of all	Noted.
	court directions, if any.	

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

Sr. No.	Conditions	Status
A. S	pecific Conditions	
i	Regular Monitoring of subsidence movement on the surface over working areas and impact on water bodies/vegetation/ structures/ surroundings should be continued till movement ceases completely. In case of observation of any high rates of subsidence movement, appropriate measures should be taken to avoid loss of life and materials. Cracks should be effectively plugged with ballast and clayey soil/ suitable material.	The method of mining at Gare Palma IV/5 coal mine is Bord & Pillar. Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural pattern, water bodies, vegetation, structure, roads and surroundings is being done by internal expert. During the observation no subsidence movement has been observed. In future, if any subsidence movement is found, appropriate effective corrective measures will be taken to avoid loss of life and material. Cracks will be effectively plugged with ballast

		and clayey soil/suitable material if observed. The subsidence study was already carried out for working panel by CSIR – Central Institute of Mining & Fuel Research Dhanbad in May 2019 for GP IV/5 Coal mines.
ii	Adequate underground barrier should be left in consultation with the Director General of Mines & Safety (DGMS). Depillaring should also be carried out after taking approval from DGMS.	Adequate underground barrier as required are being maintained between the working face and the river in consultation with DGMS and also at other places whenever required. Depillaring operation was not carried out during last six months. Appropriate permission from DGMS will be taken as and when depillaring will be under taking.
iii	Garland drains should be constructed around the waste rock and ore stockpiles to prevent surface run-off.	Garland drain have been constructed around the coal stock yard to prevent the surface run-off.
iv	A Green Belt of adequate width should be raised by planting the local species along the mine boundary, Waste rock dumps, ore stockpile, ventilation fan road and selected open areas in consultation with local DFO/Agriculture Department. Density of tree should be at least 2500 plants per ha.	Plantation in mines area is being done. At present 48100 nos. of trees have been planted within the Mine boundary and other places. Trees species planted are Gulmohar, Ashoka Aam, Imli, Shisam, Eucalyptus, Neem, Jamun, Accassia spp. etc. in consultation with DFO. Plantation has been carried out @2500 per hectare and will also be ensure in future. Plantation details enclosed as Annexure –1.
V	Compensation to the 14 land losers from whom private land will be acquired should be paid as per the state government norms.	Compensation to the 14 land losers has been paid by the company.
vi	The project authority should conduct a subsidence estimation study and submit the report to the Ministry within six months.	Subsidence estimation study report has been submitted to the Ministry by Prior allottee.
Vii	The project proponent will construct "Check dams "at the sites proposed by the State Ground water Department in their report. While undertaking the proposed	As per requirement the check dam site will be constructed in consultation with state forest department and Ground water

	mining, the construction of the check dams should be carried out in with Ground water survey department, Government of MP (presently Chhattisgarh) and should have necessary financial provision and technical expertise. This should be communicated to the MoEF and CGWB.	survey department, Government of Chhattisgarh and will be communicated to MOEF& CC and CGWA.
viii	Regular monitoring of the Ground water level and quality should be carried out by establishing a network of existing wells and constructing new Piezometer during the mining operations. The interval of monitoring should be four times a year- Pre monsoon (April to May), Monsoon (August), Post Monsoon (November) and winter (January). The data thus collected may be sent regularly to MoEF and CGWB for information.	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 No2. 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 MoEF & CC, CPCB and CECB on quarterly within one month of monitoring basis. Attached as Annexure No. – 3.
ix	Digital processing of the entire lease using remote sensing technique should be regularly once in three years for monitoring land use pattern and report submitted to MoEF and its regional officer.	Report on Assessment of Land Use / Land Cover using High Resolution Satellite Imagery for the GP Mine IV/5 Coal Mine was carried out by IndiGEO Consultants, Bangalore in the month of December 2019 and the report was submitted to your office dated 27 May 2020.
х	A detailed mine decommissioning plan should be submitted to the MoEF, five years in advance for approval.	Detailed mine decommissioning plan will be submitted to the Ministry of Environment and forests, five years in advance for approval.
B. Gener	al Conditions	
i	No change in mining technology and scope of working should be made without prior approval of the MoEF.	Noted and being complied.

ii	No change in the calendar plan including	Noted. Coal production restricted
	excavation quantum of mineral coal and waste should be made.	within EC limit.
iii	Four ambient air quality stations should be	Four ambient air quality
	established in the core zone as well as the	monitoring stations have been
	buffer zone for RPM, SPM, SO2, NOx & CO	established in consultation with
	Monitoring. Location of stations should be	the State Pollution Control Board
	decided based on the meteorology data,	and regular monitoring is being
	topographical features and environmental	carried out.
	and ecologically sensitive targets in	Copy of Monitoring Report from
	consultation with the State Pollution	the period October 2020 to March
	Control Board.	2021 is enclosed as Annexure -4.
iv	Data of ambient air quality (RPM, SPM,	Four ambient air quality
	SO2, NOx & CO) should be regularly	monitoring stations have been
	submitted to the Ministry including its	established and regular monitoring
	Regional Officer at Bhopal (Currently	is being carried out.
	Raipur) and the State Pollution Control	Reports are being periodically
	Board & Central Pollution Control Board	furnished to SPCB.
	(Currently Raipur).	Copy of Monitoring Report from
		the period October 2020 to March
		2021 is already enclosed
V	Drill should be wet operated.	Wet drilling is under practice.
vi	Fugitive dust emission from all the sources	Fixed type water sprinkler has been
	should be controlled, regularly monitored	provided at all along the roads, and
	and the data recorded properly. Water	loading points etc. to control the
	spraying arrangement on haul roads,	fugitive dust emission.
	Wagons, loading dump trucks (loading and	Photographs of fixed type of water
	unloading) should be provided and	sprinklers at GP IV/5 Coal Mines is
	properly maintained.	attached as Annexure – 4A
vii	Adequate measures should be taken for	Ear muffs/plugs has been provided
	control of noise level below 80db in the	to the all workers engaged in
	work environment. Workers engaged in	blasting and drilling operations,
	blasting and drilling operation, operations	operations of HEMM etc. The Noise
	of HEMM etc. should be provided with ear	monitoring report from the period
	plugs/ muffs	October 2020 to March 2021 is
		enclosed as <u>Annexure - 5.</u>
viii	Industrial waste water (workshop and	We have constructed 05 Nos. of
	waste water from the mine) should be	settling pond & 02 nos of ETP
	properly collected and treated so as to	(Capacity 200 m3 / Hr Each) along
	conform on the standards prescribed	with Lamella clarifier with chemical
	under GSR 422 dated 19.05.1993 and	dosing arrangement for the
	31.12.1993 or as amended from time to	treatment of mine seepage water,
	time. Oil and grease trap should be	the treated water is being used for
	installed before discharge of workshop	spraying / sprinkling on mines
	effluents in to the pond.	roads and also for greenbelt
		development inside the mine
		premises & remaining treated

		water from ETP is being distributed to the nearby villagers for irrigation & agriculture purpose (other than drinking). Copy of Monitoring Report from the period October 2020 to March 2021 is attached as Annexure – 6 Photographs of Treatment Facility at GP IV/5 Coal Mines is attached as Annexure – 6A
ix	Acid mine water if any has to be treated and disposed off after conforming to the standards prescribed by the competent authority.	There is no acid mine water. Provided ETP (Capacity 200 m3 / Hr Each) along with Lamella clarifier with chemical dosing arrangement for the treatment of mine seepage water and the analysis report of treated water quality are being periodically furnished to SPCB.
х	Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board	We have engaged CECB & MoEF&CC approved and NABL accredited Laboratory I.e. M/s Ultimate Envirolytical Solutions Raipur to carried out the mine environmental parameters monitoring. Approval letter of Monitoring Agency from CECB Raipur, MoEF&CC & NABL accredited Laboratory certificate is attached
xi	Personnel working in dust area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance of the workers should be undertaken periodically to observe any contractions due to exposure to coal dust and take corrective measures if needed.	as Annexure No. – 7 Personnel working in dusty areas are wearing protective respiratory devices and they have also been provided with adequate training and information on safety and health aspect. Occupational health surveillance program of the workers is being undertaken periodically to observe any contraction due to exposure to coal dust and corrective measures will been taken accordingly.
xii	A separate environmental management cell with suitable qualified personnel should be set up under the control of a	A separate Environmental Management Department is

	T	T
	senior executive who will report directly to	functioning at Coal Mine under the
	the Head of the Organization.	direct control of a senior executive.
xiii	The funds earmarked for environmental	The funds earmarked for
	protection measures should be kept in	environmental protection
	separate account and should not be	measures has been budgeted
	diverted for other purpose. Year wise	separately and not been diverted
	expenditure should be reported to	for other purposes. Environmental
	Ministry.	Expenditure details from October
		2020 to March 2021 is enclosed as
		Annexure – 8
xiv	The Regional Officer of the ministry located	Agreed and cooperation will be
	at Bhopal (currently Raipur) shall monitor	extended on time to time.
	compliance of the stipulated conditions.	
	The project authorities should extent full	
	co-operation to the officer (s) of the	
	Regional Officer by furnishing requisite	
	data information / monitoring reports	
XV	A copy of the clearance letter will be	Complied by Prior Allottee.
	marked to concerned Panchayat/ local	
	NGO if any from whom suggestion /	
	representation has been received while	
	processing the proposal	
xvi	State Pollution Control Board should	Complied by Prior Allottee.
	display a copy of the clearance letter at the	
	Regional Office, District Industry Centre	
	and Collector's Office/ Tehsildar's office for	
	30 days	
xvii	The project authorities should advertise at	Complied by Prior Allottee.
	least two local newspapers widely	
	circulated around the project one of which	
	shall be in vernacular language of the	
	locality concerned informing that the	
	project has been accorded environmental	
	clearance and the copy of the clearance	
	letter is available with the State Pollution	
	Control Board and may also be seen at web	
	site of the MoEF at http://envfor.nic.in	
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Annexure - 1

Hindalco Industries Limited Green Belt Development Status

Year L	Location	No. of Tree Planted	Survival	Number	Area Covered	
		(Approx.)	Rate (%)	of Plant Survived	in Plantation (hectare)	Sapling Details
Upto 2015		30000	82.00	24600	9.84	
2016		2000	85.00	1700	0.68	Neem, Mahua, Jamun,
<i>2017</i> Co	Coal mine	5000	80.00	4000	1.60	Mango, Guava, Imli,
<i>2018</i> le	ease area	5000	85.00	4250	1.70	Drumstick, Teak, Shivan /
2019		5000	90.00	4500	1.80	Ghamar, Sisham, Sirus,
2020		1100	100.00	1100	0.44	Bamboo, Peltafarm,
Total		48100	83.47	40150	16.1	Nilgiri, Amla etc



Annexure - 1



Annexure - 2

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

	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	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.92			
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	1.2			
6	Electrical Conductivity	μS/cm	IS 3025(part-14):1984, RA 2013	-	-	128			
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.			
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	-	79.7			
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	77.5			
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	2.2			
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0			
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	32.0			
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	22.0			
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	***	-	10.0			
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	8.8			
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	- 100	2.4			
17	Chloride (as 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. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS Acceptable Limit	10500:2012 Permissible	RESUL
			87			(m)
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	1	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	-	- AGIAXACION	N.D.
1icro	biological Analysis	- toronomic management				······································
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be any 100 n	Carried and a second	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be any 100 n		Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be any 100m	detectable in	Absent
estic	ides		The state of the s	A. Commission of the Commissio		
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		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		Action and the second of the second
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)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	- 4		
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	3	0	N.D.
20	Alachlor	µg/L	US EPA 508- 1995	2	0	N.D.
21	Atrazine	µg/L	US EPA 532-2000			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.

PREPARED BY 12 2020

WASHING OF SALES OF S

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 Customer TO,	REPORT NO UES/TR/20-21/03144					
HINDALCO INDUSTRIES LIMITED,	LAB REF NO UES/20-21/W/02791					
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 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 APHA 22ND ED. 2012, 106	The second second	QUANTITY RECEIVED	5 LTR						

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	6.86	
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	-	7-6	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	7- <u>+</u>	-	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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			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 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				1	***************************************
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	ides			1001111		
1	p,p DDT	μg/L	US EPA 508-1995		1 _	N.D.
2	o.p DDT	µg/L	US EPA 508-1995	smerral and a second a second and a second a	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	The state of the s	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.



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Report No. 03144

			TEST REPORT			,	
SR.				AS PER IS	AS PER IS 10500:2012		
NO.	DADAMETED		METHOD OF TEST	Acceptable Permissible Limit 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		L	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.	

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

PREPARED BY

> 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 differ (est(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

Name & Address Of The Cu.	stomer		REPORT NO	UES/TR/20-21/0	3145	-
			LAB REF NO	UES/20-21/W/02	792	
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/4, COAL MINE,VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496107.			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 TYPE	GROUND WATER		ORDER /REFERENCE:	N/PO/SRV/2021/0033 DTD. 21-AUG-2020	5,	
CUSTMER SAMPLE ID			ORDER /REFERENCE: SAMPLE CONDITION		? (
COSTRER SAMPLE ID	SAKTA VILLAGE, (DUGWE	(LL)	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	www.	
IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39			QUANTITY RECEIVED	5 LTR		

			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	2.5	
2	Odour		IS 3025(part-5)	Agreeable	Agreeable	Agreeable	
3	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable	
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.24	
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	3.8	
6	Electrical Conductivity	μS/cm	IS 3025(part-14):1984, RA 2013	-	-	236.0	
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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-		-	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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			TEST REPORT			
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS Acceptable Limit	10500:2012 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		0.3	No	
25	Fluoride (as F)	mg/Lit	ADUA 2200 Ed 2012 4500 E.B.		Relaxation	N.D.
			&D, 4-84 & 87 APHA 22 nd Ed.2012,3111-B, 3-	1	1.5	0.18
26	Manganese (as Mn)	mg/Lit	18	0.1	0.3	0.10
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3- 18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-	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-		No.	
		1-7	105 APHA 22 nd Ed.2012,3112-B, 3-	0.003	Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	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	N.D.
36	Anionic Detergent	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-		Relaxation	
	(as MBAS) Phenolic Compound	mg/Lit	53	0.2	1.0	N.D.
37	(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	0.5	No	N.D.
40	Oil & Grease	mg/Lit	2003 IS 3025 (Part 39):1991, RA		Relaxation	
	biological Analysis	Ing/Lit	2003	-		N.D.
1	Diological Allalysis	MPN/				
1	Total Coliforms	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 det	tectable in any	Absent
estic	ides	1001111		100ml s	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	Tuo	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.				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			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	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)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 above test(s) only.

Thakur 03 12 2020

ANOUTH A STANDARD OF THE STAND

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	opena'r gana i a chairmean	
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 DTD. 21-AUG-2020	5,	
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	Carlo	5,	
CUSTMER SAMPLE ID	BELJOR VILLAGE (DUGWE	CLL)	SAMPLE CONDITION AT RECEIPT	OK	ALL MANAGEMENT AND ALL STREET	
PACKING OF SAMPLE 3 L X 1 NO. PVC CAN 1		SEALED	SAMPLE COLLECTED BY	CHEMIST		
			QUANTITY RECEIVED	5 LTR		

				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	7.24
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.96
6	Electrical Conductivity	μS/cm	IS 3025(part-14):1984, RA 2013	-	-	586
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64		-	362
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	355
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	7.0
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	156.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	188.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	102.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	88.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	40.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	- 100	21.3
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250	1000	66.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200	400	, 21.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.64
20	Phosphate (as P)	mg/Lit	APHA 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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			TEST REPORT			
SR.				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
			3-87			
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3- 18	0.1	0.3	0.24
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3- 18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-	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-	0.003	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,	0.05	Relaxation No	N.D.
36	Anionic Detergent (as MBAS)	mg/Lit	3-69 APHA 22 nd Ed.2012,5540-C, 5- 53	0.2	Relaxation	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	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	Relaxation	N.D.
1icro	biological Analysis		2003			Ν.υ.
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be		Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be	detectable in	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be	detectable in	Absent
estic	ides	2001111	I.	any 100 n	ni sample	
1	p,p DDT	µg/L	US EPA 508-1995		*	ND
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.
	(Lindane) Alpha-HCH	µg/L	US EPA 508-1995			N.D.
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	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	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	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 rest report unless otherwise agreed with customer.

> This is for information as the party has ask (180 at 16 only.

PREPARED BY 3 12 2020

* WETHWATE TO SOUTH T

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-End of the test report-----

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



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Mame & Address Of The Co	stomer	REPO	RT NO	UES/TR/20-21/03176		
TO,	and Charles L.C. and Ethics for the Farm	LAB	REF NO	UES/20-21/W/02823		
HINDALCO INDUSTR	- Control (1986)	DATE	OF SAMPLING	25/11/2020)	
GARE PALMA – IV/5,	DATE	OF RECEIPT	26/11/2020 03/12/2020			
U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE				OF REPORT
		DATE	OF ANALYSIS	START: 26/11/202		END: 03/12/2020
		SAMP	LE DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFERE	INCE:	200	O/SRV/2021/0044, . 21-AUG-2020
CUSTMER SAMPLE ID	STAFF QUARTER-BANJIKHOL PIEZOMETER (AWLR)	-	SAMPLE CONDIT	TION 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	CHE	MIST

QUANTITY RECEIVED

5 LTR

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

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

REPORT NO. 03176

SAMPLING PROCEDURE

SR.		20012	TEST REPORT	ACCEPTABLE DRINKING WATER		242438
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	рH	-	APHA 22 rd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	6.84
5	Turbidity	NTU	APHA 22 ^{rid} Ed.2012,2130-B,2-13	1	5	16.4
6	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	14) ×-	188.0
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	2		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 rd 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	7.	14	40.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500–Ca-B, 3-67	75	200	11.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	9.7
17	Chloride (as CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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 ^{ed} 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	15		8.8



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REPORT NO. 03176

	7	1	TEST REPORT	APPENTAGE	E I IMIT FOR	
SR.				DRINKING WATER		-
NO.	PARAMETER	TINU	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87		-	1.6
23	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4- 25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	1.5	0.12
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	N.D.
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3- 105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001	No Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	0.05	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No Relaxation	N.D.
35	Chromium (as Cr)	mg/Lit	АРНА 22 nd Ed.2012,3500-Cr-В, 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	-	- 1	N,D,
Microb	iological Analysis					
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981; RA:2019	Shall not be of any 100 n		Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981; RA:2019	Shall not be of any 100 n	detectable in	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be o	detectable in	Absent
estici	ides	1001111		dily 1000	Julipic	
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)1	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			ACCEPTABLE DRINKING WATER		nre.u.
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	-		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	0.1	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 (2004) ast(s) only.

PREPARED BY 12 2020

SPACE OF SPA

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AUTHORIZED SIGNATORY

-End of the test report-----



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Hamo & Address Of The Gu	stomer		RT NO	UES/TR/20-21/03177 UES/20-21/W/02824		
то,		LAB	REF NO			
HINDALCO INDUSTR		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	DATE	OF ANALYSIS	START: 26/11/2020		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 OF PIEZOMETER -AWLR	OFFICE	SAMPLE CONDITION AT RECEIPT		ox	
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	SCTED BY	CIU	EMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 APHA 22ND ED. 2012,		QUANTITY REC	CEIVED	5 1	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	pH		APHA 22 nd Ed.2012,4500-H ¹ -B, 4-92	6.5-8.5	No Relaxation	6.82
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	2.8
6	Electrical Conductivity	μS/cm	IS 3025(part-14):1984, RA 2013	-	-	168
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G,4 - 69	0,2	1	N.D.
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64			104.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	102.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66			2.6
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	38.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67		•	22.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84			16.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	8.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	100	3.8
17	Chloride (as CI)	mg/Lit	АРНА 22 nd Ed.2012,4500-CI-В, 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		-	6.0
21	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87		- 1	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- 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			N. Charles		
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	Absent
3	E. Coll	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	etectable in any sample	Absent
Pesti	cides		+	4.0001111	1	
1	p,p DDT	µg/L	US EPA 508-1995		1	N.D.
2	o.p DDT	µg/L	US EPA 508-1995 '		1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995		1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995		1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995		1	N.D.
6	Gamma-HCH	µg/L	US EPA 508-1995		2	N.D.



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REPORT NO. -03177

			TEST REPOR	T		
SR.				AS PER IS	10500:2012	11.0
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
-	(Lindane)				1	
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	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	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	1.3	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 as more harden past(s) only

* * * *

End of the test report-----

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

20 20

AUTHORIZED SIGNATORY

AN ISO - 9001-2015 LISO- 14001-2015 LISO 45001-2018 CERTIFIED LABORATORY



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Name & Address Of The	Customer	REPO	ORT NO	UES/TR/	20-21/0	3178
TO,		LAB	REF NO	UES/20-21/W/02825 25/11/2020		
HINDALCO INDUSTRI	IES LIMITED,	DATE	OF SAMPLING			
GARE PALMA - IV/5, I		DATE	OF RECEIPT	26/11/20	020	
U/G COAL MINE, VILL	AGE – MILUPARA,	DATE	OF REPORT	03/12/20	020	
BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107			OF ANALYSIS	START: 26/11/2020		END: 03/12/2020
		SAMPI	E DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFERE	NCE:	The second second	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 APHA 22ND ED. 2012,1060	Carlo and Carlo	QUANTITY RECE	IVED	5 LTR	

REPORT NO. - 03178

	PARAMETER	UNIT	*	AS PER IS		
SR. 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	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	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	APIIA 22 nd Ed.2012,2540- D, 2- 65			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 Cl)	mg/Lit	APHA 22 rd Ed.2012,4500-Cl-B, 4-72	250	1000	8.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-50₄- 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/Llt	APHA 22nd Ed.2012,3500-Na- B, 3-97	-	344	4.8
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87		-	1.6



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REPORT NO. - 03178

			TEST REPORT			
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS Acceptable Limit	10500:2012 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-	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	0.28
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	18 APHA 22 nd Ed.2012,3111-B, 3-	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.
-			105 APHA 22 nd Ed.2012,3112-B, 3-		Relaxation	
32	Mercury (as Hg)	mg/Lit	23	0.001	Relaxation	N.D.
33	Arsenic (as As)	mg/Lit	APHA 22 ⁶⁰ 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 2003			
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		stectable in any	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	etectable in any sample	Absent
Pesti	cides	200111		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	- 1	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. - 03178

			TEST REPORT	Г		
SR.	PARAMETER	UNIT		AS PER IS		
NO.			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	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	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.
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

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Test sample will be retained for 15 days after (1900) report unless otherwise agreed with customer.
 This is for information as the party has a full (1900) (1900) only.

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

End of the test report---



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Name & Address Of The	Gustomor	REPO	ORT NO	UES/TR/	UES/TR/20-21/03179		
TO,		LAB	REF NO	UES/20-21/W/02826 25/11/2020 26/11/2020			
HINDALCO INDUSTR	IES LIMITED,	DATE	OF SAMPLING				
GARE PALMA - IV/5,		DATE	OF RECEIPT				
U/G COAL MINE,VILL	DATE	OF REPORT	03/12/2020				
BLOCK-TAMNAR, DISTT RAIGARH (C	DATE OF ANALYSIS		START: 26/	11/2020	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	SIDARPARA VILLAGE (DUGW	SAMPLE CONDITION AT RECEIPT		OK			
PACKING OF SAMPLE	CKING 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 RECE	IVED	5 LTR		

REPORT NO. - 03179

en.	PARAMETER	UNIT		AS PER IS 1		
SR. 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	-	АРНА 22 nd Ed.2012,4500-H*-В, 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- 65	-	7- 1-	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	APHA 22 nd Ed.2012,3500-Ca-		38.0
14	Magnesium Hardness (as CaCO3)	mg/Lit	APHA 22 ^{nc} 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		-	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

			TEST REPORT			
SR.	2.645.28797248.1			AS PER IS		
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	0.14
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1	0.3	0.08
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 108	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	15	N.D.
30	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3- 105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 ^{ed} 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	Relaxacion		N.D.
Micro	biological Analysis	-	1.05549		-	
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be any 100 n	detectable in ni sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be any 100 n	Color De la Caracia de	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be any 100m	detectable in	Absent
Pesti	cides		1	2.77 22011	1	
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	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	04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.0	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	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.			
25	Malaoxon	µg/L	US EPA 8141A-1994			N.D.			
26	Aldrin	µg/L	US EPA 508- 1995	0.0	13	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

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> Test sample will be retained for 15 days after a superior report unless otherwise agreed with customer.
> This is for information as the party has a poet agents the second only.

For ULTIMATE ENVIROLYTICAL SOLUTIONS

-End of the test report-----



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Name & Address Of	The Customer	REPORT NO	UES/TR/20-21/0	3975	
то,		LAB REF NO	UES/20-21/W/03660 22/01/2021		
HINDALCO INDUSTR		DATE OF SAMPLING			
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 (PIEZCMETER) 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 N	0.0	3975
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			TEST REPORT			
SR. PARAMETER UNIT METHOD OF TEST			AS PER IS	10500:2012	2	
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-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			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	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 TEST Access				AS PER IS	10500:2012	
NO.	PARAMETER	UNIT		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	Shall not be detectable in any 100 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 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	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	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		NIT METHOD OF TEST	AS PER IS		
NO.		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	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	5):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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			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		2505)			
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		2001111	- Inpic	-
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		L	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	190		N.D.	
25	Malaoxon	μg/L	US EPA 8141A-1994		-	N.D.	
26	Aldrin	µg/L	US EPA 508- 1995	0.	03	N.D.	
27	Dieldrin	µg/L	US EPA 508-1995	0.	03	N.D.	

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Test sample will be retained for 15days after issue of 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	Ε	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	AMPLE 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.		1.0		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 CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	70.0		
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200	600	98.0		
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500–Ca-B, 3-67	-	-	42.0		
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	56.0		
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500–Ca-B, 3-67	75	200	16.8		
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500–Mg-B, 3-84	30	100	13.6		
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500–Cl-B, 4-72	250	1000	22.9		
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500–SO ₄ -E, 4-190	200	400	19.6		
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500–NO ₃ -B, 4-122	45	No Relaxation	0.30		
20	Phosphate (as P)	mg/Lit	APHA 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-	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	108 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.
		-	18 APHA 22 nd Ed.2012,3500-Cd, 3-		No.	
31	Cadmium (as Cd)	mg/Lit	105 APHA 22 nd Ed.2012,3112-B, 3-	0.003	Relaxation No	N.D.
32	Mercury (as Hg)	mg/Lit	23	0.001	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	-	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		.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 N.D. 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	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		-	N.D.
26	Aldrin	μġ/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,

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AUTHORIZED SIGNATORY

02 02 202

End of the test report-



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Name & Address Of The Cus	stomer		REPORT NO	UES/TR/20-21/0	3978 .	
TO,	го,			UES/20-21/W/03663		
HINDALCO INDUST	TRIES LIMITED,		DATE OF SAMPLING	22/01/2021		
GARE PALMA - IV/	4, COAL MINE, VILLAGI	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,	
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:	,,,	5,	
CUSTMER SAMPLE ID	BELJOR VILLAGE (DUGWEL	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 COLLECTED 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.03978

			TEST REPORT			
SR.		y		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	pН	-	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

	T		TEST REPORT	AC DED IO	40500-2042	×
SR.	PARAMETER	UNIT	METHOD OF TEST		10500:2012	RESULT
NO.	T ANAME I EN	Oilli	method of test	Acceptable Limit	Permissible limit	RESOL
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 rd 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-	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	108 APHA 22 rd Ed.2012,3111-B, 3-	5	15	N.D.
30	Copper (as Cu)	mg/Lit	18 APHA 22 rd Ed.2012,3111-B, 3-	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	18 APHA 22 rd Ed.2012,3500-Cd, 3-	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	105 APHA 22 rd Ed.2012,3112-B, 3-	0.001	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.
34	Selenium (as Se)	mg/Lit	38 APHA 22 nd Ed.2012,3114-C, 3-	0.01	No	N.D.
			38 APHA 22 nd Ed.2012,3500-Cr-B,		Relaxation No	
35	Chromium (as Cr) Anionic Detergent	mg/Lit	3-69 APHA 22 nd Ed.2012,5540-C, 5-	0.05	Relaxation	N.D.
36	(as MBAS)	mg/Lit	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			
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019		detectable in	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be	ml sample 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			u, 100		
1	p,p DDT	µg/L	US EPA 508-1995		1	N.D.
2	o.p DDT	µg/L	US EPA 508-1995		1	N.D.
3	p,pDDE	μg/L	US EPA 508-1995		1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995		1	• N.D.
5	O,p DDD	µg/L	US EPA 508-1995		1	N.D.
6	Gamma-HCH (Lindane)	μg/L	US EPA 508-1995		2	N.D.
7	Alpha-HCH	μg/L	US EPA 508-1995	0	.01	N.D.



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Report No.03978

			TEST REPORT		40500-2042	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	10500:2012 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	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	3	30	
16	Phorate	μg/L	US EPA 8141A-1994		2	
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	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

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Terms & conditions

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

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02 02 AUTHORIZED SIGNATORY

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End of the test report-



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Name & Address Of The Cu	Name & Address Of The Eustomer			UES/TR/20-	21/0	04011
TO,				UES/20-21/	W/03	3696
HINDALCO INDUSTR	,	DATE	OF SAMPLING	22/01/2021	1	
GARE PALMA - IV/5,		DATE	OF RECEIPT	23/01/2021		
U/G COAL MINE, VILLAGE - MILUPARA,			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	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	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			E LIMIT FOR R (IS 10500:2012)	**RESULT** <1 Agreeable Agreeable 6.74 15.3 192.0 N.D. 124.4 116.2 8.2 28.0 70.0 46.0 24.0 18.4 5.8 28.9 19.6 0.92
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1
2	Odour	-	IS 3025:(part-5)	Agreeable	Agreeable	Agreeable
3	Taste	-	IS 3025:(part-8)	Agreeable	Agreeable	Agreeable
4	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 [™] 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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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.	PARAMETER				E LIMIT FOR R (IS 10500:2012)	RESULT
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	-	-	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 rd 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 ml sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be any 100 r	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-HCH (Lindone)	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	2		
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.	stámár	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	RENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSTMER SAMPLE ID	NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR	SAMPLE CONDI RECEIPT	TION 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-CI-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	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	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	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
	(Lindane)					
7	Alpha-HCH	μg/L	US EPA 508-1995	0	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	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	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	
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	0.03	N.D.
27	Dieldrin	μg/L	US EPA 508-1995	(0.03	N.D.

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

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

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

For ULTIMATE ENVIROLYTICAL SOLUTIONS

Jood ,

2021

AUTHORIZED SIGNATORY

D BY

-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	02/02/20	21	
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 [™] 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 rd 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	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		2003			
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		letectable 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	2001111		200111		
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	0.01	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		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	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

For ULTIMATE ENVIROLYTICAL SOLUTIONS

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			
		DATE OF RECEIPT			
GARE PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA,	AGE – MILUPARA,	DATE OF REPORT			
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 :	0/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 ^{ro} 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

10. 10. Nov. 10			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.



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

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 - 3

OSC



Letter No.: HIL/EC/GP-IV/5 -Q3/2020/337

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

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

Dear Sir,

With reference to above subject, we are submitting herewith the quarterly monitoring report of Ground Water Level (from Oct. 2020 to December 2020) & GW Quality for the month of November 2020 – Post monsoon period of Gare Palma IV/5 Coal Mines, Hindalco Industries Limited, Village – Milupara, 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
- The Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, 2nd Floor, LK Corporate and Logistic Park, Dumartarai, Raipur-492015
- Member Secretary, Central Ground Water Authority, 18/11, Jamnagar House, Mansingh Road, New Delhi - 110011

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

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

(AWLR* - Automatic Water level recorder under maintenance)



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TO,	The Customer		REPORT NO	UES/TR/20-21/03143		
HINDALCO INDUSTR	IES LIMITED		LAB REF NO	UES/20-21/W/02790		
GARE PALMA - IV/4, COAL MINE.			DATE OF SAMPLING	24/11/2020		
VILLAGE - BANKHET	A,		DATE OF RECEIPT	25/11/2020		
POST -MILUPARA,			DATE OF REPORT	03/12/2020 START: 26/11/2020 END: 03/12/2020		
DISTT RAIGARH (C	.G.) 496107.		DATE OF ANALYSIS			
		0	NACTOR IN THE PARTY OF THE PART			
		3	AMPLE DETAILS	G.		
SAMPLE TYPE	GROUND WATER	٥		N/PO/SRV/2021/0035		
7.00.00	GROUND WATER	٥	ORDER /REFERENCE:	N/PO/SRV/2021/0035, DTD, 21-AUG-2020		
SAMPLE TYPE CUSTMER SAMPLE ID	BANKHETA MINE (PIEZOMETER) AWLR	٥	ORDER /REFERENCE: SAMPLE CONDITION AT	DTD 21-AUG-2020		
7.00.00	BANKHETA MINE (PIEZOMETER) AWLR 3 L x 1 NO. PYC CAN	SEALED	ORDER /REFERENCE:	DTD, 21-AUG-2020		

Report No.03143

SR.		/ DATE: \$4.00.00		AS PER IS	10500:2012	
NO.	PARAMETER	TINU	METHOD OF TEST	Acceptable Limit	Permissible	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	150		79.7
9	Total Dissolved Solids	mg/Lit	15 3025(part-16):1984, RA 2006	500	2000	77.5
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-	- L		
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	2.2
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	32.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67		-	22.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84		-	10.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	8.8
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30	. 100	2.4
17	Chloride (as Cl)	mg/Lit	APHA 22 rd Ed.2012,4500-CI-B, 4-72	250	1000	16.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 rd Ed.2012,4500-SO ₄ -E, 4-190	200	400	12.8
19	Nitrate (as NO ₃)	mg/Lit	APHA 22 rd 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 ^{ne} Ed.2012,3500-K-B, 3-			1.64



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Report No.03143 TEST REPORT SR. PARAMETER AS PER IS 10500:2012 NO. UNIT METHOD OF TEST Acceptable Permissible RESULT Limit Ilmit 23 Boron (as B) APHA 22nd Ed.2012,4500-B-B, 4mg/Lit 0.5 1.0 N.D. Iron (as Fe) 24 mg/Lit APHA 22nd Ed.2012,3111-B,3-18 No 0.3 Relaxation N.D. 25 Fluoride (as F) APHA 22nd Ed.2012,4500-F-B mg/Lit &D, 4-84 & 87 1 1.5 26 Manganese (as Mn) 0.12 APHA 22[™] Ed.2012,3111 B, 3-18 mg/Lit 0.1 03 27 N.D. Lead (as Pb) mg/Lit APHA 22nd Ed.2012,3111-B, 3-18 No 0.01 N.D. Relaxation 28 Nickel (as Ni) APHA 22nd Ed. 2012, 3500-Ni, 3mg/Lit No 0.02 29 Zinc (as Zn) N.D. Relaxation APHA 22nd Ed.2012,3111-B, 3-18 mg/Lit 5 30 15 Copper (as Cu) N.D. mg/Lit APHA 22" Ed.2012,3111-B, 3-18 0.05 1.5 31 N.D. Cadmium (as Cd) APHA 22" Ed. 2012, 3500-Cd, 3mg/Lit No 0.003 N.D. Relaxation 32 Mercury (as Hg) APHA 22nd Ed.2012,3112-B, 3-23 mg/Lit No 0.001 N.D. 33 Arsenic (as As) Relaxation mg/Lit APHA 22nd Ed.2012,3114-C, 3-38 0.01 0.05 N.D. 34 Selenium (as Se) APHA 22nd Ed.2012,3114-C. 3-38 mg/Lit No 0.01 N.D. Relaxation 35 Chromium (as Cr) APHA 22nd Ed.2012,3500-Cr-B, mg/Lit No 3-69 0.05 Anionic Detergent N.D. Relaxation 35 mg/Lit APHA 22nd Ed. 2012,5540-C, 5-53 (as MBAS) 0.2 1.0 N.D. Phenolic Compound APHA 220 Ed.2012,5540-B & C. 37 mg/Lit (as C₆H₅OH) 0.001 0.002 N.D. Poly-nuclear Aromatic 38 APHA 22nd Ed.2012,6440-6-93 µg/Lit Hydrocarbon (PAH) No 0.0001 Relaxation N.D. 39 IS 3025 (part-39): 1991, RA Mineral Oil mg/Lit No 2003 0.5 N.D. Relaxation IS 3025 (Part 39):1991, RA 40 Oil & Grease mg/Lit 2003 Microbiological Analysis N.D. MPN/ 7-1 Total Coliforms Shall not be detectable in 100 IS:1622:1981: RA:2019 ML Absent any 100 ml sample MPN/ 2 Faecal Coliform Shall not be detectable in IS:1622:1981: RA:2019 100ml any 100 ml sample Absent MPN/ 3 E. Coli Shall not be detectable in IS:1622:1981:RA:2019 100ml Pesticides any 100mi sample Absent P,P DDT µg/L US EPA 508-1995 1 2 o.p DDT N.D. µg/L US EPA 508-1995 1. 3 P, PDDE N.D. µg/L US EPA 508-1995 1 4 p,p DDD N.D. µg/L US EPA 508-1995 1 5 O,p DDD N.D. US EPA 508-1995 µg/L 1 Gamma-HCH (Lindane) 6 N.D. µg/L US EPA 508-1995 2 7 Alpha-HCH N.D. µg/L US EPA 508-1995 0.01 8 Beta-HCH N.D. US EPA 508-1395 µg/L 0.04 9 Delta HCH N.D. Hg/L US EPA 508-1995

0.04

N.D.



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Report No.03143

			TEST REPORT				
SR.	PARAMETER	UNIT	Merchan an annual	AS PER IS	AS PER IS 10500:2012		
NO.		Onn	METHOD OF TEST	Acceptable Permissible		RESULT	
10	Alpha-Endosulfan	µg/L	US EPA 508-1995		limit 4	AL D	
11	Beta-Endosulfan	µg/L	US EPA 508-1995		4	N.D.	
12	Endosulfansulphate	µg/L	US EPA 508-1995		4	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	-		N.D.	
16	Phorate	µg/L	US EPA 8141A-1994		0	N.D.	
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	- 8		N,D.	
18	Phoratesulphone	µg/L	US EPA 8141A-1994	1		N.D.	
19	2,4-D	µg/L	US EPA 515.1-1995	-		N.D.	
20	Alachlor	µg/L	US EPA 508- 1995	3		N.D.	
21	Atrazine	µg/L	US EPA 532-2000	21		N.D.	
22	Methyl parathion	µg/L	US EPA 8141A-1994	2		N.D.	
23	Methyl paraxone	µg/L	US EPA 8141A-1994	0.	3	N.D.	
24	Malathion	µg/L	US EPA 8141A-1994			N.D.	
25	Malaoxon	µg/L	US EPA 8141A-1994	19	0	N.D.	
26	Aldrin	µg/L	US EPA 508- 1995			N.D.	
27	Dieldrin	ug/L		0.0		N.D.	
	No. of the last	pg/c	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 responsibilities only.

PREPARED BY 3 12 2020

TANK TO STORY STOR

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY



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

Name & Address Of The Cu TO,	stomer	RE	PORT NO	UES	/TR/20-21/0	3144	
	STRIES LIMITED,	LA	B REF NO	-	/20-21/W/02		
GARE PALMA - I	V/4, COAL MINE,	DA	TE OF SAMPLING	24/	11/2020		
VILLAGE - BANK	HETA,	DA	TE OF RECEIPT	25/	25/11/2020		
POST -MILUPARA		DAS	DATE OF REPORT		03/12/2020		
DISTI RAIGAR	H (C.G.) 496107.	DAS	TE OF ANALYSIS	STAR	START: 26/11/2020 END: 03/12/2020		
化图图 机蒸烧物品		SAM	PLE DETAILS		```		
SAMPLE TYPE	GROUND WATER	GROUND WATER		E:	N/PO/SRV/20 DTD. 21-AUG		
CUSTMER SAMPLE ID	CUSTMER SAMPLE ID BANJIKHOL MINE (PIEZOMETER)			N AT			
ACKING OF SAMPLE 3 L X 1 NO. PVC CAN SE 1 L X 1 NO. GLASS BOTTLE		SEALED	RECEIPT SAMPLE COLLECTE	D BY	CHEMIST		
SAMPLING PROCEDURE IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B.1-39			QUANTITY RECEIVED		D 5 LTR		

Report No. 03144

SR.	PARAMETER	UNIT	flues .	AS PER IS		
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	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	- 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	
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	2.8
20	Phosphate (as P)	mg/Lit	APHA 22nd Ed.2012,4500-P-C, 4-153	-	Relaxation	
21	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na-B, 3-97		-	N.D.



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			TEST REPORT			
SR.	经验证证据的证据			AS PER IS	10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESU
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 [™] Ed.2012,4500-B-B, 4-25	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	A company of the contract of t	0.3	No	N.D.
25	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B &D, 4-84 & 87	1	Relaxation	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 rd Ed.2012,3111-B, 3-18	0.01	No	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 rd Ed.2012,3500-Ni, 3- 108	0.02	Relaxation No	N.D.
29	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5	Relaxation 15	
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 nd Ed.2012,3500-Cd, 3- 105	0.003	No	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-8, 3-23	0.001	Relaxation No	
33	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38		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.
25		-	APHA 22 nd Ed.2012,3500-Cr-B,	0.01	Relaxation	N.D.
35	Chromium (as Cr) Anionic Detergent	mg/Lit	3-69	0.05	No Relaxation	N.D.
36	(as MBAS)	mg/Lit	APHA 22 rd Ed.2012,5540-C, 5-53	0.2	1.0	N.D.
37	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 rd 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	
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA		Relaxation	N.D.
Microb	piological Analysis	-	2003,		-	N.D.
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be de 100 ml	tectable in any	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be de	tectable in any	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	tectable in any	Absent
estic	ides	200111		100ml	sample	Absent
1	p,p DDT	µg/L	US EPA 508-1995	-		-
2	o.p DDT	µg/L	US EPA 508-1995			N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	THE RESIDENCE OF THE PARTY OF T	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	NAME AND ADDRESS OF THE OWNER, WHEN PERSONS NAMED IN	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	CHARLES SALES SALE	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	1	-	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	2	-	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.0	THE RESIDENCE OF THE PARTY OF T	N.D.
			22 277 300 2333	0.0	4	N.D.



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Report No. 03144

			TEST REPORT			,
SR.	PARAMETER			AS PER IS	RESULT	
NO.		UNIT	METHOD OF TEST	Acceptable Permissible Limit limit		
9	Delta HCH	µg/L	US EPA 508-1995	The second section of the second section is a second section of the second section of the second section secti	04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	The second secon	.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	and the state of t	.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	tent of Paris 4 that drawn more many and an arrangement of the	.4	
13	Monocrotophos	µg/L	US EPA 8141A-1994	The second section of the section of the second section of the second section of the second section of the section of the second section of the secti	L	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	THE RESERVE OF THE PARTY OF THE	3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994		-	N.D.
16	Phorate	µg/L	US EPA 8141A-1994	The state of the s	30	
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		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.		N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	0.	3	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	19	00	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.

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 4Hdea (st(s) only.

PREPARED BY 03 12 202

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY



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TARRE & Address Of The Con TO, HINDALCO INDUSTR GARE PALMA – IV/5, U/G COAL MINE,VILL BLOCK-TAMNAR,	DATE DATE DATE	RT NO REF NO OF SAMPLING OF RECEIPT OF REPORT	UES/TR/20-21/03176 UES/20-21/W/02823 25/11/2020 26/11/2020 03/12/2020			
DISTT RAIGARH (C	.G.) 496107	-	OF ANALYSIS	START: 26/11/	2020	END: 03/12/2020
SAMPLE TYPE	GROUND WATER		ORDER /REFERE	INCE :		O/SRV/2021/0044, . 21-AUG-2020
CUSTMER SAMPLE ID	STAFF QUARTER-BANJIKHOL PIEZOMETER (AWLR)	CONTRACTOR OF METALON SCHOOL SCHOOL	SAMPLE CONDITION AT RECEIPT OK		part out the	, 81-A00-2020
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLEC	TED BY	сна	MIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2 APHA 22ND ED. 2012, 1060-		QUANTITY RECE	IVED	5 L	\mathbf{r}

REPORT NO. 03176

			TEST REPORT			
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE DRINKING WATER Acceptable Limit	RESULT	
1	Colour	Hazen	IS:3025:(Part-4)	5	limit 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	6.84
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	16.4
6	Electrical Conductivity	μS/cm	IS 3025(part-14):1984, RA 2013	-	•	188.0
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.
8 -	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	*	122.6
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	114.0
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540~ D, 2- 66	-	*	8.6
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	26.0
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	68.0
13	Calcium Hardness (as	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	-	-	28.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-		40.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	11.2
16	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30 ,	100	9.7
17	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-B, 4-72	250	1000	32.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 rd Ed.2012,4500-SO 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) =	mg/Lit	APHA 22ndEd.2012,3500-Na-B, 3-97		-	8.8



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			TEST REPORT			
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Annual Control of the	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 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 rd 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	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 rd Ed.2012,6440-6-93	0.0001	No Relaxation	N.D.
39	Hydrocarbon (PAH) Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.5	No Relaxation	N.D.
		mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	- 1	N.D.
40	Oil & Grease	mg/cit	10 0020 (1010 00)	and the second second second second	,	Language of Street Control of Street
		MPN/	IS:1622:1981: RA:2019	Shall not be d	CONTRACTOR	Absent
1	Total Coliforms	100 ML MPN/	IS:1622:1981: RA:2019	Shall not be d	etectable in	Absent
2	Faecal coliform	100ml MPN/	IS:1622:1981:RA:2019	Shall not be d		Absent
3	E. Coli	100ml	18.1022.1901.00.2019	any 100ml	sample	71000110
stici	des					
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.
5	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995 '	2	1	N.D.
7	Alpha-HCH	µg/Ł	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.
0	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.



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REPORT NO. 03176

200			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	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	The state of the s	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

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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 to be ave testis) only.

PREPARED BY 12 2020

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FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

End of the test report-



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Name & Address of the Cust TO, HINDALCO INDUSTRII GARE PALMA – IV/5, N U/G COAL MINE,VILLA BLOCK-TAMNAR, DISTT RAIGARH (C.0	ES LIMITED, IILUPARA IGE – MILUPARA,	REPORT NO UES/TR/20-21/03177 LAB REF NO UES/20-21/W/02824 DATE OF SAMPLING 25/11/2020 DATE OF RECEIPT 26/11/2020 DATE OF REPORT 03/12/2020 DATE OF ANALYSIS START: 26/11/2020 END: 03/1		/02824
	CARLO SECURIO DE CARLO SE CARL	MPLE DETAILS		
SAMPLE TYPE	TYPE GROUND WATER		ENCE:	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
CUSIMER SAMPLE ID NEAR MILUPARA MINES OFFICE PIEZOMETER -AWLR		SAMPLE CONDI	TION AT	OK

SAMPLE COLLECTED BY

QUANTITY RECEIVED

CHEMIST

5 LTR

SEALED

REPORT NO. -03177

PACKING OF SAMPLE

SAMPLING PROCEDURE

3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN

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

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

1 L X 1 NO. GLASS

BOTTLE

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	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 (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 rd 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

0.000	Towns are		TEST REPOR	T		
SR.	ED A VS A A COMMISSION			AS PER IS	10500:2012	
NO.		UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
20	Sodium (as Na)	mg/Lit	3-9/	The state of the s	The state of the s	6.0
21	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	and the second s		0.85
22	Boron (as B)	mg/Lit	ADMA DOM EL DOM	0.5	1.0	
23	Iron (as Fe)	mg/Lit	and the said of the said approximation of an event of the said of the said and the said of	0.3	No	N.D.
24	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012.4500-F-B	and the same distance of the same of the s	Relaxation	N.D.
25	Manganese (as		&D, 4-84 & 87	1	1.5	0.12
NAME AND POST OF	Mn)	mg/Lit	APHA 22 rd Ed.2012,3111-B, 3-18		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	N.D.
28	Zinc (as Zn)	mg/Lit	APHA 22 rd Ed.2012,3111-B, 3-18	5	Relaxation 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	THE WHILE SHIP IS NOT THE WORLD
32	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	Relaxation 0.05	N.D.
33	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01	No	N.D.
34	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B,	0.05	Relaxation No	N.D.
35	Anionic Detergent	mg/Lit	3-69 APHA 22 nd Ed.2012,5540-C, 5-53		Relaxation	N.D.
	(as MBAS) Phenolic	mg/ Lit		0.2	1.0	N.D.
36	Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 rd 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.
88	Mineral Oil	mg/Lit	IS 3025 (part-39): 1991, RA 2003	0.5	No	N.D.
19	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	Relaxation	The residence of the same
icrol	piological Analysis		and the same of th			N.D.
i	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be de 100 ml	sample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be de 100 ml	tectable in any	Absent
3	E. Coll	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be de	tectable in any	Absent
stici	des		***************************************	100ml s	sample	rieselle
	p,p DDT	µg/L	US EPA 508-1995	1		
animal an	o.p DDT	µg/L	US EPA 508-1995 '	1	A THE RESIDENCE AND THE PROPERTY OF THE PARTY OF THE PART	N.D.
1	p,pDDE 🔩	µg/L	US EPA 508-1995	1	the same of the sa	N.D.
F	p,p DDD	µg/L	US EPA 508-1995	1		N.D.
and said	O,p DDD	an equipposition in the	US EPA 508-1995	and the control of th		N.D.
-	Samma-HCH	MINISTER WITH SERVICE THE TA	US EPA 508-1995	1	Millerto com tras con que constituir en a la mentral esco.	N.D.



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REPORT MA -03177

			TEST REPOR	T		
SR.	PARAMETER	UNIT	METHOD AS THE	AS PER IS	AS PER IS 10500:2012	
NO.		OAIL	METHOD OF TEST	Acceptable Limit	Permissible	RESULT
Total Control	(Lindane)	and the second second second		Limit	limit	
7	Alpha-HCH	µg/L	US EPA 508-1995	-		
8	Beta-HCH	µg/L	US EPA 508-1995	And the state of t	.01	N.D.
9	Delta HCH	µg/L	US EPA 508-1995		.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995		.04	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995).4	N.D.
12	Endosulfansulphat e	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994			-
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	Alachior	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		.3	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	-		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	1	90	N.D.
26	Aldrin	µg/L	US EPA 508- 1995	-	03	N.D.
27	Dieldrin	na/r	US EPA 508-1995	+	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 15days after issue of test report unless otherwise agreed with customer.

> This is for information as the party has aspended YTAOR, ast(s) only

PREPARED BY 3 12 2020

TIMATI Second Se

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AUTHORIZED SIGNATORY

End of the test report-



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	SAMPLE DETAILS			
1 40 4		STWY 1 1 50 / TT / 50 50	END: 03/12/2020	
107	DATE OF ANALYSIS	START: 26/11/2020	mm. A2 (10 (10 10 10 10 10 10 10 10 10 10 10 10 10 1	
and thing	DATE OF REPORT	03/12/2020		
ILUPARA	DATE OF RECEIPT			
ea.	DATE OF SAMPLING			
TED	Programme and the second section of the section of	UES/20-21/W/02	825	
MP.	REPURT NO	UES/TR/20-21/0	3178	
	TED, RA ILUPARA,	TED, LAB REF NO DATE OF SAMPLING DATE OF RECEIPT	TED, LAB REF NO UES/20-21/W/02 RA DATE OF SAMPLING 25/11/2020 RA DATE OF RECEIPT 26/11/2020	

SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044,
CUSTMER SAMPLE ID	MILUPARA VILLAGE NEAR PHC-	A STATE OF THE PARTY OF THE PAR	DTD. 21-AUG-2020
Andrewson and the property of the second	HIL (DUGNELL)	SAMPLE CONDITION 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 SOTTLE SEALE	D SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCESURE	IS:3025 (FART I):1987 RA 2003:		
SAMPLING PROCESURE	IS:3025(FART I):1967 RA 2003; AFHA 22ND ED. 2012,1060-B,1-39	QUANTITY RECEIVED	5 LTR

REPORT NO. - 03178

SR.			TEST REPORT	AS PER IS	10500-2012	T
NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012 Acceptable Permissible		RESULT
1	Colour	Hazen	IS:3025:(Part-4)	Limit 5	limit 15	
2	Odour	-	IS 3025(part-5)	Agreeable		<1 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	Agreeable No Relaxation	6.89
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	
6	Electrical Conductivity	μS/cm	IS 3025(part-14):1984, RA 2013	_	-	64.0
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	~ ,	-	182
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	160
10	Total Suspended Solids Alkalinity Total	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	22.0
11	(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 rd Ed.2012,4500-CI-B, 4-72	250	1000	8.9
18	Sulphate (as SO ₄)	mg/Lit	APHA 22 ^{no} 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	W. C.	*	N.D.
21	Sodium (as Na)	mg/Llt	APHA 22nd Ed.2012,3500-Na- B, 3-97	*		4.8
22	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	*	The Print Control of the Parish Street Street	1.6



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			TEST REPORT	Γ		
SR.	200000000000000000000000000000000000000	The state of the s		AS PER IS 10500:2012		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
23	Boron (as B)	mg/Lit	4-23	0.5	1.0	N.D.
24	Iron (as Fe)	mg/Lit	18	0.3	No Relaxation	N.D.
25	Fluoride (as F)	mg/Lit	&D, 4-84 & 87	1	1.5	0.11
26	Manganese (as Mn)	mg/Lit	18	0.1	0.3	0.28
27	Lead (as Pb)	mg/Lit	118	0.01	No Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	100	0.02	No Relaxation	N.D.
29	Zinc (as Zn)	mg/Lit	1 10	5	15	N.D.
30	Copper (as Cu)	mg/Lit	118	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	; 105	0.003	No Relaxation	N.D.
32	Mercury (as Hg)	mg/Lit	1 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 [™] 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	N.D.
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	-	Relaxation	N.D.
icro	biological Analysis	A	, 2003			14.0.
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	tectable in any	Absent
3	E. Coli	MPN/ 100ml	IS:1622;1981:RA:2019	Shall not be de: 100ml	tectable in any	Absent
estic	ides			2001111	- L	
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.
meninge	p,pDDE	µg/L	US EPA 508-1995	1		
THE PERSON NAMED IN	p,p DDD	µg/L	US EPA 508-1995	1	William St. w. co. was a serious was a state of	N.D.
	O,p DDD	µ9/L	US EPA 508-1995	1	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE OW	N.D.
	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	- Piller - Ky	N.D.
1	Alpha-HCH	µg/L	US EPA 508-1995 '	0.0	-	N.D.
			CONTRACTOR OF THE PROPERTY OF	0.0	4	N.D.
-	Beta-HCH	µg/L	US EPA 508-1995	0.0	4	N.D.



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REPORT NO. - 03178

			TEST REPOR	Γ		
SR.	The road by the state of			AS PER IS	10500:2012	l
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.	and the second section of the section of the second section of the section of the second section of the	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	***************************************	karani mirro in prii roma in mona piira maani maani maani	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3	man to co — in depress, or a more literature and constituting	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	µg/L	US EPA 8141A-1994	7		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	-	1	
24	Malathion	µg/L	US EPA 8141A-1994	19	0	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994		V	
26	Aldrin	µg/L	US EPA 508- 1995	0.0	3	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.0	water was a second a second as	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 (Sept Office) report unless otherwise agreed with customer.
> This is for information as the party has a further party of the control only.

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY



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Name & 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	UES/TR/20-21/03145			
LAB REF NO	UES/20-21/W/02	2792		
DATE OF SAMPLING	24/11/2020	and the second s		
DATE OF RECEIPT	25/11/2020			
DATE OF REPORT	03/12/2020			
DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020		

SAMPLE DETAILS

SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	N/PO/SRV/2021/0035,	
CUSTMER SAMPLE ID	SAKTA VILLAGE, (DUGWELL)	SAMPLE CONDITION	DTD. 21-AUG-2020	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN	AT RECEIPT	OK CHEMIST 5 LTR	
	1 L X 1 NO. FVC CAN 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY		
SAMPLING PROCEDURE	TG: 3025 /Danm Th. 1007	QUANTITY RECEIVED		

Report No.03145

)	CONTROL WAS SHOWN TO THE	57 578 7 202	TEST REPORT			
SR.	DADAMETER	UNIT		AS PER IS	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
1	Colour	8 E-107 (2000 PM)	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
2	Odour	Hazen	13.3023.(FBIL-4)	5	15	2.5
3	Taste		IS 3025(part-5)	Agreeable	Agreeable	Agreeable
			IS 3025(part-8)	Agreeable	Agreeable	Agreeable
4	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5-8.5	No Relaxation	7.24
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	3.8
6	Electrical Conductivity	μS/cm	14).1304, RA 2013	-		and the second second second
7	Residual Chlorine	mg/Lit	ADUA 2200 EL 2010 LES	0.2	1	236.0
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-			N.D.
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500		147.8
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-	300	2000	143.0 -
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	4.8
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-	200	600	68.0
13	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	•		96.0
14	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	-	-	44.0
15	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75	200	52.0 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	-		
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

	The second water and the	82 Janes 1	TEST REPORT			
SR.	DADALL	UNIT		AS PER IS	10500:2012	1
23			METHOD OF TEST	Acceptable Limit	Permissible limit	RESU
-	Boron (as B)	mg/Lil	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5	1.0	
24	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3	No	N.D
25	Fluoride (as F)	mg/Lit	A DULA 12 2004	1	Relaxation	N.D
26	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B. 3-		1.5	0.18
27	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-	0.1	0.3	0.10
28	Nickel (as Ni)	mg/Lit	18	0.01	Relaxation	N.D.
29	Zinc (as Zn)		108	0.02	No Relaxation	N.D.
- 30		mg/Lit	APHA 220d e	5	15	N.D.
	Copper (as Cu)	mg/Lit	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	N.D.
32	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3- 23	0.001	Relaxation No	
33	Arsenic (as As)	mg/Lit	ADLIA DOM EL COL	0.01	Relaxation	N.D.
34	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-		0.05 No	N.D,
35	Chromium (as Cr)	mg/Lit	38 APHA 22 nd Ed.2012,3500-Cr-B,	0.01	Relaxation	N.D.
36	Anionic Detergent		3-69 APHA 22 nd Ed.2012,5540-C, 5-	0.05	No Relaxation	N.D.
	(as MBAS) Phenolic Compound	mg/Lit	53	0.2	1.0	N.D.
37	(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	N.D.
39	Mineral Oil	mg/Lit	IS 3025 (part-39): 1991, RA 2003	0.5	Relaxation No	
40	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA		Relaxation	N.D.
Micro	biological Analysis	13/ 2	2003	•	- 1	N.D.
1	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be dete	ectable in any ample	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be dete	ectable in any	Absent
3	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be dete	ectable in any	Absent
esti	cides	1 1001111		100ml sa	imple	AUSCIL
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	1		N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	1	-	N.D.
7	Alpha-HCH	and the same of the same of the same of	US EPA 508-1995	2		N.D.
		µg/L	THE PARTY OF THE P	0.01	more recording to the second second second second	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.03145

			TEST REPORT			
SR.	PARAMETER	UNIT		AS PER IS	10500:2012	9 10 P 10 S
NO.		ONIT	METHOD OF TEST	Acceptable	Permissible limit	RESULT
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.	and the complete of the property of the proper	N. C.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	and the second s	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	Mary Control of the C	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	transfer and the second of the	Compression of experimental production of the conference of the co	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	1		N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	3	ti denne di terre di la constitución de la constitu	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		and the state of t	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995			N.D.
20	Alachlor	µg/L	US EPA 508- 1995	30		N.D.
21	Atrazine	µg/L	US EPA 532-2000	20		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	2	-	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	0.3		N.D.
24	Malathion	µg/L	US EPA 8141A-1994	The state of the s	The state of the s	N.D.
25	Malaoxon	µg/L	The state of the s	190		N.D.
26	Aldrin	and the first of the second se	US EPA 8141A-1994	-		N.D.
27	Dieldrin	µg/L	US EPA 508- 1995	0.03		N.D.
	Note: mg/lit.: milligram p	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 above

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS



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Name & Address Of The Customer TO.	REPORT NO	UES/TR/20-21/0	3179
HINDALCO INDUSTRIES LIMITED.	LAB REF NO	UES/20-21/W/02	
GARE PALMA - IV/5, MILUPARA	DATE OF SAMPLING	25/11/2020	
U/G COAL MINE, VILLAGE - MILUPARA,	DATE OF RECEIPT	26/11/2020	
BLOCK-TAMNAR,	DATE OF REPORT	03/12/2020	The state of the s
DISTT RAIGARH (C.G.) 496107	DATE OF ANALYSIS	START: 26/11/2020	END: 03/12/2020

CAMPIE -		MPLE DETAILS	
SAMPLE TYPE	GROUND WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044,
CUSTMER SAMPLE ID	SIDARPARA VILLAGE (DUGWELL)	SAMPLE CONDITION AT RECEIPT	DTD. 21-AUG-2020 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		CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012,1060-B,1-33	QUANTITY RECEIVED	5 LTR

REPORT NO. - 03179

SR.			TEST REPORT	AS PER IS	10500:2012	1
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible	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 [™] 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		3	38.0
15	Calcium (as Ca)	mg/Lit	APHA 22nd 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 3	100	9.2
17	Chloride (as CI)	mg/Lit	APHA 22 [™] 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 22nd Ed.2012,3500-K-B, 3-	*	-	0.9



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			TEST REPORT			
		1		AS PER IS	10500:2012	
5R. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
visariles.	and the second s		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	1	1.5	0.14
26	Manganese (as Mn)	mg/Lit	&D, 4-84 & 87 APHA 22 rd 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	N.D.
	-	-	APHA 22 nd Ed.2012,3500-NI, 3-	webs.	Relaxation	N.D.
28	Nickel (as Ni)	mg/Lit	108	0.02	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 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	N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 rd Ed.2012,3500-Cr-B, 3-69	0.05	Relaxation	N.D.
36	Anionic Detergent	mg/Lit	APHA 22 rd Ed.2012,5540-C, 5-53	0.2	Relaxation	-
	(as MBAS) Phenolic Compound		APHA 22 rd Ed.2012,5540-B & C,	0.2	1.0	N.D.
37	(as C ₆ H ₅ OH)	mg/Lit	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		Relaxacion	N.D.
1icro	biological Analysis		2003			14.0.
1	Total Coliforms	MPN/ 100 ML	I5:1622:1981: RA:2019	Shall not be d any 100 m	letectable in	Absent
2	Faecal coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be d any 100 m	letectable in	Absent
3	E. Coll	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be d	etectable in	Absent
esti	cides	-		any 100m	sample	rosene
1	p,p DDT	µg/L	US EPA 508-1995	1	т-	
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_(Undane)	µg/L	US EPA 508-1995	1		N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995 1	2		N.D.
8	Beta-HCH	'µg/L	US EPA 508-1995	0.0	and the last of th	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	4	N.D.



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REPORT NO. - 03179

-			TEST REPORT			
SR.	PARAMETER	UNIT		AS PER IS 1		
NO.	10000000000000000000000000000000000000	UNII	METHOD OF TEST	Acceptable Limit	Permissible limit	RESUL
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER.	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	and the same of th	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	1		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.

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 Gelegal est report unless otherwise agreed with customer.

This is for information as the party has a

For ULTIMATE ENVIROLY

AUTHORIZED SIGNATORY



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Name & Address Of The Cu.	stomer		REPORT NO	UES/TR/20-21/0	3146	
то,			LAB REF NO	UES/20-21/W/02793		
HINDALCO INDUST			DATE OF SAMPLING	24/11/2020		
GARE PALMA - IV	4, COAL MINE, VILLA	GE -	DATE OF RECEIPT	25/11/2020		
BANKHETA, POST			DATE OF REPORT	03/12/2020	Market Control of the	
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: DTD. 21-AUG-2020	5,	
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:		5,	
CUSTMER SAMPLE ID	BELJOR VILLAGE (DUGWE	ELL)	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.03146

	Association 2017	1 - 1 - 1 - 1 - 1 - 1	TEST REPORT	46 858 10	100000000	
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	10500:2012 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	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-CI-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
9	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45	No Relaxation	0.64
0.0	Phosphate (as P)	mg/Lit	APHA 22nd Ed.2012,4500-P- C,4-153	-	-	N.D.
1	Sodium (as Na)	mg/Lit	APHA 22nd Ed.2012,3500-Na- B,3-97	-	-	4.2
2	Potassium (as K)	mg/Lit	APHA 22nd Ed.2012,3500-K-B,		An and the second second	1.6



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Report No.03146

			TEST REPORT			
SR.				AS PER IS	10500:2012	79.79
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
	-		3-87		1	100000
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	ADHA 2200 Ed 2012 2111 0 2	0.1	0.3	0.24
27	Lead (as Pb)	mg/Lit	ADUA 3300 E4 3043 3444 5 6	0.01	No	N.D.
28	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3- 108	0.02	Relaxation No	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-	0.05	1.5	N.D.
31	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-	0.003	No	-
32	Mercury (as Hg)	mg/Lit	105 APHA 22 nd Ed.2012,3112-B, 3-		Relaxation	N.D.
33	Arsenic (as As)	+	23 APHA 22 nd Ed.2012,3114-C, 3-	0.001	Relaxation	N.D.
34		mg/Lit	38 APHA 22 nd Ed.2012,3114-C, 3-	0.01	0.05	N.D.
	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.
88	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	N.D.
0	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	- 1	Relaxation	77.7
crob	piological Analysis	manage accompanies and the second	2003			N.D.
	Total Coliforms	MPN/ 100 ML	IS:1622:1981: RA:2019	Shall not be d	letectable in	Absent
2	Faecal Coliform	MPN/ 100ml	IS:1622:1981: RA:2019	Shall not be d	etectable in	Absent
	E. Coli	MPN/ 100ml	IS:1622:1981:RA:2019	Shall not be d	etectable in	Absent
stici	des	1001111	and the state of t	any 100 m	sample	Ausent
1	p DDT	µg/L	US EPA 508-1995	1		
STATE OF THE PARTY	o.p DDT	µg/L	US EPA 508-1995	1		N.D.
-	,pDDE	µg/L	US EPA 508-1995	1		N.D.
	,p DDD	µg/L	US EPA 508-1995	1		N.D.
-),p DDD	AND DESCRIPTION OF THE PERSON NAMED IN	US EPA 508-1995	1		• N.D.
G	Jamma-HCH Lindane)		US EPA 508-1995	2		N.D.
1000	lpha-HCH	µg/L	US EPA 508-1995			-
THE PERSON	eta-HCH	manufacture in the second second second	US EPA 508-1995	0.0	Particular residence and included in the last of the l	N.D.



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Report No.03146

Me			TEST REPORT				
SR.		10500:2012					
NO.	DADAMETED	DADAMETED	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	kitan eta esti ar eta	N.D.	
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30	30		
16	Phorate	µg/L	US EPA 8141A-1994	2		N.D.	
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994		and the second section of the second distance of the second second section of the second section of the second	N.D.	
18	Phoratesulphone	µg/L	US EPA 8141A-1994		mo renerano princed sen incumunicaristica esti entigram à	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	The same support of the same to a considerable same year a same support	N.D.	
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3	· · · · · · · · · · · · · · · · · · ·	N.D.	
23	Methyl paraxone	µg/L	US EPA 8141A-1994		mili papan nga papanami isi di sendenia and masai inga papani isi ing di senama	N.D.	
24	Malathion	µg/L	US EPA 8141A-1994	190)	N.D.	
25	Malaoxon	µg/L	US EPA 8141A-1994	and the second discount of the second of the		N.D.	
26	Aldrin	µg/L	US EPA 508- 1995	0.03	8	N.D.	
27	Dieldrin	µg/L	US EPA 508-1995	0.03	and the same of th	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 asky (190) The post(s) only.

Thur 12 2020

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FOR ULTIMATE ENVIROLATICAL SOLUTIONS

AUTHORIZED SIGNATORY

2020

-End of the test report----



Letter No. : HIL/EC/GP-IV/5 -Q4/2020-21/26

8 April, 2021

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

Sub.: Compliance of condition no. viii of Environment Clearance Letter no. – J-11015/8/1998-IA. II (M)
Dated: - 31st August 2000 for Under Ground Mining 1.0 Million Ton/Annum Production Capacity.

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

Dear Sir,

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

Thanking you,

Yours faithfully,

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).

- 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
- 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 UES/20-21/W/03660			
то,		LAB REF NO				
HINDALCO INDUSTRI	,	DATE OF SAMPLING	22/01/2021			
GARE PALMA – IV/4, (VILLAGE – BANKHET		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			
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.				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	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	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		-		
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 UES/20-21/W/03661		
TO,	STRIES LIMITED,	LAB	REF NO	UES			
GARE PALMA - I	,	DAT	E OF SAMPLING	22/0	01/2021		
VILLAGE - BANK	,	DAT	E OF RECEIPT	23/0	23/01/2021		
POST -MILUPARA	۸,	DAT			02/02/2021 START: 23/01/2021 END: 02/02/202		
DISTT RAIGAR	H (C.G.) 496107.	DAT					
		SAME	LE DETAILS	-			
SAMPLE TYPE	GROUND WATER		ORDER /REFERENC	E:	N/PO/SRV/20 DTD. 21-AUG	,	
CUSTMER SAMPLE ID	BANJIKHOL MINE (PIEZOMET	ER) AWLR	SAMPLE CONDITION RECEIPT	N AT	OK		
PACKING OF SAMPLE 3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 5 L X 1 NO. GLASS BOTTLE 1 L X 1 NO. GLASS BOTTLE		SEALED	SAMPLE COLLECTE	D BY	BY CHEMIST		
SAMPLING PROCEDURE IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B,1-39			QUANTITY RECEIV	ŒD	5 LTR		

Report No. 03976

	1		TEST REPORT	AS PER IS	10500:2012	1
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

			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	22 nd Ed.2012,3114-C, 3-38 0.01		N.D.
35	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	Ed.2012,3500-Cr-B, 0.05 Relaxation 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	_	- Relaxation	N.D.
Micro	biological Analysis	111297	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
Pestic	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		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.

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.				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	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

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 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	21/04012	
TO,		LAB I	REF NO	UES/20-21/W/03697		
HINDALCO INDUSTR		DATE	OF SAMPLING	22/01/2021	22/01/2021	
GARE PALMA - IV/5,		DATE	OF RECEIPT	23/01/2021		<u> </u>
U/G COAL MINE, VILL BLOCK-TAMNAR,	AGE - MILUPARA,	DATE	OF REPORT	02/02/2021		
DISTT RAIGARH (C	.G.) 496107	DATE	OF ANALYSIS	START: 23/01/2021 END: 02/02/2021		END: 02/02/2021
		SAMPLE	DETAILS			
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:		M/PO/SRV/2021/0044, DTD. 21-AUG-2020	
CUSTMER SAMPLE ID	NEAR MILUPARA MINES OFF PIEZOMETER -AWLR	FICE	SAMPLE CONDITION 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	SEALED	SAMPLE COLLE	CCTED BY	CHE	MIST
SAMPLING PROCEDURE IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1			39 QUANTITY RECEIVED 5 LTR		TR	

REPORT NO. -04012

			TEST REPORT	<u> </u>		
		:		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

				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			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		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	Absent
Pesti	cides			200111		
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	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		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		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	μġ/L	US EPA 508- 1995	0	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 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 OF SAMPLING		UES/TR/20-21/04011 UES/20-21/W/03696 22/01/2021	
GARE PALMA - IV/5, U/G COAL MINE,VILL		DATE	OF RECEIPT OF REPORT	F RECEIPT 23/01/2021		
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:		0/SRV/2021/0044, . 21-AUG-2020
CUSTMER SAMPLE ID	STAFF QUARTER-BANJIKHOL PIEZOMETER (AWLR)		SAMPLE CONDITION AT RECEIPT		OK	
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE 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	limit	
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<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	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.				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		ı	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-IICII (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	Delta HCH	μg/L	US EPA 508-1995	0.	04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0	.4	N.D.



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REPORT NO. 04011

			TEST REPORT				
SR.	PARAMETER				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	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	0	N.D.	
16	Phorate	μg/L	US EPA 8141A-1994	2	2		
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	D	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	190		N.D.	
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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AUTHORIZED SIGNATORY

-End of the test report-



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

Name & Address Of The	Customer	REPO	RT NO	UES/TR/20-21/04013 UES/20-21/W/03698		
TO,		LAB I	REF NO			
HINDALCO INDUSTR	ES LIMITED,	DATE	OF SAMPLING	22/01/202	21	
GARE PALMA - IV/5,	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 2 APHA 22ND ED. 2012,1060-B		QUANTITY RECEIVED		5 LTR	

PEPORT NO. - 04013

			TEST REPORT		2427727	
SR.		Alabam A		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	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 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	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 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		2005			
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		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	0	.04	N.D.
9	Delta HCH	μg/L	US EPA 508-1995	0	.04	N.D.



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REPORT NO. - 04013

			TEST REPORT			
SR.				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	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	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

Terms & conditions

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

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

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

PREPARED BY 02 2021

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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	, COAL MINE,VILLAGE ~	DATE OF RECEIPT	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		ORDER /REFERENCE: SAMPLE CONDITION			
CUSTMER SAMPLE ID	SAKTA VILLAGE, (DUGWELL)	AT RECEIPT	OK		
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN SEALED 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST		
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR		

Report No.03977

		-	TEST REPORT	Valence and the second		
SR.					AS PER IS 10500:2012	
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
1	Colour	Hazen	I5:3025:(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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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			
SR.		1	7	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	-	- Relaxation	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. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		
				Acceptable Limit	Permissible limit	RESUL
10	Alpha-Endosulfan	μg/L	US EPA 508-1995	0.4		N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4		N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4		N.D.
13	Monocrotophos	μg/L	US EPA 8141A-1994	1		N.D.
14	Ethion	μg/L	US EPA 8141A-1994	3		N.D.
15	Chloropyrifos	μg/L	US EPA 8141A-1994	30		N.D.
16	Phorate	μg/L	US EPA 8141A-1994	2		N.D.
17	Phoratesulphoxide	μg/L	US EPA 8141A-1994	-		N.D.
18	Phoratesulphone	μg/L	US EPA 8141A-1994	-		N.D.
19	2,4-D	μg/L	US EPA 515.1-1995	30		N.D.
20	Alachlor	μg/L	US EPA 508- 1995	20		N.D.
21	Atrazine	μg/L	US EPA 532-2000	2		N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3		N.D.
23	Methyl paraxone	μg/L	US EPA 8141A-1994	-		N.D.
24	Malathion	μg/L	US EPA 8141A-1994	190		N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-		N.D.
26	Aldrin	μġ/L	US EPA 508- 1995	0.03		N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03		N.D.

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

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

The report for publication, arbitration or as legal dispute is forbidden.
 Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
 This is for information as the party has asked for the 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	UES/20-21/W/03699		
HINDALCO INDUSTR	IES LIMITED,	DATE	DATE OF SAMPLING 22/01/		2/01/2021		
GARE PALMA - IV/5,	ALMA – IV/5, MILUPARA DAT			23/01/202	21		
U/G COAL MINE, VILL	AGE – MILUPARA,	DATE	OF REPORT	02/02/202	1		
BLOCK-TAMNAR, DISTT RAIGARH (C.	.G.) 496107	DATE	OF ANALYSIS	START: 23/01	/2021	END: 02/02/2021	
		SAMPLE	EDETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:			SRV/2021/0044, 21-AUG-2020	
CUSTMER SAMPLE ID	SIDARPARA VILLAGE (DUGWE	LL)	SAMPLE CONDITION 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	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.				AS PER IS 1	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	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 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 ^{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.				AS PER IS	10500:2012	
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 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 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	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	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. - 04014

	TEST REPORT							
SR.				AS PER IS 1	0500:2012	RESULT		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit			
10	Alpha-Endosulfan	μg/L	US EPA 508-1995	0.	4	N.D.		
11	Beta-Endosulfan	μg/L	US EPA 508-1995	0.	4	N.D.		
12	Endosulfansulphate	μg/L	US EPA 508-1995	0.	4.	N.D.		
13	Monocrotophos	μg/L	US EPA 8141A-1994	1		N.D.		
14	Ethion	μg/L	US EPA 8141A-1994	3	3	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			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	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 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	stomer	REPORT NO	UES/TR/20-21/0	3978
TO,		LAB REF NO	UES/20-21/W/03	663
HINDALCO INDUST	RIES LIMITED,	DATE OF SAMPLING	22/01/2021	
GARE PALMA - IV/4	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 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	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	pН	-	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	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	-	-	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 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	-	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	2001111		u, 100		
1	p,p DDT	µg/L	US EPA 508-1995		1	N.D.
2	o.p DDT	μg/L	US EPA 508-1995		1	N.D.
3	p,pDDE	μg/L	US EPA 508-1995		1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995		1	• N.D.
5	O,p DDD	µg/L	US EPA 508-1995		1	N.D.
6	Gamma-HCH (Lindane)	μg/L	US EPA 508-1995		2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0	.01	N.D.



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Report No.03978

TEST REPORT								
SR.		1		AS PER IS	10500:2012			
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	N.D.		
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

PREPARED BY

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 Obygo test(s) only.

End of the test report-

AUTHORIZED SIGNATORY

For ULTIMATE ENVIROLYTICAL SOLUTIONS

202/



Letter No.: HIL/EC/GP-IV/5 -Q4/2020-21/26

8 April, 2021

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

Sub.: Compliance of condition no. viii of Environment Clearance Letter no. – J-11015/8/1998-IA. II (M)
Dated: - 31st August 2000 for Under Ground Mining 1.0 Million Ton/Annum Production Capacity.

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

Dear Sir,

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

Thanking you,

Yours faithfully,

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), Bhopa! Central Pollution Control Board (MoEF & CC, GOI), "Parivesh Bhawan" Paryavaran Parishar, E – 5, Arera Colony Bhopal (MP), 462016
- 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			
HINDALCO INDUSTRI	,	DATE OF SAMPLING	22/01/2021			
GARE PALMA – IV/4, (VILLAGE – BANKHET		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	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.				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	
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	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

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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	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	۸,	DAT			02/02/2021			
DISTT RAIGAR	H (C.G.) 496107.	DAT			START: 23/01/2021 END: 02/02/2			
		SAME	LE DETAILS	-				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE	E:	N/PO/SRV/20 DTD. 21-AUG	,		
CUSTMER SAMPLE ID	BANJIKHOL MINE (PIEZOMET	ER) AWLR	SAMPLE CONDITION RECEIPT	N AT	OK			
PACKING OF SAMPLE 3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN SI 1 L X 1 NO. GLASS BOTTLE		SEALED	SAMPLE COLLECTE	ED BY CHEMIST				
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA APHA 22ND ED. 2012, 106		QUANTITY RECEIV	ŒD	5 LTR			

Report No. 03976

	1		TEST REPORT	AS PER IS	10500:2012	1
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	_	- Relaxation	N.D.
Micro	biological Analysis	111297	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
Pestic	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		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.

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	
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	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 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	21/04012	
TO,		LAD I	REF NO	UES/20-21/W/03697		697
HINDALCO INDUSTR		DATE	OF SAMPLING	22/01/2021		
GARE PALMA - IV/5,		DATE	OF RECEIPT	23/01/2021		<u> </u>
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 /REFERENCE:		M/PO/SRV/2021/0044, DTD. 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	CHE	MIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA APHA 22ND ED. 2012, 106		QUANTITY REC	CEIVED	5 I	TR

REPORT NO. -04012

			TEST REPORT	<u> </u>		
		:		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

				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, 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		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	Absent
Pesti	cides			200111		
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	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	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	1	190	N.D.
25	Malaoxon	μg/L	US EPA 8141A-1994		-	N.D.
26	Aldrin	μġ/L	US EPA 508- 1995	0	0.03	N.D.
27	Dieldrin	μg/L	US EPA 508-1995	0	.03	N.D.

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

Terms & conditions

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

For ULTIMATE ENVIROLYTICAL SQLUTIONS

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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 OF SAMPLING		UES/TR/20-21/04011 UES/20-21/W/03696		
GARE PALMA - IV/5, U/G COAL MINE,VILL		DATE	OF RECEIPT OF REPORT	23/01/2021 02/02/2021			
BLOCK-TAMNAR, DISTT RAIGARH (C	.G.) 496107	DATE	OF ANALYSIS	OF ANALYSIS START: 23/01/2021 END: 02/		END: 02/02/2021	
		SAMP	LE DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:		M/PO/SRV/2021/0044, DTD. 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 2 APHA 22ND ED. 2012, 1060-		QUANTITY RECE	IVED	5 L	TR	

REPORT NO. 04011

	TEST REPORT									
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABL DRINKING WATER Acceptable	Permissible	RESULT				
				Limit	limit					
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<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	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.				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		ı	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-IICII (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	Delta HCH	μg/L	US EPA 508-1995	0.	04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0	.4	N.D.



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REPORT NO. 04011

TEST REPORT								
SR.	PARAMETER		METHOD OF TEST		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	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	D	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	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 horas est(s) only.

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PREPARED BY

For ULTIMATE ENVIRORYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-End of the test report-



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Name & Address Of The	Address Of The Customer REPORT NO LAB REF NO LCO INDUSTRIES LIMITED, DATE OF SAMPLING			UES/TR/20-21/04013			
TO,				UES/20-21/W/03698			
HINDALCO INDUSTR				22/01/202	21		
GARE PALMA - IV/5,	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-			QUANTITY RECEIVED 5 LT				

PEPORT NO. - 04013

TEST REPORT								
SR.		Alabam A		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	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 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	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 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		2005			
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		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	0.04		N.D.
9	Delta HCH	μg/L	US EPA 508-1995	0	.04	N.D.



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REPORT NO. - 04013

			TEST REPORT			
SR.	PARAMETER			AS PER IS		
NO.		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

Terms & conditions

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

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

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

PREPARED BY 02 2021

For ULTIMATE ENVIROLYFICAL SOLUTIONS

AUTHORIZED SIGNATORY



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

Report No.03977

		-	TEST REPORT	Valence and the second		
SR.				AS PER IS		
NO.	PARAMETER	UNIT	METHOD OF TEST	Acceptable Limit	Permissible limit	RESULT
1	Colour	Hazen	I5:3025:(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 CI)	mg/Lit	APHA 22 nd Ed.2012,4500-CI-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			
SR.		1	7	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	-	- Relaxation	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.	0.01	
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	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	3	30		
16	Phorate	μg/L	US EPA 8141A-1994		2		
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	μġ/L	US EPA 508- 1995	0.	03	N.D.	
27	Dieldrin	µg/L	US EPA 508-1995	0.	0.03		

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 legal 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	REPOR	RT NO	UES/TR/20	-21/0	4014	
TO,	DALCO INDUSTRIES LIMITED, DATE			UES/20-21	UES/20-21/W/03699 22/01/2021		
HINDALCO INDUSTR				22/01/202			
GARE PALMA - IV/5,	MILUPARA	DATE	OF RECEIPT	23/01/202	1		
U/G COAL MINE, VILL BLOCK-TAMNAR.	AGE - MILUPARA,	DATE	DATE OF REPORT 02/02/2021		1		
DISTT RAIGARH (C	.G.) 496107	DATE	OF ANALYSIS	START: 23/01	/2021	END: 02/02/2021	
		SAMPLE	DETAILS				
SAMPLE TYPE	GROUND WATER		ORDER /REFERENCE:		M/PO/SRV/2021/0044, DTD. 21-AUG-2020		
CUSTMER SAMPLE ID	SIDARPARA VILLAGE (DUGWE	LL)	SAMPLE CONDITION 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	SEALED	SAMPLE COLLEC	TED BY	СНЕМІ	ST	
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2 APHA 22ND ED. 2012,1060-1		QUANTITY RECE	IVED	5 LTR		

REPORT NO. - 04014

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	pH	-	APHA 22 nd Ed.2012,4500-H*-B, 4-92	6.5-8.5	No Relaxation	7.41		
5	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1	5	0.32		
6	Electrical Conductivity	μS/cm	IS 3025(part-14):1984, RA 2013	-	-	298		
7	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2	1	N.D.		
8	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2- 64	-	-	184.0		
9	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500	2000	182.0		
10	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2- 66	-	-	2.0		
11	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200	600	50.0		
12	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2- 44,45	200	600	78.0		
13	Calcium Hardness (as 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 ^{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.				AS PER IS	10500:2012	
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 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 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	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	
7	Alpha-HCH	μg/L	US EPA 508-1995	0.	0.01	
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.	PARAMETER			AS PER IS 1				
NO.		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	1			
14	Ethion	μg/L	US EPA 8141A-1994	3		N.D.		
15	Chloropyrifos	μg/L	US EPA 8141A-1994	30		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		30		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		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	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 issue of test report unless otherwise agreed with customer.

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

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

02/02/2021 AUTHORIZED SIGNATORY

End of the test report-



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Name & Address Of The Cus	stomer	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	4, COAL MINE,VILLAGE –	DATE OF RECEIPT	23/01/2021		
BANKHETA, POST	-MILUPARA,	DATE OF REPORT	02/02/2021 START:23/01/2021 END:02/02/2021		
DISTT RAIGARH	(C.G.) 496107.	DATE OF ANALYSIS			
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.	PARAMETER	y		AS PER IS			
NO.		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	pН	-	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 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	-	Relaxation	N.D.
Micro	biological Analysis		2003			
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 ml sample	Absent
Pesti	cides	2001111		u, 100		
1	p,p DDT	µg/L	US EPA 508-1995		1	N.D.
2	o.p DDT	μg/L	US EPA 508-1995		1	N.D.
3	p,pDDE	μg/L	US EPA 508-1995		1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995		1	• N.D.
5	O,p DDD	µg/L	US EPA 508-1995		1	N.D.
6	Gamma-HCH (Lindane)	μg/L	US EPA 508-1995		2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0	.01	N.D.



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Report No.03978

TEST REPORT							
SR.				AS PER IS	AS PER IS 10500:2012		
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		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	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.

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End of the test report-

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

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Annexure - 4



HOD-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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HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107

REPORT NO	UES/TR/20-21/01808			
LAB REF NO	UES/20-21/AAQM/02288			
DATE OF SAMPLING	05/10/2020 to 30/10/2020			
DATE OF RECEIPT	06/10/2020 to 31/10/2020			
DATE OF REPORT	02/11/2020			
DATE OF ANALYSIS	START: 06/10/2020	END: 02/11/2020		

		SAMPLE DETAILS	
MUNITURING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. &	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
SAMPLING LOCATION	MAIN OFFICE AREA, MILLUPA	RA	
DUPATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		300000000000000000000000000000000000000
SAMPLE QUANTITY/PACKING	FILTER PAPER (PMIO): 1X1 SOZ: 30MLX1 NO. PVC BOTT RUBBER BLADDER: 1X1 NO.		

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 (PM:s)	CPCB Guidelines Vol.=I	60	
Sulphur Dioxide (50.)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	80	
Mitrogen 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		

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	
05.10.2020	4.4	20	16	22	1.0	N.D.	
09.10.2020	48	2.6	10	18	1.6	N.D.	
12,10,2020	46	20	18	26	1.0	N.D.	
16.10.2020	44	28	12	20	1.2	N.D.	
19.10.2020	42	24	1.6	18	1.8	N.D.	
24.10.2020	40	20	12	26	1.0	N.D.	
26.10.2020	36	28	1.0	20	1.6	N.D.	
30.10.2020	48	26	18	26	1.0	N.D.	

Terms & conditions

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- Test sample will be retained for 15 days after issue of test separation for this is for information as the party has asked to apply 11 this eport unless otherwise agreed with customer.

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End of the test report-

For ULTIMATE ENVIROLYTICAL SOLUTIONS January AUTHORIZED SIGNATORY



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Name & Address Or The Guidentee		REPORT NO	UES/TR/20-21/031	54	
то,		DAB REF NO	UES/20-21/AAQM/02801		
	TRIES LIMITED, GARE	DATE OF SAMPLING	02/11/2020 to 29	/11/2020	
PALMA - IV/5, MIL		DATE OF RECEIPT	03/11/2020 to 30	/11/2020	
MINE, VILLAGE - M	IILUPAKA,	DATE OF REPORT	03/12/2020		
BLOCK-TAMNAR, DISTT RAIGARH	(C.G.) 496107	DATE OF ANALYSIS	START: 03/11/2020	END:03/12/2020	
		SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. E	M/FO/SRV/2021/0044; DED. 21-AUG-2020		
SAMPLING LOCATION	MAIN OFFICE AREA, MILUPAL	RA.			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	AS PER METHOD REFERENCE				
SAMPLE QUANTITY/PACKING	PILTER PAPER (PM10): 1X1 SO2: 30MLX1 NO. PVC BOTT RUBBER BLADDER: 1X1 NO.				

Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 18 macrons (PM ₁₀)	IS SIBY (Part 23): 2006 & CPCP Guidelines VolI	100	
Particulate Matter size less than 2.5 microns (PM2.5)	CPCB Guidelines Vol1	8.0	
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 # CFCB Guidelines Vol1	RO	
Nitrogen Dioxide (NO ₃)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolL	B,O	
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	°SO₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m
02.11.2020	40	20	10	18	1.0	N.D.
05.11.2020	44	22	14	20	1.0	N.D.
09.11.2020	42	26	10	18	0.8	N.D.
12.11.2020	38	20	12	22	1,2	N-D-
16.11.2020	42	28	08	20	1.0	N.D.
19.11.2020	36	22	10	24	1.2	N.D.
23.11.2020	40	20	12	18	0.8	N.D.
29.11.2020	48	24	06	20	0,6	N.D.

Terms & conditions

The report for publication, arthromotor as high day. Test namely will be removed for 1's day, when a use. The is the risking them as the party has a studying the residence.

FaHILTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY End of the test report.....



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HAMILE AND AND AND CONTROL OF THE CO		REPORT NO	UES/TR/20-21/03545 UES/20-21/AAQM/03192 01/12/2020 to 28/12/2020 02/12/2020 to 29/12/2020 02/01/2021				
		LAB REP NO					
		DATE OF SAMPLING					
		DATE OF RECEIPT					
		DATE OF REPORT					
		DATE OF AMALYSIS	START: 03/12/2020	END: 02/01/2021			
		SAMPLE DETAILS					
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. &	M/FO/SMV/2021/0044, DTD, 21-AUG-2020				
EARPLING LOCATION	MAIN OFFICE AREA, MILUPARA						
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST				
SAMPLING PROCEDURA	AS PER METHOD REFERENCE						
SAMPLE QUANTITY/PACKING	FILTER PAPER (PMIO): 1X1 SO2: 30MLX1 NO. PVC BOTTI NUMBER 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;)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI				
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	60			
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolT	08			
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/m³	PM _{2.5} μg/m ³	SO₂ μg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m ³			
01.12.2020	42	22	8	16	0.6	N.D.			
07.12.2020	46	24	10	22	0.8	N.D.			
12.12.2020	44	28	8	20	0.6	N.D.			
14,12,2020	40	22	12	24	1.0	N.D.			
19.12.2020	4.4	26	10	28	1.1	N.D.			
21.12.2020	48	20	8	20	1.0	N.D.			
26.12.2020	42	24	12	26	1.4	N.D.			
28.12.2020	46	28	8	18	1.2	N.D.			

Terms & conditions

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Text sample will be reasoned for 15 days after insue of text report of the 1968.

This is far information as the party has asked for above taying a legal with

FOULTIMATE ENVIROLYTICAL SOLUTIONS 02/0/12011 JANA PREPARED BY 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

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Marrie & Adarress Of This Gards	Hale	REPORT NO	UES/TR/20-21/0398	39
TO,		LAB REF NO	UES/20-21/AAQM/03674	
HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	04/01/2021 to 29/01/2021 05/01/2021 to 30/01/2021 02/02/2021	
		DATE OF RECEIPT		
		DATE OF REPORT		
		DATE OF ANALYSIS	START: 05/01/2021 END: 02/0	
		SAMPLE DETAILS	The second second	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. &	M/PO/SRV/2021/0044 DTD. 21-AUG-2020	
SAMPLING LOCATION	MAIN OFFICE AREA, MILUPAL	RA		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE CHANTITY/PACKING	FILTER PAPER (PMIO): 1X1 SO2: 30MLX1 NO. PVC BOTT NUBBER BLADDER: 1AL BU.		2.5): IXI NO. C BOTTLE	

Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 10 micross (PMno)	18 5182 (Part 23): 2006 & CPCB Gaidelines Vol1	101	
Particulate Matter size less than 2.5 microns (PM _{2,3})	CPCB Guidelines VblI	60	
Sulphur Dioxide (SO ₂)	IS 5162 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	80	
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	80	
Carbon Monuxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0	
Mercury (Hg)	EPA Method IO-5	44	

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
04.01.2021	38	18	08	16	0.8	N.D.
08-01-2021	42	20	12	18	0.6	N.D.
11.01.2021	40	2.4	08	16	1.0	N.D.
15.01.2021	36	18	10	20	1.0	N.D.
18-01-2021	40	26	12	18	1.1	N.D.
22.01.2021	38	20	08	22	1.0	N.D.
25.01.2021	42	18	10	16	0.6	N.D.
29.01.2021	46	22	08	18	0.8	N.D.

Terms & conditions

For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY

End of the test report.....



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

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TO.	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN	POPORT NO	UES/TR/20-21/04610 UES/20-21/AACM/04302		
	TOLER LIMITED CARE	LAN RET NO			
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	01/02/2021 to 26	/02/2021	
		DATE OF RECEIPT	02/02/2021 to 27	/02/2021	
		DATE OF REPORT	02/03/2021 STARY: 02/02/2021 END: 02/03/202		
		DATE OF AWALTSES			
	SA	MPLE DETAILS			
MONIFORING FOR	AMBIENT AIR QUALITY MONTTOKING	CUSTOMER REF. NO. 5	M/PO/SRV/2021/0044, DID, 21-ADD-2020		
EMPLING LOCATION	MAIN OFFICE ANDA, MILUPAN	tA.			
DURATION OF SAMPLING 24 HOURS		SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	AS PER METHOD REPERENCE		111111111111111111111111111111111111111		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM10): 1XI SO2: 30MLXI NO. PVC BOTTE RUBGER BLADDER: 1XI NO.	NO., FIGTER PAPER (PMS E, NO2: 30MEX1 NO. PVC	3): IXI NO.		

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Fart 23): 2006 & CPCB Guidelines Vol1	100
Particulate Matter size less than 2.5 microns (PM:)	CPCB Guidalines VolI	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2801, RA 2006 k CPCB Guidelines Vol:-1	80
Nitrogan Dioxide (NO:)	19 5182 (Part 6): 2006 & CPCB Guidelines VolI	80
Casbon Monoxide (CO) +	IS 5152(Part 10):1993, RA 2003	4.0
Meroury (Rg)	EPA Method IO-5	10

TEST REPORT						
Date of Sampling	РМ 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	20	1.0	18	1.0	N.D.
05.02.2021	14	22	14	20	0.8	N.D.
08.02.2021	42	26	10	18	1.1	N.D.
12.02.2021	38	2.0	12	22	1.2	N.D.
15.02.2021	42	28	14	20		-
19,02,2021	40	22	08	24	1.4	N.D.
22.02.2021	44	20	12	18	4+4 0 5	N.D.
26.02.2021	48	24	10	20	9.6	N.U.
Remarks: * oura					1.0	N.D.

Forms & conditions
The report for publication, understance or depart dispare is included
First sample will be required for 15 days after large of test report on
This is the information as the party less entire for some policy origin.

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Witten & Address DC The Cours	unia-	REFORT MO	UES/TR/20-21/05027		
TO,			UES/20-21/AAQM/0	4116	
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	01/03/2021 to 26	/03/2021	
		DATE OF RECEIPT	02/03/2021 to 27/03/2021		
		DATE OF REPORT	01/04/2021		
		DATE OF ANALYSIS	STARS 02/03/2021	IND: 31/03/2021	
	\$A	MPLE DETAILS			
MCMITCHING YOU	AMBLEST AIR QUALTYS MONIYURING	CURTOMER REF. BO. &	M/PO/SRY/2021/0044 DTD, 21-AUG-2020		
SAMPLING LOCATION	MAIN OFFICE AREA, MILUPAN	M.			
DUNATION OF SAMPLING 24 HOURS		SAMPLE COLLECTED BY	LABORATORY CHIMIST		
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		1		
SAMPLE QUANTITT/FACKING	FILTER PARES (BMIO): IXI BO2: SOMIXI NO. PVC BOTTI RUMBER BLADDER: 1XI 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)	IG 5102 (Fart 23): 2006 & CPCB Guidelines VolI	100		
Particulate Matter size less than 2.5 microns (FM.,)	CPCB Guidelines VolT	60		
Sulphur Dioxide (50;)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidalines Vol1	90		
Nitrogen Dioxide (NO)	TS 5182 (Part 6): 2006 & CPCB Swidelines VolI	80		
Carpon Monoxide (CO)*	IS 5182 (Part 10):1999, RA 2003	4.0		
Herenry (Hg)	EPA Method IO-1			

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
01.03.2021	44	24	08	20	3.2	N.D.
05.03.2021	46	20	12	22	1.0	N.D.
08,03,2021	44	24	06	1.8	1.2	N.D.
12,03,2021	40	26	08	24	1.0	N.D.
15.03.2021	46	20	12	22	1.1	N.D.
19.03.2021	42	22	06	18	1.2	N.D.
22.03.2021	48	18	10	16	0.8	N.D.
26.03.2021	42	22	08	22	1.2	N.D.

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HDD-272, PHASE III- NEAR JP CHOWK.

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MINDALCO INDUSTRIES LIMITED, GARE FALMA - IV/5, MILUPARA U/G COAL WINE, VILLAGE - MILUPARA, BLOCK-TAMNAR,

DISTT. - RAIGARH (C.G.) 496107

REPORT NO	UES/TR/20-21/018	109
LAB REF NO	UES/20-21/AAQM/0	2289
DATE OF SAMPLING	05/10/2020 to 30	/10/2020
DATE OF RECEIPT	06/10/2020 to 31	/10/2020
DATE OF REPORT	02/11/2020	
DATE OF ANALYSIS	START: 06/10/2020	END: 02/11/2020

SAMPLE DETAILS CUSTOMER REF. NO. 4 AMBIENT AIR QUALITY M/PO/SRV/2021/0044, THE THE FOR MONITORING DTD. 21-AUG-2020 LOCATION STAFF QUARTER, MILUPARA OF SAMPLING 24 HOURS SAMPLE COLLECTED BY LABORATORY CHEMIST PROCEDURE AS PER METHOD REFERENCE FILTER PAPER (PM₂₀): 1XI NO., FILTER PAPER (PM_{2.5}): 1XI NO. SO₂: 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO. FACKING

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less	18 5182 (Part 23): 2006 & CPCB Guidelines VolI	100
Designate Matter size less	CPCB Guidelines VolI	60
Dioxide (SO:)	TS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	88
Eltsogen Dioxide (NO:)	16 5182 (Part 6): 2006 & CPCB Guidelines. VolT	80
Erbon Honoxide (CO)*	1S 5182(Part 10):1999, RA 2003	4.0
eccary (Hg)	EPA Method IO-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
05.10.2020	34	24	16	28	0.8	N.D.
T9.10.2020	38	28	1.4	22	1.0	N.D.
12.10.2020	36	22	16	26	1.2	N.D.
16.10.2020	38	28	8	2.4	1.1	N.D.
19.10.2020	30	2.2	10	18	1.2	N.D.
24.10.2020	42	26	16	30	0.6	N.D.
26.10.2020	4.4	26	10	18	1.0	N.D.
30.10.2020	46	18	14	24	1.2	N.D.

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ritine & amilios \$7 fee parks	liter	REPORT NO.	UES/TR/20-21/031	155
то,	ACCUMENTATION	LAB REF NO	UES/20-21/AAQM/0	2802
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT. – RAIGARH (C.G.) 496107		DATE OF SAMPLING	02/11/2020 to 29	7/11/2020
		DATE OF RECEIPT	03/11/2020 to 30	/11/2020
		DATE OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START: 03/11/2020 END: 03/12/	
		SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. 5 DATE	M/PO/SHV/2021/0 DTD 21-AUG-202	
SAMPLING LOCATION	STAFF QUARTER, HILUPARA			
DURATION OF SAMPLING	24 Hottis	SAMPLE COLLECTED BY	LABORATORY CHEM	rst
SAMPLING PROCEDURE	AS PER METHOD RESERVENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM;): 2X1 SO; 30MLX1 NO. PVC BOTT RUBBER BLADUER: 1X1 NO.			

Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCE Guidelines VolI	100	
Particulate Matter size less than 2.5 microns (PM, 5)	CFCB Guidelines VolI	60	
Sulphur Dioxide (SO2)	15 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolI	80	
Nitrogen Dioxide (NO2)	IS 5182 (Part 6): 2006 & CPCBGuidelines VolI	80	
Carbon Monoxide (CC)*	IS 5182(Part 10):1993, RA 2003	4.11	
Mercury (Hg)	EPA Method IO-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
02.11.2020	32	22	10	20	078	N.D.
05.11.2020	34	26	80	22	1.0	N.D.
09.11.2020	36	20	14	26	0.8	N.D.
12.11.2020	38	24	12	24	1.0	N.D.
16.11.2020	42	28	0.8	26	1.2	N.D.
19.11.2020	46	22	10	28	1.2	N.D.
23.11.2020	40	24	1.2	18	0.8	N.D.
29.11.2020	36	22	14	26	0.6	N.D.

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Test sample will be returned for 13 steps after common from many body to come interest with our life; is the information on the point test asked for allower of the body to the common of the point test asked for allower of the body to the common of the point test asked for allower of the body to the common of the point test asked for allower of the body to the common of the point test asked for all the common of the point test asked for all the common of the point test asked for the common of the point test asked for all the common of the common of the point test asked for the common of the point test asked for all the common of the common

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Name & Address Of the Custom	West	REPORT NO	UES/TR/20-21/03546			
TO,	and when the state of the state of	LAB PEF NO	URS/20-21/AAQM/0	RS/20-21/AAQM/03193		
	RIES LIMITED, GARE	DATE OF SAMPLING	01/12/2020 to 28	/12/2020		
PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF RECEIPT	02/12/2020 to 25	/12/2020		
		DATE OF REPORT	02/01/2021			
		DATE OF ANALYSIS	START: 03/12/2020	END: 02/01/2021		
		SAMPLE DETAILS				
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. 4	The state of the s			
SAMPLING LOCATION	STAFF QUARTER, MILUPARA					
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEM	usr		
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		To be			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM;s): IX1 SO:: 30MLK1 NO. EVC BOTT NUMBER BLADDER: IX1 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 VolI	100	
Particulate Matter size less than 2.5 microns (PM: 4)	CPCB Guidelines VolI	06	
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CFCB Guidelines VolI	80	
Witrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCBGuidelines VolI	80	
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0	
Mercury (Hg)	EFA Method IO-5	44	

TEST REPORT						
Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	50 ₂ μg/m³	NO ₂ µg/m ³	CO* mg/m³	Hg ng/m³
01.12.2020	34	28	8	18	1.0	N.D.
07.12.2020	36	22	10	26	0.8	N.D.
12.12.2020	38	26	16	20	0.6	N.D.
14.12.2020	42	20	10	22	0.8	N.D.
19.12.2020	48	24	12	28	1.0	N.D.
21.12.2020	40	.28	10	22	1.0	N.D.
26.12.2020	46	20	8	20	1.2	N.D.
28.12.2020	38	26	12	24	1.0	N.D.

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Test sample will be resided for 18 days effect have of that report. This is for information as the purp has asked for there tissis of

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Name A. Adepuny Df. File Contin-	three	REPORT NO	UES/TR/20-21/039	990
то,		LAB REF NO	UES/20-21/AAQM/	3675
HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	04/01/2021 to 25	9/01/2021
		DATE OF RECEIPT	05/01/2021 to 30	0/01/2021
		DATE OF REPORT	02/02/2021	
		DATE OF ANALYSIS	START: 05/01/2021	END: 02/02/2021
		SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & M/PO/SRV/2021/0044. DATE DTD. 21-AUG-2020		
SAMPLING LOCATION	STAFF QUARTER, MILUPARA			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEM	UST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE CHANTITY/PACKING	FILTER PAPER (PM ₂₀): 1X1 SO ₂ : 30MLX1 NO. PVC BOTT NUMBER BLADGER: 1X1 NO.			

Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 10 microns (PMno)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100	
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol1	60	
Suiphur Dioxide (SO ₇)	IS 5182 (Part 2): 2001, RA 2006 & CFCB Guidelines Vol1	80	
Nitrogen Dioxide (NO:)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	80	
Carbon Monoxide (CO)*	IS 9182(Part 10):1999, RA 2003	4.0	
Mercury (Bg)	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/m ³	CO* mg/m³	Hg ng/m ³
04.01.2021	3.0	20	08	18	0.6	N.D.
08.01.2021	32	24	06	20	0.8	N.D.
11.01.2021	34	18	12	24	0.6	N.D.
15.01.2021	36	22	10	22	1.1	N.D.
18.01.2021	4.0	26	06	24	1.0	N.D.
22.01.2021	44	20	80	26	0+9	N.D.
25.01.2021	38	22	10	16	0.6	N.D.
29.01.2021	3.4	20	12	24	0.8	N.D.

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Total sample will be retained for 1.5 days after issue of test report unless administrating infrared with systoms.

July 02/02/2021

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TO,	interes.	REMORT NO	UES/TR/20-21/04611		
HINDALCO INDUST	TRIES LIMITED, GARE	LAM REF NO		04303	
PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DASE OF SAMPLING	01/02/2021 to 20		
		DATE OF RECEIPT	02/02/2021 to 27/02/2021		
		DATE OF REPORT	02/03/2021	1,000	
		DATE OF ANALYSIS	START: 02/02/2021	END: 02/03/202	
	SAI	MPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER NEF. NO. E M/PO/SEV/2021/0044, DATE DTD. 21-ADX-2020			
SAMPLING LOCATION	STAFF QUARTER, MILUPARA		1 2020 44 400 002	v.	
DURANTON OF SAMPLING	24 Hoting	SAMPLE COLLECTED BY	LABORATORY CHEM	700	
SAMPLING PROCEDURE	AS PER HERHOD PRESENCE		Transactive Catalog		
SAMPLE QUANTITY/VACKING	FILTER PAPER (FM.s): 1XI SO: 30MLXI NO. FVC BOTTI RUBBER BLADDER: 1XI NO.	NO., FILTER PAPER (PM, E, NO: SOMEXI NO. PVC	DOTTLE		

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 sizu less than 2.5 microns (PM: 6)	CPCB Guldelines VolI	ńù.	
Bulphur Dioxide (SO:)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines VolT	an	
Nitrogen Dioxida (NO _e)	IS 5102 (Part 6): 2006 & CPCB Guidelines	Ēά	
Carbon Monoxide (CO)* Mercury (Hg)	IS 5182 (Part 10):1999, RA 2003 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/m ³	NO ₂ µg/m³	CO* mg/m³	Hg
01.02.2021	32	22	10	20	0.8	ng/m
05.02.2021	34	26	0.8	22	1.0	The second second
08.02.2021	36	20	14	26		N.D.
12.02.2021	36	24	12	24	0.8	N.D.
15.02.2021	42	28	08		1.0	N.D.
19.02.2021	46		The second second second	26	4,1	N.D.
22.02.2021	The Season of th	22	10	28	1.0	N.D.
	40	24	12	18	0.8	N.D.
26_02_2021 emarks: * Duration	36	22	14	26	1.1	N.D.

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Norm E. Edderes Of Flor Circles	Page	REPORT NO	UBS/TR/20-21/05028		
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		TWE NEW NO	UES/20-21/AAQM/0	4119	
		DATE OF SMOLING	20/10/2007 00 50/00/5057		
		DATE OF RECEIPT			
		DATE OF REPORT	01/04/2021	33373	
		DATE OF ANALYSIS	START: 02/03/2021	END: 31/03/2021	
	SA	MPLE DETAILS			
MONITORING FOR	AMBTENT AIR COALLITY HONTYORING	DATE	M/DO/GRV/2021/0 DED: 21-A00-202		
SAMPLING LOCATION	STAFF QUARTER, MILLIPARA				
DURATION OF CAMPLING	24 HOURS	SAMPLE COLLECTED BY LABORATORS CHIMINS		282	
SAMPLING PROCEDURE	AS FER METHOD REFERENCE			***************************************	
SAMPIE QUANTITY/PACKING	FILTER PAPER (EMIN): IXI SO: 30MLX: NO. PVC BOTT: RUBBER BLADDER: IXI BO.				

Test Method and NAAQM Standard for Ambient Air Quality Monitoring				
Parameter	Method Reference	NAAQM Standard		
Porticulate Matter size less than 10 micross (PM _o)	IS 5182 (Part 23): 2006 6 CPCB Guidelines Vol1	100		
Particulate Matter size less than 2.5 microns (FM)	CPCB Guide(inem VolI	60		
Sulphur Dioxide (SC ₇)	IS 5187 (Part 1): 2001, RA 2006 & CPCB Scidelines Vol1	80		
Nitrogen Dioxide (NO ₁)	18 5182 (Fart 6): 2006 & CPCB Guidelines Vol1	80		
Carbon Monoxide (CO)-	13 5182 (Part 10):1399, RA 2003	6.0		
Hercury (He)	EPA Method IO-5	-		

TEST REPORT						
Date of Sampling	PM ₁₀ μg/m ³	PM _{2.6} µg/m ³	50 ₂ µg/m ³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m
01.03,2021	34	20	08	22	1.0	N.D.
05.03.2021	39	22	06	28	1.2	N.D.
08.03.2021	40	18	10	22	1.0	N.D.
12.03.2021	3.6	22	12	26	1.2	N.D.
15.03.2021	44	18	1.0	20	1.0	N.D.
19.03.2021	48	20	14	24	1.4	N.D.
22.03.2021	42	22	10	20	1.2	N.D.
26.03,2021	38	20	16	22	1.0	N.D.

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107

REPORT NO	UES/TR/20-21/0181	10
LAB REF NO	UES/20-21/AAQM/02	2290
DATE OF SAMPLING	05/10/2020 to 30/	/10/2020
DATE OF RECEIPT	06/10/2020 to 31/	10/2020
DATE OF REPORT	02/11/2020	
DATE OF ANALYSIS	START: 06/10/2020	END: 02/11/2020

		SAMPLE DETAILS	
MINITERING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO.	M/PO/SRV/2021/0044, DTD. 21-AUG-2020
LOCATION	HIL COLONY, KONDKEL	The sort was	DID. 21-80G-2020
PRATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SHELDING PROCEDURE	AS PER METHOD REFERENCE		
SMETE /PACKING	FILTER PAPER (FM ₁₀): 1X SO ₂ : 30MLX1 NO. PVC BOT RUBBER BLADDER: 1X1 NO.	TLE, NO: 30MLX1 NO. PL	(; s): 1X1 NO. PC BOTTLE

Parameter	Method Reference	NAAQM Standard
Particulate Manter size less	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol1	Loo
Particulate Matter size less	CPCB Guidelines VolI	60
Selptur Dioxide (80)	13 5182 (Part 2): 2001, RA 2006 A CPCB Guidelines VolT	80
Utrogen Dioxide (NO-)	15 5182 (Part 6): 2006 & CPCB Guidelines Vol1	R()
Carbon Monoxide (CO):	IS 5182 (Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10-5	4 + 17

Date of		,	T REPORT			
Date of Sampling	PM ₁₀ μg/m ³	PM _{2.5} μg/m ³	50 ₂ μg/m ³	NO ₂ µg/m ³	CO* mg/m³	Hg ng/m³
05.10.2020	3,8	2.4	10	24	0.8	N.D.
09.10.2020	42	28	18	22	0.6	N.D.
12.10.2020	50	22	12	16	1.0	
16.10.2020	: 44	26	16	24	0.8	N.D.
19.10.2020	46	20	10	22	2.2.10	N.D.
24.10.2020	40	30	14		1.0	N.D.
26.10.2020	42			24	1,2	N.D.
30.10.2020		26	10	18	1.0	N.D.
marks: * Duratio	46	20	18	22	1.1	N.D.

Terms & conditions

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

 Test sample will be retained for 15 days offer issue of less part unless otherwise agreed with customer.

 This is for information as the party has asked for otherwise agreed.

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End of the test report-

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from a surround of the Easter	mu	REPORT NO	UE5/TR/20-21/031	56
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE, VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		TYR NEE BO	UES/20-21/AAQN/0	2803
		DATE OF SAMPLING	02/11/2020 to 29	/11/2020
		DATE OF RECEIPT	03/11/2020 to 30/11/2020	
		DAYS OF REPORT	03/12/2020	
		DATE OF ANALYSIS	START: 03/11/2020	END: 03/12/2020
		SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NG.	M/80/SRV/2021/0044 DTD, 21-AUG-2020	*
SAMPLING LOCATION	HIL COLONY, KONDREL			
DURATION OF SAMPLING	24 Rotins	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS FER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₂₀): 1X1 SO ₂ : 30MLX1 NO. PVC BOTT RUBBER BLADDER: 1X1 NO.			

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 (PM _{2.5})	CPCB Guidelines Vol1	60.
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCS Guidelines Vol1	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	50 ₂ μg/m³	NO ₂ μg/m³	CO* mg/m³	Hg ng/m³
02.11.2020	40	24	10	20	0.6	N.D.
05.11.2020	38	20	12	22	0.8	N.D.
09.11.2020	42	26	08	26	1.2	N.D.
12,11.2020	38	22	10	20	1.0	N.D.
16.11.2020	36	24	08	22	1.2	N.D.
19.11.2020	44	30	12	28	0.8	N.D.
23,11,2020	42	28	16	22	1.2	N.D.
29.11.2020	40	24	10	24	1.0	N.D.

Terms & conditions

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Name & Address Of The Gustan	mer	REPORT NO	UES/TR/20-21/035	47
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE, VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		LAN REF NO	UES/20-21/AAQM/03194 01/12/2020 to 28/12/2020 02/12/2020 to 29/12/2020	
		DATE OF SAMPLING		
		DATE OF RECEIPT		
		DATE OF REPORT	02/01/2021	
		DATE OF ANALYSIS	ANALYSIS START: 03/12/2020 END: 02/	
		SAMPLE DETAILS	-1	
HONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF; NO.	M/PO/SRV/2021/0044 DTD: 21-AUG-2020	*
SAMPLING LOCATION	MIL COLONY, KONDKEL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 SO ₂ : 30MLXI NO. PVC BOTT RUBBER BLADDER: 1X1 NO.			

1441114144	QM Standard for Ambient Air Quality Mo		
Parameter	Method Reference	NAAQM Standard	
Particulate Matter size less than 10 microns (PM:s)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100	
Particulate Matter size less than 2.5 microps (PM _{2.6})	CPCB Guidelines VolI	60	
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Suidelines VolI	80	
Nitrogen Dioxide (NO ₂)	IS 5192 (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	РМ _{2,5} µg/m ³	SO ₂ µg/m³	NO ₂ µg/m³	CO* mg/m³	Hg ng/m³
01.12.2020	42	26	12	22	0.8	N.D.
07.12.2020	40	22	8	26	0.6	N.D.
12.12.2020	46	28	10	28	1.0	N.D.
14.12.2020	44	24	14	22	0.8	N.D.
19.12.2020	38	20	10	24	1.0	N.D.
21.12.2020	46	28	12	26	0.6	N.D.
26.12.2020	44	22	16	24	1.1	N.D.
28.12.2020	48	26	10	20	0.8	N.D.

Terms & conditions

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Name & Bristony Of The Ginesis	110	REPORT NO	UES/TR/20-21/03991 UES/20-21/AAQM/03676	
TO,	and the second second	LAB REF NO		
HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	04/01/2021 to 29	/01/2021
		DATE OF RECEIPT		
		DATE OF REPORT		
		DATE OF ANALYSIS	START: 05/01/2021	END: 02/02/2021
		SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO.	M/PO/SRV/2021/0044 DTD: 21-AUG-2020	
SAMPLING LOCATION	HIL COLONY, KONDKEL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM:e): 1X1 SO: 30MLX1 NO. PVC BOTT RUBBER BLADDER: 1X1 NO.			

Parameter Method Reference		NAAQM Standard
Particulate Matter size less than 10 microns (PM:01	is 5182 (Part 23): 2006 & CPCB Guidelines VolI	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines VolT	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, BA 2006 & GPCB Guidelines VolI	80
Mitrogen Dioxide (NO:)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	80
Carbon Monoxide (CO)*	TS 5182(Part 10):1999, RA 2003	4-0
Mercury (Rg)	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	38	22	0.8	18	0.8	N.D.
08.01.2021	36	18	1.0	20	0.6	N.D.
11.01.2021	4.0	24	06	24	1.0	N.D.
15.01.2021	36	20	0.8	18	1.1	N.D.
18.01.2021	38	22	0.6	2.0	1.0	N.D.
22.01.2021	42	28	10	26	0.6	N.D.
25.01.2021	40	26	1.4	20	0.8	N.D.
29.01.2021	38	22	0.8	22	1.1	N.D.

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TO.	HHBA.	REPORT NO	UES/TR/20-21/04612		
575 m	ALCO INDUSTRIES LIMITED, GARE		URS/20-21/AAQM/04304		
PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	01/02/2021 to 26		
		DATE OF RECKIPT	02/02/2021 to 27/02/2021		
		DATE OF REPORT	02/03/2021		
		DATE OF AMALYSIS	START: 02/02/2021 END: 02/03/1		
	SA.	MPLE DETAILS		Description of the	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO.	M/PG/SRV/2021/0044 DID: 21-ABG-2020	r.	
SAMPLING LOCATION	HIL COLONY, KONDONS		Dan: 21-Aug-2020		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED	EAROHATORY CHOMIST		
SAMPLING PROCEDURE	AS PER METHOD REFERENCE	***	111111111111111111111111111111111111111		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM,): 1X1 M SO: 30MLX1 BD. PVC BOTTLE BURBER BLADDER: 1X1 NO.	NO., FILTER PAPER (PM E, NO.: 30MLX1 NO. PV	C SOTTLE		

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM:s)	TS 5182 (Part 23): IDDR 4 CPCB Guidelines VolE	100
Particulate Matter size less than 2.5 sicrons (PM _{2.5})	CPCB Guidelines VolT	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, 3A 2006 & CPCB Guidelines VolF	60
Nibrogen Dioxido (NO)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol1	80
Carbon Monoxide (CO) -	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	1

TEST REPORT						
Date of Sampling	PM ₁₀ μg/m ³	РМ _{2,5} µg/m ³	50 ₁ μg/m ³	NO ₂ µg/m³	CO* mg/m³	Hg
01.02.2021	38	2.2	08	18	0.8	ng/m
05.02.2021	36	16	10	20	0.6	N.D.
08.02.2021	40	24	06	24		N.D.
12.02.2021	36	20	0.8	18	1.0	N.D.
15.02.2021	38	22	06		1-1	N.D.
19.02.2021	42			20	1.0	N.D.
22.02.2021		28	1.0	26	0.6	N.D.
All of the Desire Control of the Con	40	26	14	20	0.0	N.D.
26.02.2021 emarks: * Durat	38	22	08	22	1.1	N.D.

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Home I Services Of The Secul	imte	THEORY 523	UES/TR/20-21/05029		
TO,		EAD RET NO	UES/20-21/AAQM/04120		
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE, VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	01/03/2021 to 26	/03/2021	
		DATE OF RECEIPT	02/03/2021 to 27	7/03/2021	
		DATE OF REPORT	01/04/2021		
		DATE OF AMALYSTS	START: 02/03/2021	HWD 31/03/2021	
	57	MPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MUNITURING	CUSTOMER PEF. NO.	M/PO/SRV/2021/0044, DVD, 21-ADG-2020		
SAMPLING LOCATION	HIL COLONY, MONDREL		40000 200 0000		
DURATION OF SEMPLING	24 HOURS	SAMPLE COLLECTED BY	LAROMATORY CHEMIST		
SAMPLING PROCEDURE	AS PER HETHOD REFERENCE		1		
SAMPLE COMMITTY/PACKING	FILTER PAPER (PM.a): IN1 SO: 30MLX1 NO. PVC BOTTL RUBBER BLADDER: 1X1 NO.				

Test Method and NAAG	QM Standard for Ambient Air Quality Mo	nitoring
Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM;)	15 5162 (Part 23): 2006 a CPCB Guidelines Vol -1	100
Particulate Matter size less than 2.5 microns (PM _{2.4})	CPCR Guidelines VolI	GG
Sulphur Dioxide (SO ₂)	IS 5182 (Fart 2): 2001, RA 2006 & CPCB Guidelines VolI	BQ.
Nitrogen Dioxide (NO ₂)	IS 5182 (Fart 6): 2006 & CPCB Guidelines VolI	80
Carbon Monoxide (CO)+	19 5182[Part 10]:1999, RA 2003	4.0
Mercury (Hg)	EPA Mathed 10-5	

TEST REPORT						
Date of Sampling	PM _{1σ} μg/m ³	РМ _{2.5} µg/m ³	50 ₂ μg/m³	NO ₂ µg/m³	CO*	Hg ng/m³
NI.03.2021	40	22	90	22	1.0	N.D.
05.03.2021	38	26	12	26	6.0	N.D.
08.03.2021	42	.20	10	20	1.4	N.D.
12.03.2021	38	2.4	30	24	1.0	N.D.
15.03.2021	4.0	22	10	2.2	1.2	N.D.
19.03.2021	44	20	08	28	0.8	N.D.
22.03.2021	46	26	12	22	1.0	N.D.
26.03.2021	40	22	10	26	1.2	N.D.

Terms & conditions

The respection periodical line, intributions or an legal of quate in management

Total in the Anti-American Line 15-days where furner of lines reports a proper province agreement with constitution.
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S Address Of the Sustan	PROPERTY.	REFORT NO	UES/TR/20-21/01811 UES/20-21/AAQM/02291		
TO,		LAB REF NO			
	RIES LIMITED, GARE	DATE OF SAMPLING	05/10/2020 to 30	/10/2020	
PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA, BLOCK-TAMNAR.		DATE OF RECEIPT	06/10/2020 to 31/10/2020		
		DATE OF REPORT 02/11/2020			
DISTT RAIGARH	(C.G.) 496107	DATE OF ANALYSIS	START: 06/10/2020 END: 02/11		
		SAMPLE DETAILS			
MUNITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. 6	M/PO/SRV/2021/0044, DTD: 21-AUG-2020		
SEMPLING LOCATION	ETP AREA , KONDKEL				
CHRATTON OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST		
EMPLING PROCEDURE	AS PER METHOD REFERENCE				
SANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 SO ₂ : 30MLX1 NO. PVC BOTT RUBBER BLADDER: 1X1 NO.				

Test Method and NA/	AQM Standard for Ambient Air Quality Mo	nitoring
Parameter	Method Reference	NAAQM Standard
Perticulate Matter size less than 10 microns (PMnn)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100
Farticulate Matter size less than 2.5 microns (PM:.)	CPCB Guidelines VolT	60
Sulphur Dioxide (SO)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	80
Witrogen Dioxide (NO:)	IS 5182 (Part 6); 2006 & CPCB Guidelines VolI	80
Carbon Monoxide (CO)+	13 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10-5	

TEST REPORT						
Date of Sampling	PM ₁₀ μg/m ³	PM _{2,5} μg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m³	Hg ng/m ³
05.10.2020	48	22	8	1.8	0.8	N.D.
89.10.2020	36	2.6	6	20	1.1	N.D.
12,10.2020	4.4	18	10	26	1.0	N.D.
16.10.2020	46	22	1.2	.20	1.2	N.D.
19.10.2020	40	30	6	28	1.6	N.D.
24.10.2020	48	18	8	20	1.0	N.D.
26.10.2020	44	22	10	32	1.2	N.D.
30.10.2020	42	26	16	28	1.8	N.D.

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

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HARD & AMERICA OF THE CONCUS	zed by Ministry of Environ	REFORT NO	UES/TR/20-21/03157		
то,	Administration (see Sec.	LAB REF NO	UES/20-21/AAQM/0	2804	
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE, VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	02/11/2020 to 29	/11/2020	
		DATE OF RECEIPT	03/11/2020 to 30/11/2020 03/12/2020		
		DATE OF REPORT			
		DATE OF ANALYSIS	START: 03/11/2020 END: 03/12/		
		SAMPLE DETAILS			
MONITURING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. 6	M/PO/SRV/2021/0044 DTD, 21-AUG-2020	1	
SAMPLING LOCATION	RTF AREA , RONDWALL				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHIMIST		
SAMPLING PROCEDURE	AS PER METHOD REPERENCE				
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM:s): IX1 SO:: 30MLX1 NO. PVC BOTT RUBBER BLADDER: IXI NO.				

Parameter	Method Reference	NAAQM Standard
Particulate Matter size loss than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100
Particulate Matter size less than 2.5 microns (PM _{2.3})	CPCB Guidelines VolI	60
Sulphur Dioxide (SO ₂)	IS 8182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines VolI	80
Carbon Monoxide (CO)*	IS \$182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EFA Method IO-5	2.2

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
02.11.2020	44	26	10	20	1.1	N.D.
05.11.2020	40	24	80	26	1.2	N.D.
09.11.2020	42	22	12	20	1.4	N.D.
12.11.2020	38	28	16	.22	1.0	N.D.
16.11.2020	46	22	10	28	0.8	N.D.
19.11.2020	40	26	18	20	1.6	N.D.
23.11.2020	42.	20	12	2.6	1.2	N.D.
29.11.2020	48	18	10	24	1.4	N.D.

Terms & conditions

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Warms 2 Address Di The Custon	mor .	REPORT NO	UES/TR/20-21/03548		
TO,		LAB REF NO	UES/20-21/AAQM/0	31.95	
HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE,VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		DATE OF SAMPLING	01/12/2020 to 28	1/12/2020	
		DATE OF RECEIPT	02/12/2020 to 29/12/2020		
		DATE OF REPORT 02/01/2021			
		DATE OF ANALYSIS	START: 03/12/2020 END: 02/		
		SAMPLE DETAILS			
HONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. :			
SAMPLING LOCATION	ETP AREA , KONDKEL				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY LABORATORY CHEMIST			
SAMPLING PROCEDURE	AS PER METHOD REFICIENCE				
SAMPLE QUARTITY/FACKING	FILTER PAPER (PM:s): 1X1 SO: 30MLX1 NO. PVC BOTT RUBBER BEADDER: 1X1 NO.				

Parameter	Method Reference	NAAQM Standard
Particulate Matter size Less than 10 microns (FM ₁₅)	IS 5182 (Part 23): 2006 & CPCS Guidelines VolI	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol1	50
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)	EFA Method IO-5	-

TEST REPORT						
Date of Sampling	PM ₁₀ µg/m ³	PM _{2,5} µg/m ²	SO ₂ µg/m ³	NO ₂ μg/m³	CO* mg/m³	Hg ng/m
01.12.2020	46	24	16	22	1.2	N.D.
07.12.2020	44	26	10	26	1.0	N.D.
12.12.2020	48	20	12	24	1.4	N.D.
14.12.2020	42	28	10	20	1.0	N.D.
19.12.2020	44	24	18	28	0.8	N.D.
21.12.2020	46	26	12	26	0.6	N.D.
26.12.2020	40	22	14	22	0.8	N.D.
28.12.2020	42	20	16	20	1.0	N.D.

Terms & conditions

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Test sample will be established for 13 days after issue of that reprincipless of
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End of the test report......



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Name & Address Of The Custon	ner	REPORT NO	UES/TR/20-21/03992 UES/20-21/AAQM/03677 04/01/2021 to 29/01/2021		
TO,		LAB REF NO			
	RIES LIMITED, GARE	DATE OF SAMPLING			
PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA,		DATE OF RECEIPT	05/01/2021 to 30/01/2021		
		DATE OF REPORT	02/02/2021		
BLOCK-TAMNAR, DISTT RAIGARH	(C.G.) 496107	DATE OF ANALYSIS	START: 05/01/2021	END: 02/02/2021	
		SAMPLE DETAILS	13.4		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. &	M/PO/SRV/2021/0044 DTD. 21-AUG-2020	4,	
SAMPLING LOCATION	ETP AREA , KONDKEL				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIS	r	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		obs in a second		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 SO ₂ : 30MLX1 NO. PVC BOTT RUBBER BLADDER, 1X1 NO.				

Test Method and NAAQM Standard for Ambient Air Quality Monitoring					
Parameter	Method Reference	NAAQM Standard			
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines VolI	100			
Particulate Matter size less than 2.5 microns (PM2.5)	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	PM10 μg/m³	PM _{2.5} μg/m ³	SO₂ μg/m³	NO₂ µg/m³	CO* mg/m³	Hg ng/m³
04.01.2021	40	24	08	22	1.0	N.D.
08.01.2021	38	22	06	24	1.1	N.D.
11.01.2021	40	20	10	. 18	1.2	N.D.
15.01.2021	36	26	14	. 20	0.8	N.D.
18.01.2021	44	20	08	26	0.6	N.D.
22.01.2021	38	24	16	18	1.4	N.D.
25.01.2021	40	18	10	24	1.0	N.D.
29.01.2021	46	16	08	22	1.2	N.D.

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Horse & Gillers & My The Carrie TO.	met	REPORT NO	UES/TR/20-21/04613		
The second second second second	HINDALCO INDUSTRIES LIMITED, GARE DATE DATE		UES/20-21/AAQM/04305		
			01/02/2021 to 2	5/02/2021	
MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR,		DATE OF RECEIPT	02/02/2021 to 27/02/2021		
		DATE OF REPORT	02/03/2021	327	
DISTT RAIGARH	(C.G.) 496107	DATE OF ANALYSIS	STRET: 02/02/2021	END: 02/03/2021	
	SAI	MPLE DETAILS		100000000000000000000000000000000000000	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. E	M/PC/SRV/2021/0044, DID. 21-ADG-2020		
SAMPLING LOCATION	FOR AREA , KOMDREE	110000			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	AS FER METHOD REFERENCE		The second second		
SAMPLE QUARTITY/PACKING	FILTER PAPER (PM.): IXI SO: SOMEXI NO. PYC MOVITI RUBBER BLADGER: IXI NO.	NO., FILTHIN PAPER (NM). E, NO: 30MLXI NO. PVC	DOTTLE		

Test Method and NAAQ	M Standard for Ambient Air Quality Mor	itoring
Parameter	Method Reference	NAAQM Standard
Particulate Matter Size less than 10 microns (PMpp)	IS 5182 (Part 23): 2006 & CPCS Goldelines Vol1	100
Particulate Matter mixe less than 2.5 microns (FM:1)	CPCB Guidelines VolI	60
Sulphur Dioxide (SC ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol1	86
Nitrogan Dioxide (NO:)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol1	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Mothod 10-5	1

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
01.02.2021	42	26	10	24	1.1	ng/m³
05.02.2021	40	24	0.8	26	7.0	The same of the sa
08.02.2021	42	22	12	20	2.4	N.D.
12.02.2021	38	28	16	22	2.4	N.D.
15.02.2021	46	22	10		1.0	N.D.
19.02.2021	90	26		28	0.8	N.D.
22.02.2021	42		18	20	1.2	N.D.
The state of the s		50	12	26	0.8	N.D.
26.02.2021 emarks: * Durati	48	18	10	24	1-3	N.D.

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Water & Eddenie Of the Certai	em.	REPORT NO	UBS/TR/20-21/05030		
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, MILUPARA U/G COAL MINE, VILLAGE – MILUPARA, BLOCK-TAMNAR, DISTT RAIGARH (C.G.) 496107		LAB JEF NO	ERS/20-21/AAQM/04121		
		DATE OF SAMPLING	01/03/2021 to 2	5/03/2021	
		DATE OF RECEIPT	DATE OF PECEIPT 02/03/2021 to 2		
		DATE OF REPORT	01/04/2021		
		DATE OF AMALYSIS	STRRT: 02/03/2021 EMD:31/63/		
	SAI	MPLE DETAILS			
HONITONING FOR	AMBTERT ATR CHALTEY MONITORING	COSTÓMER REF. NO. E DATE	M/PO/SRV/2021/004- DED. 21-AUG-2020	G .	
SAMPLING LOCATION	ETV AREA , KONERCEL				
DURATION OF EASPLING	24 Hoons	SAMPLE COLLECTED BY	LABORATORY CHEMIS		
SAMPLING PROCEDURE	AS PER NETHOD REFERENCE				
SAMPLE QUANTITY/PACKING	FILTER PAPER (FN _M): LXI SO ₂ : TOME,X1 NO. PVC BOTT: RUBBER BLADDER: LXI NO.				

Test Method and NAAQM Standard for Ambient Air Quality Monitoring					
Parameter	Method Reference	NAAQM Standard			
Particulate Matter size less than 10 microns (PMys)	IS 5182 (Part 23): 2006 a CPCB Guidelines VolI	100			
Particulate Matter size luou than 2.5 microns (FM; s)	CFCB Guidelines VolI	60			
Sulpnur Dioxide (SC ₂)	IS 5182 (Part 2): 2001, BA 2006 5 CFCB Guidelines VolI	90			
Nitrogen Diokide (NO ₂)	IS 5182 [Part 6]: 2506 & UPCB Guidalines ValI	80			
Carbon Meroxide (CC)=	IS 5182(Part 10):1999, RA 2003	4.6			
Mercary (Hg)	EFA Method 10-5				

TEST REPORT							
Date of Sampling	PM _{to}	PM _{2.5} μg/m ³	50 ₂ µg/m ³	NO₂ µg/m³	CO ⁺ mg/m ³	Hg ng/m²	
01.03.2021	44	22	1.2	26	1.0	N.D.	
05.03.2021	42	20	10	22	1.1	N.D.	
D8.03.2021	48	24	.14	26	0.9	N.D.	
12.03.2021	4.0	26	12	22	1.1	N.D.	
15.03.2021	44	20	08	20	0.8	N.D.	
19.03.2021	42	28	12	24	1.2	N.D.	
22.03.2021	48	22	14	23	1.0	N.D.	
26.03.2021	48	2.0	12	22	1.2	N.D.	

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Annexure – 4A

Annexure No. – 4A Photographs of fixed type of water sprinklers at GP IV/5 Coal Mines



Fixed type of water sprinklers (Kondkel)



Fixed type of water sprinklers (Kondkel)



Fixed type of water sprinklers (Milupara Mine office gate)

Annexure - 5



HDD-272, PHASE III.- NEAR JP CHOWK. NING ROAD NO - 2. KABIR NAGAR, RAIPUR, C.G. -492099 PH. - 6771 - 40237777 <u>email</u> ultimatenviro@gmail.com

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Nume & Address Of the Customer TO,	REPORT NO	UES/TR/20-21/01822
HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, COAL MINE,	LAB REF NO	UES/20-21/N/02302
VILLAGE - BANKHETA,	DATE OF REPORT	22/10/2020
POST -MILUPARA, DISTT RAIGARH (C.G.) 496 107	DATE OF SAMPLING	13/10/2020 to 14/10/2020

SAMPLE DETAILS					
MONITORING FOR	NOISE LEVEL MONITORING	CUSTOMER REF. NO. & DATE	M/PO/SRV/2021/0044, DTD: 21-AUG-2020		
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE	COAL MINE (AS DESCRIBE	D BELOW)		
SAMPLE RECEIVED ON	MONITORING AT	SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION				
SAMPLE QUANTITY/PACKING	NOT APPLICABLE				

	TI	EST REF	PORT		
LOCATION		RESULT		LIMIT (INDUSTRIAL ZONE)	
	UNIT	DAY	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, MILUPARA	dB(A)	50	32		
INCLINE AREA, MILUPARA	dB(A)	52	46	75	70
BUNKER AREA, MILUPARA	dB(A)	46	34		
DG SET AREA, KONDKEL	dB(A)	58	48		
WEIGHBRIGE AREA, MILUPARA	dB(A)	44	32		
OFFICE AREA, KONDKEL	dB(A)	40	30		
BUNKER AREA, KONDKEL	dB(A)	56	42		
		RESULT		LIMIT (RESIDENTIAL ZONE)	
LOCATION	UNIT	DAY	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant			-		
SIDARPARA VILLAGE (GOVT. SCHOOL)	dE(A)	52	40	55	76
HIL COLONY, KONDKEL	dB(A)	46	38	22	45
HIL STAFF QUARTER, MILUPARA	dB(A)	48	36		

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496 107		REPORT NO	UES/TR/20-21/03168
		LAD REY NO	UES/20-21/N/02815
		DATE OF REPORT	03/12/2020
		DATE OF SAMPLING	25/11/2020 to 26/11/2020
	SAM	PLE DETAILS	
MONITORING FOR	NOISE LEVEL MONITORING	CUSTOMER REF. NO. S DATE	M/PO/SRV/2021/0044, DTD: 21-AUG-2020
SAMPLING LOCATION	INSTRE COAL MANUE & OUTSIDE C	COAL MINE (AS DESCRIBED	D BELOW)
SAMPLE RECEIVED ON	MONITORING AT	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		
SAMPLE QUANTITY/PACKING	NOT APPLICABLE		

	T	EST RE	PORT		
		RESULT		LIMIT (INDUSTRIAL ZONE)	
LOCATION	UNIT	DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, MILUPARA	4B(A)	56	42		
INCLINE AREA, MILUPARA	iiB (A)	62	50	75	70
BUNNER AREA, MILUPARA	dB(A)	50	46		
DG SET AREA, KONDKEL	dB(A)	60	50		
WEIGHBRIGE AREA, MILUPARA	d9 (A)	56	48		
OFFICE AREA, KONDKEL	dB(A)	56	46		
BUNKER AREA, KONDERL	em/A)	62	58		
The second of the second		RESULT		LIMIT (RESID	ENTIAL ZONE)
LOCATION	UNIT	DAY	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
SIDARPARA VILLAGE (GOVT. SCHOOL)	dB(A)	54	40	Prin.	AF
HIL COLONY, KONDEEL	d9 (A)	46	36	55	45
HIL STAFF QUARTER, HILUFARA	dB(A)	42	34		

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496 107		REFORT NO LAB REF NO DATE OF REPORT	UES/TR/20-21/03559 UES/20-21/N/03206 30/12/2020
		DATE OF SAMPLING	23/12/2020 to 24/12/2020
	SAN	PLE DETAILS	
MONITORING FOR	HOISE LEVEL MONITORING	CUSTOMER REF. NO. &	M/PO/SRV/2021/0044, DTD: 21-AUG-2020
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE C	COAL MINE (AS DESCRIBE	D BELOW)
SAMPLE RECEIVED ON	MONITORING AT	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION		
SAMPLE QUARTITY/PACKING	NOT APPLICABLE		

	Т	EST RE	PORT		90
		RE	SULT	LIMIT (INDUSTRIAL ZONE)	
LOCATION	UNIT	DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
OFFICE AREA, MILUPARA	dD(A)	58	48		
INCLINE AREA, MILUPARA	dB(A)	64	54	75	
HUNKER AREA, MILUPAKA	dD(A)	52	40		70
DG-SET AMEA, KONDREL	dB(A)	66	56		
WEIGHBRIGE AREA, MILUPARA	dB(A)	54	42		
OFFICE AREA, KONDKEL	dB(A)	52	48		
BUNKER AREA, KONDKEL	dB(A)	68	54		
		RESULT		LIMIT (RESIDENTIAL ZONE)	
LOCATION	UNIT	DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
SIDARPARA VILLAGE (GOVT. SCHOOL)	dW(A)	52	42	300	Post 1
HIL COLONY, KONDERL	dB(A)	48	34	55	45
HIL STAFF QUARTER, MILUPARA	dB(A)	46	38		

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496 107		REPORT NO	UES/TR/20-21/04003	
		LAB REF NO	UES/20-21/N/03688	
		DATE OF REPORT	03/02/2021	
		DATE OF SAMPLING	22/01/2021 to 23/01/2021	
	SAM	PLE DETAILS		
MONITORING FOR	NOISE LEVEL MONITORING	CUSTOMER REF. NO. & DATE	M/PO/SRV/2021/0044, DTD: 21-AUG-2020	
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE C	COAL MINE (AS DESCRIBE	D BELOW)	
SAMPLE RECEIVED ON	MONITORING AT	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION			
SAMPLE QUANTITY/PACKING	NOT APPLICABLE			

	TI	EST REF	PORT			
		RES	ULT	LIMIT (INDU:	STRIAL ZONE)	
LOCATION	UNIT	DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME	
OFFICE AREA, MILUPARA	dB(A)	50	46			
INCLINE AREA, MILUPARA	dB(A)	54	44	75	70	
BUNKER AREA, MILUPARA	dB (A)	48	42			
DG SET AREA, KONDKEL	dB(A)	52	46			
WEIGHBRIGE AREA, MILUPARA	dB(A)	50	40			
OFFICE AREA, KONDKEL	dB(A)	48	44			
HUNKER AREA, RONDREE	dB (A)	56	52			
		RES	BULT	LIMIT (RESID	ENTIAL ZONE)	
LOCATION	UNIT	DAY	NIGHT	DAY TIME	NIGHT TIME	
Outside Plant						
SIDARPARA VILLAGE (GOVT. SCHOOL)	dB(A)	50	40	55	45	
HIL COLONY, KONDKEL	dB(A)	44	32			
HIL STAFF QUARTER, MILUPARA	dB(A)	40	36		A STATE OF THE STA	

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TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA – IV/5, COAL MINE, VILLAGE – BANKHETA, POST -MILUPARA, DISTT RAIGARH (C.G.) 496 107		REPORT NO LAB REF NO LATE OF REPORT DATE OF SAMPLING	UES/TR/20-21/04624 UES/20-21/N/04316 02/03/2021 18/02/2021 to 19/02/20	
	SAMPLE	DETAILS		
MONITORING FOR	MOISE LEVEL MONITORING	CUSTOMER REF. NO. 6	M/PO/SRV/2021/0044, DED: 21 AUG 2020	
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE O	COAL MINE (AS DESCRIBE	D BELOW)	
SAMPLE RECEIVED ON MONITORING AT		SAMPLE COLLECTED BY	SABORATORY CHEMIST	
SAMPLING PROCEDURE	MANUFACYURER'S INSTRUCTION			
SAMPLE QUANTITY/PACKING	NOT APPLICABLE			

	TEST	REPOR	RT			
	107	RESULT		LIMIT (INDUSTRIAL ZONE		
LOCATION	UNIT	DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME	
OFFICE ANNA, KILUPARA	48 (A)	52	44			
INCLINE ANSA, MILUPARA	ris (A)	50	42	75	70	
BUNKER ARKA, MILITARA	dir(A)	46	44			
DG SET AREA, KONDKEL	dB(A)	.50	48			
WEIGHBRIGE AREA, MILLIPARA	rdB (A)	52	42			
OFFICE AREA, KONDKEL	(2B (A)	46	46			
BUNNER AREA, KONEKEL	dit (A)	54	54			
		RES	SULT	LIMIT (RESI	DENTIAL ZONE	
LOCATION	UNIT	DAY	NIGHT TIME	DAY TIME	NIGHT TIME	
Outside Plant						
SIDARPARA VILLAGE (GOVT. SCHOOL)	cm (A):	52	42	55	45	
HIL COLONY, KONOSCEL	d9 (A)	42	34		45	
HIL STAFY QUARTER, MILUPARA	dB (A)	40	38			

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TO, HINDALCO INDL PALMA – IV/5, CI VILLAGE – BANK POST -MILUPAR	ISTRIES LIMITED, GARE DAL MINE, (HETA,	REPORT NO EAS TRUE NO DATE OF REFORM	UES/TR/20-21/05041 UES/20-21/N/04132 01/04/2021	
DISTT RAIGARH (C.G.) 496 107		LATE OF SAMPLING	16/03/2021 to 17/03/202	
MONITORING FOR	NOISE LEVEL MONITORING	CUSTOMER REF. NO. S DATE	M/PO/SRV/2021/0044, DED: 21-AUG-2020	
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE C	COAR HIME (AS DESCRIBE	D HELOW)	
SAMPLE MECKIVED ON MONITORING AT		SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION			
SAMPLE COMMILTE/PACKLING	NOT APPLICABLE			

	TE	ST REPO	ORT			
		RE	SULT	LIMIT (IND	USTRIAL ZONE)	
LOCATION	UNIT	DAY	NIGHT TIME	DAY TIME	NIGHT TIME	
OFFICE AREA, RILUPARA	48(A)	54	48			
INCLINE AREA, MILUPARA	du (A)	48	40	75	70	
DEMNER AREA, MILUPARA	60 (A)	42	36			
DG SET AREA, ROMOKRIL	SE(A)	54	44			
WEIGHERIGE AREA, MILETPARA	de (A)	56	40			
DEFICE AREA, KOMOKEL	ati (A)	40	36			
BORKER AREA, KOMERCE	dR (A)	58	52			
Madaza		RES	ULT	LIMIT (RESIDENTIAL ZONE		
LOCATION	UNIT	DAY	NIGHT	DAY TIME	NIGHT TIME	
Outside Plant						
SIDARPARA VILLAGE (GOVT. SCHOOL)	(A) III)	54	40	55		
MIL COLOMY, KONDERE	dB(A)	44	38		45	
HIL STAFE QUARTER, MILUPARA	dB(A)	38	32			

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Annexure - 6



HDD-272, PHASE III- NEAR JP CHOWK, RING ROAD NO - 2, NABIR NAGAR, RAIPUR, C.G. - 192099

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REPORT NO UES/TR/20-21/01813 TO. LAB REF NO UES/20-21/W/02293 HINDALCO INDUSTRIES LIMITED. DATE OF SAMPLING 14/10/2020 GARE PALMA - IV/5, MILUPARA U/G COAL MINE, DATE OF RECEIPT 15/10/2020 VILLAGE - MILUPARA, BLOCK-TAMMAR, DATE OF REPORT 22/10/2020 DISTT. - RAIGARH (C.G.) 496107 DATE OF ANALYSIS START:16/10/2020 END:21/10/2020

	SAMPLE DETAILS					
SAMPLE TYPE	WASTE WATER	ORDER /REFERENCE:	M/PO/SRV/2021/0044, DTD, 21-AUG-2020			
CESTAGE SAMPLE ID	ETP OUTLET, KONDREL	SAMPLE CONDITION AT PECEIPT	OR			
PACKING OF SAMPLE	3 L X 1 MO. PVC CAN I L X 1 MO. PVC CAN I L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST			
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003: APRA 22ND ED. 2012: 1060-B, 1-39	QUANTITY RECEIVED	5 LYR			

	TEST REPORT							
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	RESULT			
1	Colour	Hazen	APHA 23 MBd. 2012,2120-B,2-6	See D DE Annekurb-E	<1			
2	Odoux		ARHA 22 Gd. 2012,2120-8,2-6	See 6 d Ameaure-I	Agreeable			
3	Temperature		APRA 22°0Ed.2012,2130-B,2-13	Shoul not exceed o'C above the roomiving wriet temperature	25.8			
4	Bq	- 2	APHA 220 Ed.2012,4500-H'-B,4-92	5.5 to 9.0	7.28			
5	Total Residual Chlorine	mq/L	APHA 22ml Ed. 2012, 4500-C1-G, 4-69	1.0	N.D.			
6	Total Suspended Solids	mq/L	APHA 22" 65.2012,2540- D, 2-66	180	20.0			
7	Dissolved Phosphate (as P)	mq/L	APBA 2200 Ed.2012,4500-P-C,4-151	5.0	0.1			
0.	Fluoride (as F)	mg/L	APRA 22" Ed. 2012, 4500 F-B 6D, 4-84 4 87	8.70	0.2			
n,	Lead (as Pb)	mg/L	APRA 22ml Ed. 2012, 3111-B, 3-18	0.1	N.D.			
10	Zinc (as Zn)	mg/L	APHA 22 6d. 2012, 3111-B, 3-18	5.0	0.3			
11	Copper (as Cu)	mg/L	APHA 22 ^{ml} Ed.2012,3111-B, 3-18	B. 0	N.D.			
12	Cadmium (as Cd)	mg/L	APHA 22°d Ed. 2012, 3500-Cd, 3-105	3-0	N.D.			
13	Mercury (as Hg)	mg/L	APHA 2204 Ed.2012,3112-8, 3-23	0.03	N.D.			
14	Arsenic (as As)	mg/i.	APHA 22 nd Ed.2012,3114-C, 3-38	0,2	N.D.			
15	Selenium (as Se)	mq/L	APRA 22" Ed. 2012, 3114-C, 3-38	0.05	N.D.			
16	Total Chromium (as Cr)	mer/T	APHA 32ml Ed. 2012, 3500-Cr-E, 3-69	878	N.D.			
127	Chemical Oxygen Demand (COD)	mg/L	APHA 22m Ed.2012, 5520-B; 5-17	250	34.0			
18	Biochemical Oxygen Demand (BOD)	mg/IL	TE 3025 (Part 44):1993, RA 2003	30	4.8			
2.9	Oil & Grease	mg/L	IS 3025 (Part 391:1991, RA 2003	10	N.D.			
20	Phenolic Compounds (as CaHaOH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.4	N.D.			

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

Terms & conditions

The use of the seport for publication, arbitration or as legal dispute is forbidden.

Test sample will be retained for 15 days after issue of test report unless otherwise. This is for information as the party has asked for other tests and v. agart unless otherwise agreed with customer.

PREPARED BY

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS

22/10/2020 AUTHORIZED SIGNATORY



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

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

Home & Address Of The C	satumo,		REPORT NO		ES/TR/20-21/03159		
HINDALCO INDUS	TOURS LIMITED		LAB REF NO	UES/20	0-21/W/02	806	
GARE PALMA - IV	The second secon		DATE OF SAMPLING	25/11,	/2020		
MILUPARA U/G CO			DATE OF RECEIPT	26/11	/2020		
and an extension of the second	ARA, BLOCK-TAMNAR,	DATE OF REPORT 03/12		/2020			
DISTT RAIGARH	(C.G.) 496107	DATE OF ANALYSIS	START: 2	EMD:03/12/2020			
		SAM	PLE DETAILS				
SUMPLE PYPE	WANTE WATER		DROVE ARRESPANCE	DREWER /RETERRENCE: M/PO/ERV/2021 DTD, 22-AUG-2			
COSTNER SAMPLE ID	ETP OUTLET, NOMBELL		SAMPLE COMMITTEES AT RECEIPT		OR		
PACKING OF SAMPLE J L X I NO. PVC CAN SEALED L X I NO. PVC CAN SEALED L X I NO. GLASS SCITES		SAMPLE COLLECTED BY		CHINIST			
CAMPLING PROCEDURE 19:3025 (PART 1):1987 BA 2002/ APHA 2200 RD. 2012, 1060-8, 1-39			QUANTITY RECEIVED 5 178				

TEST REPORT							
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1588 [SCHEDULE-VI] PART A INLAND SURFACE WATER	RESULT		
1	Colour	Haze	APHA 22"Ed. 2012,2120-B,2-6	Den 4 of American	<1		
2	Odour	-	APBA 2200FG, 2012,2128-6,2-6	See 4 of Annexore-1	Agresable		
3	Temperature	°C	APBA 2204Fd.2012,2130-3,2-13	Thell not exceed '5'C whim the receiving water theperature	25.8		
4	pli		APHA 22" Ed. 2012, 4500-H"-B, 4-92	5.5 to 9.0	7.24		
5	Total Residual Chlorine	mg/L	APHS 22 88.2012,4500-01-5,4-69	1-0	N.D.		
.6	Total Suspended Solids	mg/L	APHA 22 5d.2012,2540- D, 2-66	002	22.0		
7	Dissolved Phosphate (as P)	mg/i	ABHA 22" 56,2012,4500-P-C.4-153	5.0	0.2		
8	Fluoride (as F)	mg/L	APRA 22" Bd.2012,4500-F-B &D,4-84	2.0	0.1		
9	Lead (as Pb)	mg/L	APHA 22 Ed.2012, 3111-8, 3-18	0.1	ж.D.		
10	Zinc (as Zn)	mg/L	APHA 22" Ed. 2012, 3111-B, 3-16	5.0	0.3		
11	Copper (as Co)	mg/L	лена 22" сс. 2012; 3111-6, 3-16	3.0	N.D.		
12	Cadmium (as Cd)	mg/L	RPHA 22" Bm. 2012, 3500-Cd, 3-305	2.0	N.D.		
13	Marcury (as Bg)	mg/L	APHA 22" Ed.2012,3112-B, 3-23	0,01	N.D.		
14	Arsenic (as As)	mq/L	APHA 22" Ed. 2012, 3214-C, 3-38	0.2	M.D.		
15	Selenium (as Se)	mg/L	APRA 22" Ed. 2012, 3114-C, 3-38	20.0	N.D.		
16	Total Chromium (as Cr)	mg/L	APHA 22" Ed. 2012, 3500-Ce-8, 3-59	2.0	N.D.		
17	Chemical Oxygen Demand (COD)	mg/L	APHA 22 rd Ed.2012, 5520-B, 5-17	250	74:0		
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 04):1993, HA 2003	30	5,8		
19	Oil & Greage	swg/D	TS 3025 [Fart 39]:1991, RA 2003	20	N.D.		
20	Phenolic Compounds (as	mg/L	IS 3025 (Part 43/31992, SA 2003	1.0	N.D.		

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

Terms & conditions

The report for publication, within above or as legal dispate is introduced.

Test sample will be retained for I Salay, after review of the registration of the Total to the reference of the registration of the Total to the reference of the Salay that asked the above 19 and 19

PREPARED BY 3 12 2020

FOR ULTIMATE ENVIROLYTICAL SOLUTIONS 03/12/2020 AUTHORIZED SIGNATORY



HDD-272, Phase III - Near JF 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 1985

Name & Address of the Cavanar'
TO,
HINDALCO INDUSTRIES LIMITED,
GARE PALMA – IV/5,
MILUPARA U/G COAL MINE,
VILLAGE – MILUPARA, BLOCK-TAMNAR,
DISTT. - RAIGARH (C.G.) 496107

REPORT NO	UES/TR/20-21/03550			
LAB REF NO	UES/20-21/W/03197			
DATE OF SAMPLING	23/12/2020			
DATE OF RECEIPT	24/12/2020			
DATE OF REPORT	30/12/2020	12.1		
DATE OF ANALYSIS	START: 25/12/2020	END: 30/12/2020		

SAMPLE DETAILS						
SAMPLE TYPE	WASTE WASTE	CHOIGH /REFERENCE:	M/PO/SHV/2021/0044, DTD. 21-AUG-2020			
CUSTOMER SAMPIN ID	ETF COTLET, MINISEL	HAMPLE CONDITION AT RECEIPT	OK.			
PACKING OF SAMPLE	1 L X I NO. PYC CAN I L X I NO. PYC CAN I L X I NO. GLASS BOTTLE	SAMPLE COLLECTED BY	Campian			
SAMPLING PROCEDURE	16:3025(PART 1):1967 MA 2005/ APMA 22ND ED. 2012, 1060-W, 1-29	QUANTITY HECKIVED	5 LER			

			TEST REPORT		
SR.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1508 [SCHEDULE-VI] PART- A INLAND SURFACE WATER	RESULT
1	Colour	Haze	AFMA 22"BG. 2012,2120-0,2-6	See 6 of Anneware-1	4
2	Odour	-	AFRA 22"Ed. 2012,2120-8,2-6	Ree 6 of Annexure-I	Agreeable
3	Temperature	1¢	дрвд 22°66.2012,2130-в,2-13	Shall not succeed b'C above the receiving water Lemmerature	25.4
4	pН	-	APHA 22 ⁵⁶ Bd.2012,4500-H*-B,4-92	5,5 10 9,0	7.18
5	Total Residual Chlorine	mg/L	APEA 22" Ed. 2012, 4500-C1-G. 4-68	2.0	N.D.
6	Total Suspended Solids	mg/L	APEA 22" Ed.2012,2540- D, 2-66	200	24.0
9	Dissolved Phosphate (ss P)	mg/L	APHA 22 ³⁴ Rd.2012,4500-P-C,4-153	5.0	0.3
В	Fluoride (as F)	mg/L	APRA 22" Eq.2012,4500-F-B 4D,4-84	2.0	0.2
9	Lead (se Pb)	mg/L	APHA 22" Ed.2012, 3111-B, 3-18	0.1	N.D.
10	Einc (se En)	mg/L	APEA 12° Ed.2012,3111-8, 3-18	5.0	0.1
11	Copper (as Cu)	mg/L	AFHA 22° Ed.2012,3111-B, 3-16	3.0	N.D.
12	Cadaium (as Cd)	mg/L	APHA 22" Ed. 2012, 3500-Cd. 3-105	2.0	N.D.
13	Meccury (as Hg)	mg/L	APHA 22 Ed.2012, 3112-8, 3-23	0.03	W.D.
14	Arsenic (as As)	mg/L	APHA 22" Ed. 2012, 3114-C, 3-36	0.2	N.D.
15	Selenium (am Se)	mg/L	APHA 22" Ed.2012,3114-C, 3-38	0.05	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 22" E6.2012,3500-Cr-E,3-69	2.0	W.D.
17	Chemical Oxygen Demand (CCD)	mg/L	APBA 22" 68.2012, 5620-8, 5-17	250	64.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Fert 44):1993, RA 2003	30	4.8
19	Oil & Grease	mg/L	IS 3025 (Part 33):1991,RA 2003	10	N.D.
20	Phenolis Compounds (as C(H_OH)	mg/L	18 3025 (Part (3):1992, WA 2003	1.0	W.D.

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

Ferms & conditions

The report for publication, exhibitation or an legal dropute in fortistiden.

Test sample will be retained for 1 Sdays after issue of test repopulated parameter agreed with customs

Pile is for information as the party has asked for above suited.

For ULTIMATE ENVIROLYTICAL SOLUTIONS

30 | 12 | 2020

AUTHORIZED SIGNATORY



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

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

Hann & Alldrana 20 The C	un liverner		REPORT NO	UES/TR/20-21/03994 UES/20-21/W/03679			
HINDALCO INDUS	TRIES I MATTER		LAB REF NO				
GARE PALMA - IV	Commence of the part of		DATE OF SAMPLING	22/01,	22/01/2021 23/01/2021		
MILUPARA U/G CO			DATE OF RECEIPT	23/01/			
VILLAGE - MILUP	ARA, BLOCK-TAMNAR,		DATE OF REPORT 02/02,		/2021		
DISTT RAIGARH	(C.G.) 496107	DATE OF ANALYSIS	START: 23/01/2021 END: 02/02/2				
		SAMI	PLE DETAILS		- h		
SAMPLE TYPE	SAMPLE TYPE WASTE WATER			ORDER /REFERENCE:		M/FO/SRV/2021/0044. DTD: 21-AUG-2020	
CUSTMER SAMPLE ID	STMER SAMPLE ID ETP OUTLET, KONDKEL			SAMPLE CONDITION AT RECEIPT		OK	
PACKING OF SAMPLE	ACKING OF SAMPLE 1 L X 1 NO. PVC CAN SEALED 1 L X 1 NO. EVC CAN SEALED 1 L X 1 NO. GLASS BOTTLE			SAMPLE COLLECTED BY		CHRIST	
SAMPLING PROCESURE 1S:3025(PART 1):1987 RA 2003: APHA 22ND ED 2012, 1060-B, 1-39			QUANTITY RECEIVED		5 LTB		

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROYECTION) RULES, 1986 (SCHEDULE-VI) PART- A INLAND SURFACE WATER	RESULT	
1	Colour	Haze	APHA 22 Bd. 2012,2120-8,2-6	Bee 6 of Annexure-I	<1	
2	Odour	-	APHA 22"Ed. 2012,2120-8,2-6	See 6 of Anomore-I	Agreeable	
3	Tamperature	aC.	Арна Z2 ⁸⁴ Ed.2012,2130-в,2-13	Shall not exceed 5°C above the receiving water temperature	25.9	
4	pli		APHA 22 Bd. 2012, 4500-H'-B, 4-92	5.5 to 9.0	7.29	
9	Total Residual Chlorine	mg/L	АРНА 22 ^{ml} Rd.2012,4500-C1-G,4-69	1.0	N.D.	
- 6	Total Suspended Solids	mg/L	APHA 22H Ed.2012,2540- D, 2-66	100	26.0	
7	Dissolved Phosphate (as P)	mg/L	APNA 22= Ed.2012,4500-P-C,4-153	5.0	0.18	
8	Fluoride (as F)	mg/L	AFHA 22" Ed.2012,4500-F-B 6D,4-B4	2.0	0.12	
9	Lead (as Pb)	mg/L	APHA 22" Ed.2012,3111-8, 3-18	0.1	N.D.	
10	Zinc (as Zn)	mg/L	APHA 22 Ed. 2012, 3111-B, 3-16	5.0	0.4	
11	Copper (as Cu)	mg/L	APHA 22" Ed.2012,3111-B, 3-18	3.0	N.D.	
12	Cadmium (as Cd)	mg/L	APRA 22ml Ed. 2012, 3500-Cd, 3-105	2.0	N.D.	
13	Mercury (as Eg)	mg/L	APHA 22mt Ed.2012,3112-B, 3-23	0:01	N.D.	
14	Arsenic (as As)	mg/L	APHA 22md Ed.2012,3114-C, 3-38	0.2	N.D.	
15	Selenium (as Se)	mg/L	APHA 22°0 Ed.2012,3114-C, 3-38	0.05	N.D.	
16	Total Chromium (as Cr)	mg/L	APRA 22" Ed. 2012, 3500-Cr-B, 3-69	2,0	N.D.	
17	Chemical Oxygen Demand (COD)	mg/L	APHA 22 rd Ed.2012, 5520-B, 5-17	250	80.0	
18	Biochemical Oxygen Demand (BOD)	mg/L	18 3025 (Fart 44):1993, RA 2003	30	5.8	
19	Oil & Greace	mg/L	IS 3025 Part 39):1991,RA 2003	10	N.D.	
20	Phenolic Compounds (as C.H.OR)	mg/L	18 3025 (Part 43):1992, BA 2003	1.0	N.D.	

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

Terms & conditions

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

Test sample will be retained for 15days after laws of test report to property agreed with common

Thakurd 02/02/2021

or ULTIMATE ENVIROLITICAL SOLUTIONS

AUTHORIZED SIGNATORY

End of the test report-



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

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

TO,	Cintinute/		REPORT NO	UES/T	R/20-21/04615		
HINDALCO INDU	STRIES LIMITED.				20-21/W/04307		
GARE PALMA - IV	//5,		DATE OF SAMPLING	18/02/2021 19/02/2021 02/03/2021			
MILUPARA U/G C			DATE OF RECEIPT				
VILLAGE - MILUP	ARA, BLOCK-TAMNAR,		DATE OF REPORT				
DISTT RAIGARI	H (C.G.) 496107		DATE OF ANALYSIS	START: 20/02/2021 END: 24/02/5		END: 24/02/2021	
		331423	LE DETATLS)	
EMPLE TIPE	BASTE WATER		ORDER /RETERMONS:		M/PO/8RV/2	021/0044.	
OU SIGHT ESSENT	DEPER SAMPLE ID STY OUTLET, HOWDREL			SAMPLE COMMITTION AT RECEIP?		G-2020	
PACKING OF SAMPLE	3 L X I NO. PVC CAN 1 L X I NO. PVC CAN 1 L X I NO. GLASS DOTTIE	SAMPLE COLLECTED BY		DMM-Cart.			
SAMPLING PROCEDURE	18:3025 (PAMT 1):1987 RA B	COMMETTE NECETAEN		5 ATR			

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART- A INLAND SURFACE WATER	RESULT	
1	Colour	Hane D	APHA 23°484, 2012,2170-8,2-6	How C cyft Antomioru-I	<1	
2	Odour	-	APRA 72/MEd. 2013,2130-8,2-6	Acceptation	Agreeable	
3	Pemperature	oC.	APHA 2200Ed.2012,2130-8,2-13	Shall not exceed E'f above the receiving water temperature	25.6	
4	pH	-	AEHA 1201 Rd. 2012, 4500-H*-0, 6-92	5.5 ta 9.3	7.32	
5	Total Residual Chlorine	mg/L	APRA 22" Ed. 2012, (500-C1-G, 4-69	1.0	N.D.	
E	Total Suspended Solids	ng/L	APRA 22 FG. 2012, 2540 - D. 2-66	100	28.0	
7	Dissolved Phosphate (as P)	mg/L	APEA 2014 Ed.2012,4500-E-C.4-753	5.0	0.16	
В	Fluoride (as F)	mg/1	APRA 22" E0,2012,4500-F-B aD,4-84	· 2.0	0.10	
9	Load (ss Fb)	mg/L	APHA 22" Ed.2012,3111-B, 3-16	0.1	W.D.	
10	Wind (as 2s)	mg/L	APRA 12= Ed.2012,3111-B, 3-18	5.0	0.3	
11	Copper (as Cu)	mg/L	APHA 22" Ed.2012,3111-R. 1-18	3,0		
12	Cadmium (as Cd)	mg/L	APRA 22** Bd.2012,3500-Cd. 3-105	2.0	M.D.	
13	Mercury (as Hg)	mg/L	APHA 22- Ed.2012,3112-8, 3-23	0.01	N.D.	
14	Armonic (as As)	my/L	AFHA 22 EH.2012,3114-C, 3-18	0.2	N.D.	
15	Selenium (as Se)	mg/L	APHA 22 ^{sh} Ed.2012,3114-C, 3-38	0.05	N.D.	
16	Total Chromium (as Cr)	mg/L	ADEA 2200 Ed.2012,3500-Cr-8,3-69	2.0	N.D.	
17	Chemical Oxygen Demand (COD)	my/L	APEA 22 80.2012, 5520-8, 5-17	250	B4.0	
18	Biochemical Oxygen Demand (BOD)	mg/L	19 3025 (Part 44):1993, RA 2603	30	6.7	
10	Oil & Grease	met/A.	16 3025 (Part 39)-1991, 8A 3003	14	-	
20	Phenolic Compounds (as C(850F)	ng/L	16 3025 (Part 43)(1992), RA 2003	1.0	N.D.	

REMARKS: mg/lt.: milligram per litze, N.D.-Not Detected.

Terms & conditions

The report for publication, orbitration or as legal dispute it dividates

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PREPARED BY

AUTHORIZED SIGNATORY

End of the test report-



SAMPLING PROCESSING

HDD-172 Phase III - Near JP Chowk Ring Road No. Z. Kabir Nagar, Raipur (C.G.) - 492099. Ph : 0771 - 4027777 | Email ultimatenviro@gmail.com

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

UES/TR/20-21/05032 REPORT NO UES/20-21/W/04123 LAB REF WO HINDALCO INDUSTRIES LIMITED, DATE OF SAMPLING 17/03/2021 GARE PALMA - IV/5, DATE OF PROPERTY 18/03/2021 MILUPARA U/G COAL MINE, VILLAGE - MILUPARA, BLOCK-TAMNAR, DATE OF REPORT 01/04/2021 DISTT. - RAIGARH (C.G.) 496107 DATE OF BRALLEGIE START:19/03/2021 MMD:27/03/2021 SAMPLE DETAILS PASTE BATES EGGLE TIPE ONDER! / HATTERINGE! 010. 21-40G-2020 OK SIT OUTLAT, ROWINGS

3 1 X 1 M3. PVC CAN

1 1 X 1 M3. PVC CAN

1 1 X 1 M3. STATED

1 1 X 1 M3. GLARS SOTTES

10 3025 (FAST 1) :1967 RA 2003: ADMA

2200 ED 2013, 1060-8, 1-28 CULTURES SUFFEE ID SAMPLE CONDITION AT PROPIET SAMPLE COLLECTED BY CHECKE

DUALITATE INCREIVED

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TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF YEST	THE ENVIRONMENT (PROTECTION) RIALES, 1986 [SCHEDULE VI] PART A INLAND SURFACE WATER	RESULT	
1	Colour	Hazu	APBA 22 MEM. 2012,2120-0:2-6	See 6 of Annexoro 3	<4	
2	Odeuc	-	APHR 22 ⁶⁶ Ed. 2012,2120-5,2-6	Anneloco-I	Agreeable	
3	Temperature	*C	АРНА 22 ⁶⁶ 84,2012,2130-В,2-13	Shall not exceed 5°C above the excelving water temperature	25.4	
4	pH	-	APHA 22" Ed. 2012, 4500-H-5, 6-92	5.5 to 9.0	7.10	
5	Total Residual Chlorine	mg/I	APUA 2246 Ed. 1012,4500-01-6,4-69	1.0	M.D.	
-6	Total Suspended Solub-	aug/L	APRA 22" Rd.2012,2540- D, 2-66	100	22.0	
7	Dissolved Phosphate (as P)	mg/L	APRA 22" Bd, 2012, 4500-P-C, 4-153	5.0	0.14	
B	Fluoride (as F)	mg/L	ариа 22° Ed.2012, 4500-F-H ab.4-H4 4 87	2.0	0.08	
9	Lead (as Pb)	mg/L	APHA 22" Ed. 2012, 3111-0, 3-19	0.1	N.D.	
10	Sinc (as En)	mg/L	APHA 22" Ed.2012,3:11-B, 3-18	5.0	0.1	
11	Copper (as Cu)	ing/L	APRA 22" Rd. 2012, 3111-B, 3-18	317	N.D.	
12	Cadmium (as Cd)	mg/L	APRA 22" Rd. 2012, 3500-Cd, 3-105	2.0	N.D.	
13	Mercury (as Bg)	mq/L	APHA 22 Ed. 2012, 3112-H, 3-23	0.91	H.D.	
14	Arconic (as As)	mg/L	APMA 22" Bd. 2012, 3114-C, 3-38	0,2	M.D.	
15	Selenton (as Se)	mg/L	APHA 22" 84.2012,3114-C, 3-38	0.05	N.D.	
16	Total Chryslim (so Cr)	mg/L	APHA 22" Ed. 2012, 3500-Cr-B, 3-69	0.5	W.D.	
17	Chemical Oxygen Demand (COD)	mg/1.	APHA 22 rd 88.3032, 5520-8, 5-17	250	64.0	
18	Blochesical Oxygen Demand (ROD)	mg/L	15 3025 (Part 44):1395, su 2003	100	4.2	
19	Oil & Grease	mg/L	18 3025 (Part 39::1991. RR 30/)	10	S.D.	
30	Phonolic Compounds (as C.H.OH)	mg/L	15 3825 (Part 43):1997, FA 2003	1.0	N/D.	

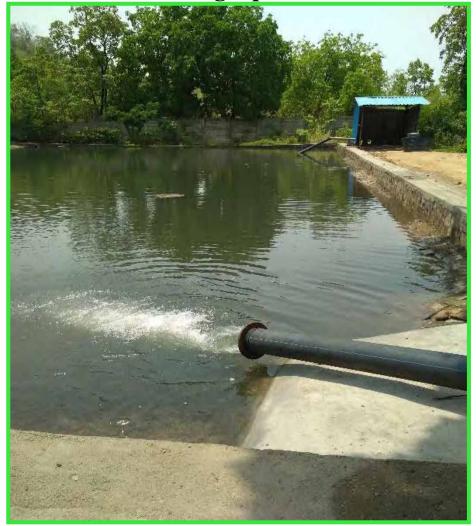
REMARKS: mg/lk milligram per fitter, N.O.-Nor. Detected.

Terms & conditions

The report for publication, webstuction or as legal of a feet except you are relatived for Tadays after annue of the arms of the condition of the starty has paked for all the starty has paked for all For ULTIMATE ENVIROLYTICAL SOLUTIONS 01104/2021 0104 202 PREPARED BY AUTHORIZED SIGNATORY

Annexure – 6A

Annexure – 6A Photographs of Treatment Facility at GP IV/5 Coal Mines

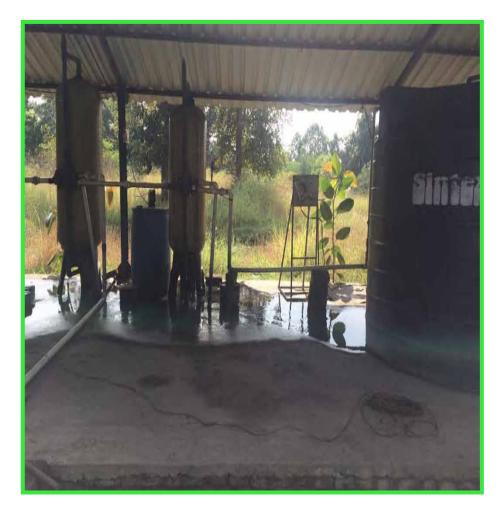




SETTLING POND NO - 5

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

 $Annexure-6A\\ Photographs of Treatment Facility at GP IV/5 Coal Mines$





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

Reverse Osmosis Plant (RO Plant) – Kondkel 2 x 2 Cum/Hrs

Annexure – 6A
Photographs of Treatment Facility at GP IV/5 Coal Mines



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



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

Annexure - 7



छत्तीसगढ पर्यावरण संरक्षण मंडल

पर्यावास भवन, 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।

सदस्य सचिव

छत्तीसगढ़ पर्यावरण संरक्षण मंडल, र्जवा 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.

- 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.
- 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.
- 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.
- Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhawan, North Block, Sector-19, Atal Nagar, Dist-Raipur, Chattisgarh.
- 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 - 8

Environmental Expenditure Details (October 2020 to March 2021)

M/s Hindalco Industries Limited, Gare Palma Mines IV/5

Particulars	Amount (Lakh)
Water Quality Management	10.36
Air Quality Management	7.17
Plantation, Green Belt Development	4.80
Others	6.89
Total	29.22